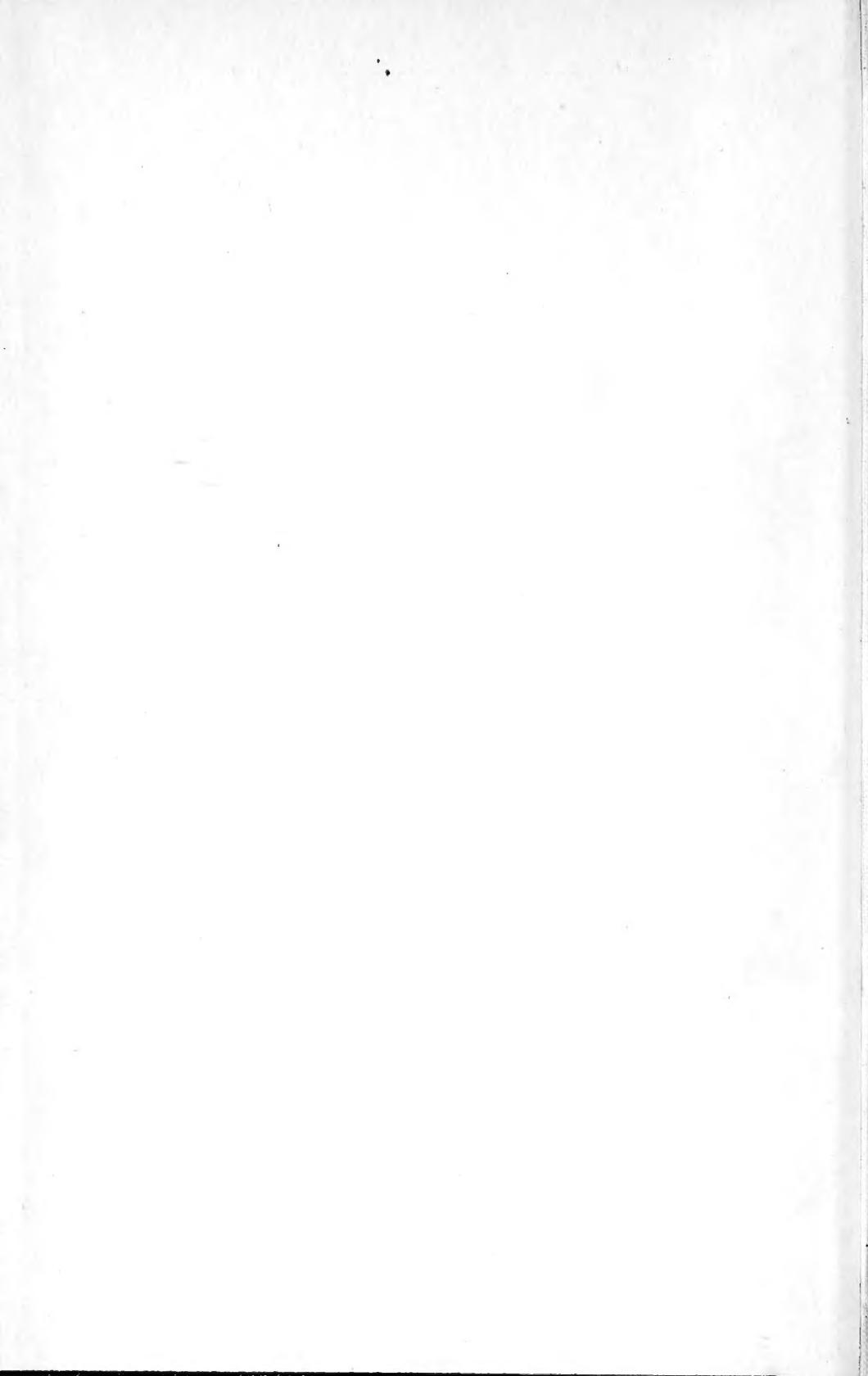


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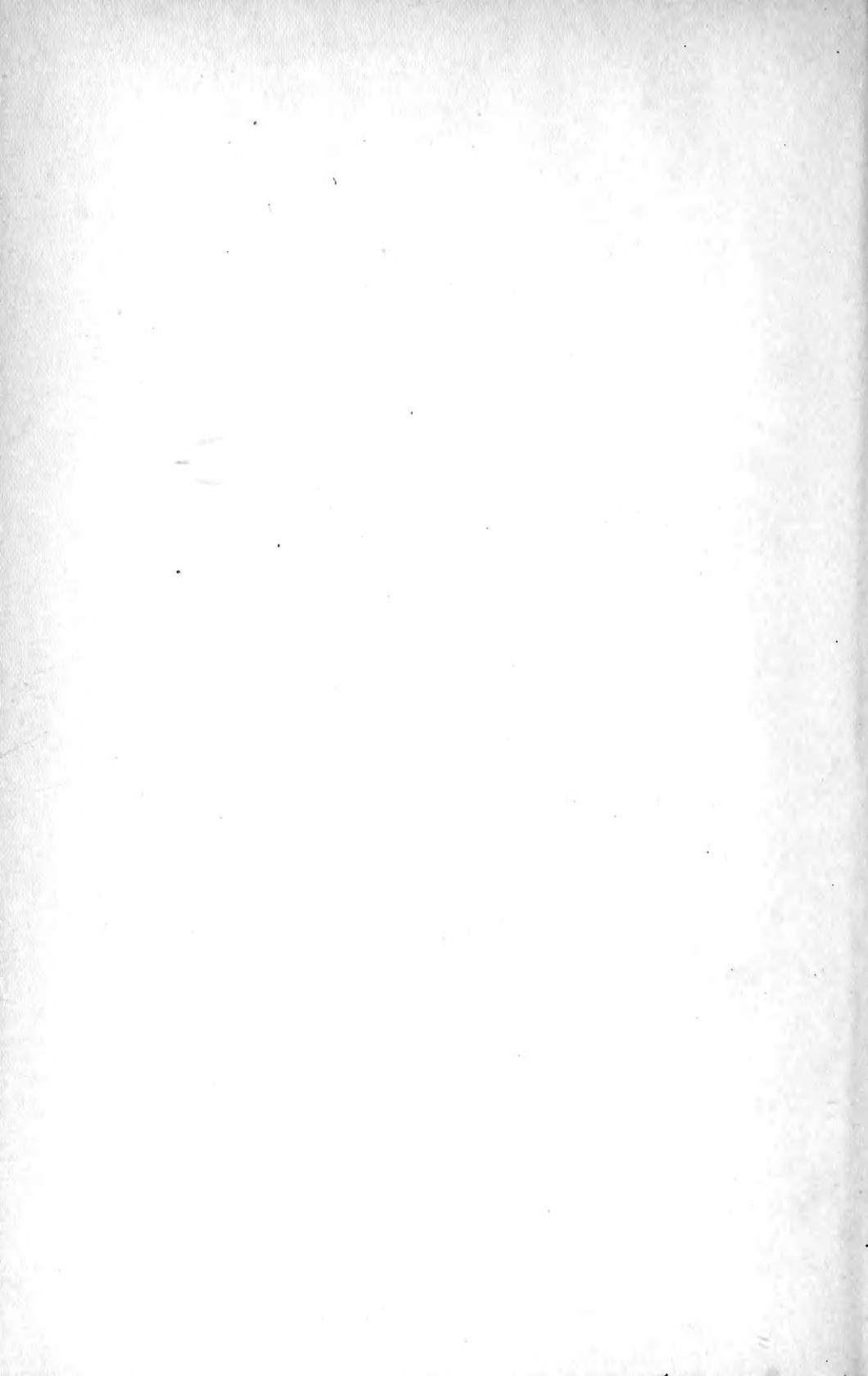


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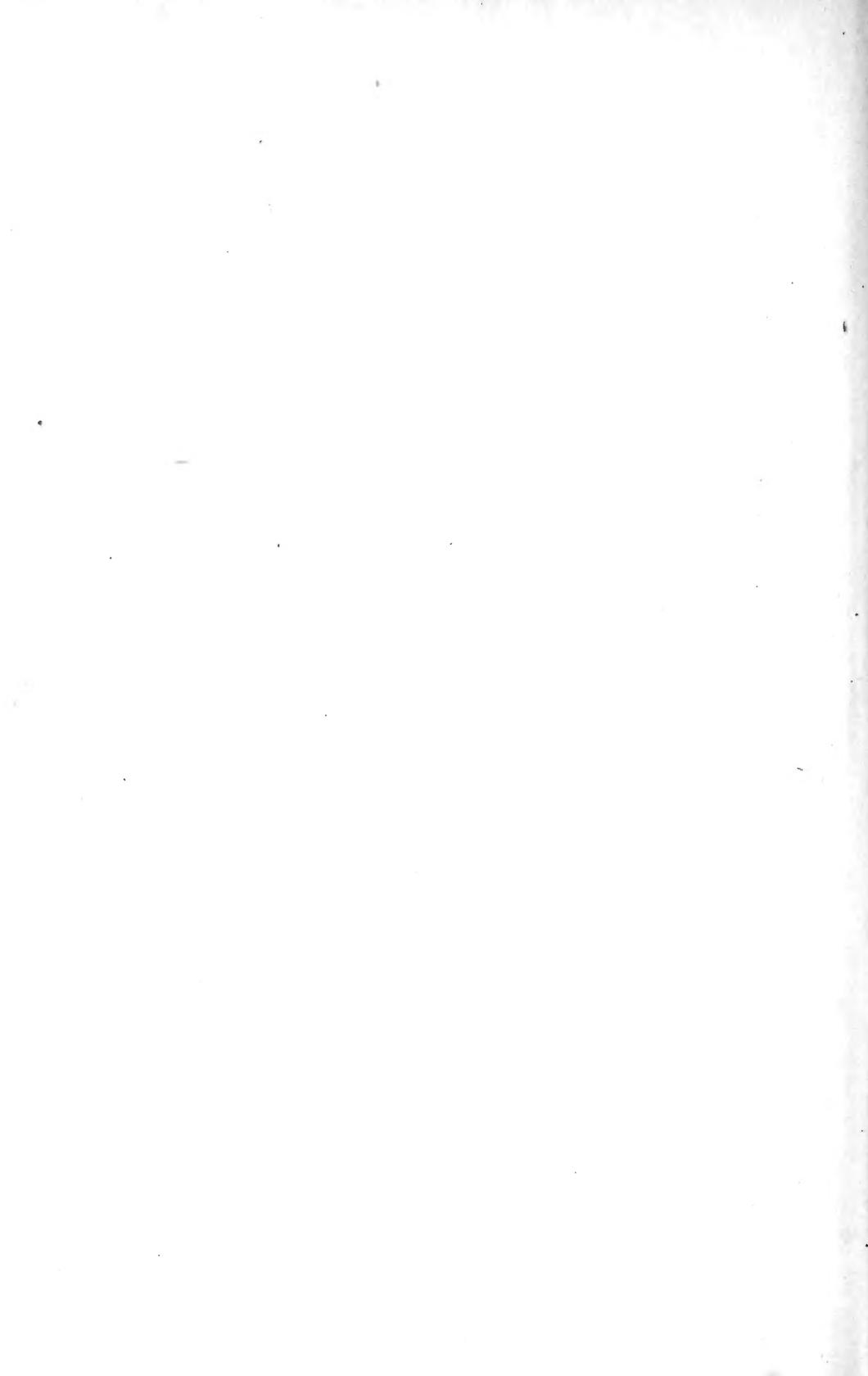


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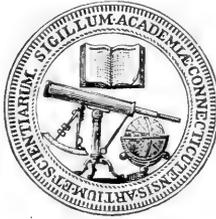
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# Chaucerian Papers-I

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## I. PROLOGUE I-II

In the *Danaïdes*<sup>1</sup> of Aeschylus (525-456 B. C.), Aphrodite is represented as saying:

The pure heaven longs to penetrate the soil, while at the same time desire lays hold upon the earth to enjoy these nuptials. Accordingly the rain, descending from the bridegroom heaven, impregnates the earth, which then brings forth grain for the use of mortals, and food for their flocks. The fruits of the trees, too, arrive at their perfection by means of this moist wedlock.<sup>2</sup> And all these things are brought to pass with my aid.

Not unlike this is the fragment<sup>3</sup> (890 Nauck) of Euripides (480-406 B. C.), associated with it by Athenæus (600 B):

The earth longs for rain when the dry soil, barren by reason of drought, must needs have moisture. The holy heaven, in turn, when laden with showers, longs, at the impulse of Aphrodite, to descend into the earth. And when these two have been made one by love, they bring forth and nourish for us everything by which men everywhere live and thrive.

As Munro, the editor of Lucretius, has said<sup>4</sup>:

From the *Vedas* to the *Pervigilium Veneris*, poets and philosophers love to celebrate this union of Ether and Earth, Ether as the father descending in showers into the lap of Mother Earth. The notion

<sup>1</sup>Frag. 44 Sidgwick (otherwise 41 or 43):

ἔρᾱ μὲν ἀγνὸς οὐρανὸς τρώσσει χθόνα,  
ἔρως δὲ γαίαν λαμβάνει γάμου τυχεῖν·  
ὄμβρος δ' ἀπ' εὐνατῆρος οὐρανοῦ πεσὼν  
ἔκνυε γαίαν· ἡ δὲ τίκτεται βροτοῖς  
μήλων τε βοσκὰς καὶ βίον Δημήτριον·  
δένδρων ὄπώρα δ' ἐκ νοτίζοντος γάνους  
τέλειός ἐστι· τῶνδ' ἐγὼ παραίτιος.

<sup>2</sup>Reading the traditional γάμου for the emendation, γάνους.

<sup>3</sup>ἔρᾱ μὲν ὄμβρου γαῖ', ὅταν ξηρὸν πέδον  
ἄκαρπον αὐχμῶ νοτίδος ἐνδεῶς ἔχη·  
ἔρᾱ δ' ὁ σεμνὸς οὐρανὸς πληρούμενος  
ὄμβρου πεσεῖν εἰς γαίαν Ἀφροδίτης ὑπο·  
ὅταν δὲ συμμιχθῆτον ἐς ταυτὸν δύο,  
φύουσιν ἡμῖν πάντα καὶ τρέφουσ' ἅμα,  
δι' ὧν βρότειον ζῆ τε καὶ θάλλει γένους.

<sup>4</sup>Note on I. 250.

naturally had birth in warm climates, such as India, where the excessive heat, at stated periods, seemed to bring the ether down in abundant rains, which at once quickened all things; hence the Agni of the *Rig-Veda* coöperating with the mighty parents, Heaven and Earth, to shed abundant showers.

The thought of Aeschylus and Euripides has been thus expressed (I. 250-3) by Lucretius (96?-55 B. C.):

Postremo pereunt imbres, ubi eos pater æther  
In gremium matris terrai præcipitavit;  
At nitidæ surgunt fruges ramique virescunt  
Arboribus, crescunt ipsæ fetuque gravantur.<sup>6</sup>

And again in a passage (2. 992-4) imitated from Euripides<sup>6</sup>:

Omnibus ille idem pater est, unde alma liquentis  
Umoris guttas mater cum terra recepit,  
Feta parit nitidas fruges arbustaque læta.<sup>7</sup>

Lucretius (with perhaps his originals) is followed and amplified by Virgil (*Georgics* 2. 323-333):

Ver adeo frondi nemorum, ver utile silvis,  
Vere tument terræ, et genitalia semina poscunt.  
Tum pater omnipotens fecundis imbribus Aether  
Conjugis in gremium lætæ descendit, et omnis  
Magnus alit, magno commixtus corpore, fetus.  
Avia tum resonant avibus virgulta canoris,  
Et Venerem certis repetunt armenta diebus;  
Parturit almus ager, Zephyrique tepentibus auris  
Laxant arva sinus; superat tener omnibus umor;  
Inque novos soles audent se gramina [*var.* germina] tuto  
Crederè.<sup>8</sup>

---

<sup>6</sup> Munro renders: 'Lastly rains die, when Father Ether has tumbled them into the lap of Mother Earth; but then goodly crops spring up, and boughs are green with leaves upon the trees, trees themselves grow, and are laden with fruit.'

<sup>6</sup> Frag. 836. This is also translated in prose by Vitruvius, at the beginning of his Eighth Book.

<sup>7</sup> 'All have that same Father, by whom Mother Earth, the giver of increase, when she has taken in from him liquid drops of moisture, conceives and bears goodly crops and joyous trees.'

<sup>8</sup> Thus rendered by Lonsdale and Lee: 'The spring it is that ministers to the leafage of the groves, and to the forests themselves as well; in spring the land heaves with fruitfulness, and requires the procreative seed. The Heaven, the Almighty Father, comes down in fertilizing showers into the

Columella (fl. ca. 50 A. D.) has the following lines<sup>9</sup> (10 204-210):

Maximus ipse deum posito jam fulmine fallax  
 Acrisioneos veteres imitatur amores,  
 Inque sinus matris violento defluit imbre;  
 Nec genitrix nati nunc aspernatur amorem,  
 Sed patitur nexus flammata cupidine tellus.  
 Hinc maria, hinc montes, hinc totus denique mundus  
 Ver agit.

Of about Columella's period was probably Petronius, who embodies the same conception (*Sat.* 127) in a somewhat vaguer form than his predecessors. According to him, roses, violets, and lilies spring up as the result of the union.

The same note is heard as late as the *Pervigilium Veneris* (ca. 350 A. D?):

Cras erit cum primus æther copulavit nuptias;  
 Tunc cruore de superno spumeo et ponti globo,

---

lap of his joyous bride, and in his might, mingling with her mighty frame, nourishes every product. Then ring the thickets wild with tuneful birds, and on their days the herds devote themselves to love; the bounteous field gives birth to life, and, beneath the west-wind's breezes warm, the meadows unloose their folds, and all with delicate moisture overflow, and the herbage safely dares to trust itself to meet the new-born suns.'

And thus by Dryden:

The spring adorns the woods, renews the leaves;  
 The womb of earth the genial seed receives;  
 For then almighty Jove descends, and pours  
 Into his buxom bride his fruitful showers;  
 And, mixing his large limbs with hers, he feeds  
 Her births with kindly juice, and fosters teeming seeds.  
 The joyous birds frequent the lonely grove,  
 And beasts, by nature stung, renew their love.  
 Then fields the blades of buried corn disclose,  
 And, while the balmy western spirit blows,  
 Earth to the breath her bosom dares expose.  
 With kindly moisture then the plants abound;  
 The grass securely springs above the ground.  
 The tender twig shoots upward to the skies,  
 And on the faith of the new sun relies.

<sup>9</sup> Columella was at least known to Boccaccio (*Hortis, Studj*, p. 436), though probably not to Petrarch (*Nolhac, Pétrarque et l'Humanisme*, 2d ed., 2. 100, note 3).

Cæruleas inter catervas, inter et bipedes equos,  
 Fecit undantem Dionem de maritis imbribus. . . .  
 Ut pater totum crearet veris annum nubibus,  
 In sinum maritus imber fluxit almæ conjugis,<sup>10</sup>  
 Unde fetus perque pontum perque cælum pergeret,  
 Perque terras mixtus omnes alere magno corpore.<sup>11</sup>

We have seen above that Aphrodite (Venus) proclaims her active complicity in the process and the result outlined by Aeschylus, and a similar thought is expressed by the fourth line quoted from the *Pervigilium Veneris*. Nor are these the only passages of a similar purport. Hesiod, describing the birth of Aphrodite, refers to her influence on vegetation (*Theog.* 194 ff.): 'Then forth stepped an awful, beauteous goddess, and beneath her delicate feet the verdure thrave around; her gods and men name Aphrodite, the foam-sprung goddess.' And thus Lucretius (I. 7-8):

Tibi suavis dædala tellus  
 Summittit flores.<sup>12</sup>

Elsewhere Lucretius says (5. 737-9):

It ver et Venus, et Veneris prænuntius ante  
 Pennatus graditur, Zephyri vestigia propter  
 Flora.<sup>13</sup>

Ovid is no less explicit in his association of the goddess and the season (*Fasti* 4. 125, 129):

<sup>10</sup> Arnobius (ca. 303) accuses (Bk. 5, chaps. 31, 34, 35, 37, 40, 43) the heathen writers whom he is attacking of relating the story about Jupiter and Ceres (cf. Hesiod, *Theog.* 912), Ceres (Demeter) being of course the Earth under another personification.

<sup>11</sup> Thus rendered by Mackail: 'To-morrow will be the day when the primal Ether joined wedlock; then from the moisture overhead and the orb'd sea-foam, amid green multitudes and finned horses, sprang Dione [Aphrodite], wave-born under nuptial showers. . . .

'To quicken the whole year from the clouds of spring, the bridegroom-shower has flowed into the lap of his fair bride, that so, mingling with the vast frame, he might pass through sea and through sky and through all the lands, to nourish their offspring.'

<sup>12</sup> 'For thee earth, manifold in works, puts forth sweet-smelling flowers.'

<sup>13</sup> 'Spring and Venus go their way, and the winged harbinger of Venus steps on before; and close on Zephyr's footprints Mother Flora.' Cf. Botticelli's *Primavera*.

Nec Veneri tempus quam ver erat aptius nullum. . . .  
Et formosa Venus formoso tempore digna est.<sup>14</sup>

Of the spring months, it was April that was especially associated with Aphrodite; in fact, one of the two ancient etymologies for 'April' related it to the name of the goddess (Macrobius, *Sat.*<sup>15</sup> 1. 12. 8): 'Secundum mensem nominavit Aprilem, ut quidam putant cum adspiratione quasi Aphrilem, a spuma quam Græci ἀφρόν vocant, unde orta Venus creditur.'<sup>16</sup>

Moreover, Horace explicitly calls (*Od.* 4. 11. 15) April 'the month of sea-born Venus.'<sup>17</sup>

In the light of the preceding, it may be worth while to regard attentively the opening lines of Chaucer's *Prologue*:

Whan that Aprille with his shoures sote  
The droghte of Marche hath perced to the rote,  
And bathed every veyne in swich licour  
Of which vertu engendred is the flour;  
Whan Zephirus eek with his swete breeth  
Inspired hath in every holt and heeth  
The tendre croppes, and the yonge sonne  
Hath in the Ram his halfe cours yronne,  
And smale fowles maken melodye,  
That slepen al the night with open ye,  
(So priketh hem nature in hir corages).<sup>18</sup>

<sup>14</sup> 'And no season was there more becoming for Venus than the spring. . . . And the lovely Venus is deserving of the lovely season.'

Cf. Horace, *Od.* 1. 4. 1 ff.; Preller, *Griech. Myth.*, 2d ed., pp. 270-1; Spenser, *Amor.* 70. 1.

<sup>15</sup> Chaucer is not usually credited with knowing the *Saturnalia*, but it is certain that Petrarch was familiar with it (Nolhac, *Pétrarque et l'Humanisme*, 2d ed., 1. 157), and there seems no reason why Chaucer may not have been. Cf. p. 12, note 24.

<sup>16</sup> 'He [Romulus] called the second month April, or, as some suppose, Aphril (with the aspirate), from foam, which the Greeks called *aphros*, and from which Venus is believed to have sprung.'

<sup>17</sup> Cf. Preller, as above; Pauly-Wissowa, *Real-Encyclopädie* 1. 2768-9; Shakespeare, *Ant. and Cleop.* 3. 2. 43.

<sup>18</sup> As throwing light upon the detailed interpretation, I append the translation by Hertzberg (*Chaucer's Canterbury-Geschichten*, p. 67):

Wenn, von Aprilenregen mild durchdrungen,  
Der Staub des März recht gründlich ist bezwungen,  
Und so von Säften jede Ader schwillt,  
Dass aus dem Boden Blum' an Blume quillt;

If this be compared with the extract from the *Georgics*, it will be seen that not only are individual Chaucerian words and phrases accounted for—*shoures*, *Zephirus*, *tendre croppes* (reading *germina*, in the sense of 'sprigs, sprouts, buds'), *yonge sonne*, *smale fowles*—but that the general thought of the whole eleven lines, with the exception of 8, 10, and 11, is to be found in the Virgilian passage.

Certain individual points remain to be considered. These will now be taken up in order.

*Aprille* (1). The month, regarded as masculine,<sup>19</sup> takes the place of Aether (Jupiter),<sup>20</sup> which would have been less intelligible or appealing to Chaucer's English readers. April, we have seen, suggests Venus; cf. the *Venerem* of *Georg.* 1. 329.

*shoures sote*. This corresponds to Virgil's *fecundis imbribus* (325). Showers and rain are assigned to April in *T. and C.* 4. 751; *A. and A.* 309. One suspects *sote* of having been employed partly for the sake of the rhyme (rhymed in *Squire's Tale* 389; *L. G. W.* 2612, with *rote*; cf. *swote*, *Rom. Rose* 1661; *L. G. W.* 1077; *Miller's Tale* 19; *Parl. Fowls* 274); on the other hand, see *swote dewes*, *R. R.* 60 (where the original has only *rousée*), and note the fact that *sote* (*swote*) is often employed in the middle of the line. It is several times used in

Wenn Zephyr dann mit seinem süssen Hauch  
 In Wald und Haide jeden zarten Strauch  
 Durchwehet; wenn der Strahl der jungen Sonnen  
 Zur Hälfte schon dem Widder ist entronnen;  
 Wenn lust'ge Melodie das Vöglein macht,  
 Das offenen Auges schläft die ganze Nacht  
 —So stachelt die Natur es in der Brust.

<sup>19</sup> May is regarded as feminine in *T. and C.* 2. 50:

In May, that moder is of monthes glade.

On the other hand, it is masculine, like April, in *Franklin's Tale* 179-180:

Which May had peynted with his softe shoures  
 This gardin ful of leves and of floures.

<sup>20</sup> Perhaps *Juppiter* (*Joves*) most nearly illustrates the conception outlined above, in such passages as *T. and C.* 3. 15 ff. (based upon the *Filostrato* of Boccaccio; see *Oxford Chaucer* 2. 474-5) and *Monk's Tale* 762.

connection with *grene*, and to characterize grass. For *softe shoures*, see p. 10, note 19.<sup>21</sup>

*droghte* (2). That this can hardly refer to a typical English March is indicated by the proverb, occurring in slightly different forms from 1530, that a bushel (peck) of March dust<sup>22</sup> is worth a king's ransom (see *N. E. D.*, s. v. March, 1. b and 2. a), explained by Robert Boyle, in 1685 (*Works*, ed. 1772, 5. 51): 'So unfrequent is dry weather during that month in our climate.' As early as the middle of the 11th century, the Old English *Menologium* characterizes March by frost and hail-storms. *Droghte* can hardly mean 'dryness, lack of rain' (*N. E. D.*), but rather 'dry land' (cf. Lat. *arida*, Gr. *ξηρά*, of Gen. 1. 9; Matt. 23. 15, etc.; Milton, *P. R.* 3. 274). Rain, under these circumstances, naturally suggests a dry soil on which to descend; an example is Virgil, *Ecl.* 7. 57, 60:

Aret ager. . . .  
Juppiter et læto descendet plurimus imbri.<sup>23</sup>

Moreover, the Euripidean fragment expressly mentions the 'dry soil, barren by reason of drought'; Chaucer, however, would of course have known nothing directly of this, though he may easily have been acquainted with the *Eclogue*, if he knew the *Georgics*. *Drought*, then, seems like a literary reminiscence of more tropic conditions, and not an attempt to render his English experience. There is, however, one other possibility. It is that *droghte* is here employed to denote a caked condition of the soil, due, not to heat, but to cold—

---

<sup>21</sup> Since writing this paper, I see that Lowes (*Mod. Phil.* 15. 707, April, 1918) compares with *Prol.* 2-4 the following from Boccaccio, *Filocolo* 2. 238: 'Se quella terra che noi incalchiamo lungamente *alle tue radici presti grazioso umore, per lo quale esse diligentemente nutrite le tue fronde nutrichino.*'

<sup>22</sup> It is interesting, however, that Hertzberg renders *droghte* by *Staub*.

<sup>23</sup> Translated by Lonsdale and Lee: 'The field is scorched. . . . Jove in a gladdening shower shall plenteously descend.'

And by Dryden:

Parched are the plains, and frying is the field. . . .  
And Jove descends in showers of kindly rain.

The parching air  
Burns frore, and cold performs the effect of fire.<sup>24</sup>

*perced to the rote* (2). This may possibly have a physiological connotation, if one has regard to the fissures produced in the earth by drought. Cf. Virgil, *Georg.* 2. 353: 'The sultry dog-star cleaves the fields that gape with drought'; 3. 432: 'When the marsh is burnt up, and the ground gapes with the burning heat'; add Catullus 68. 62; Tibullus 1. 7. 21. See especially *rima*, Juvenal 3. 97, and cf. Macrobius 7. 16. 27. For a possible remote analogy, see Milton, *Par. Lost* 7. 453 ff., and cf. *Georg.* 2. 330: 'Parturit almus ager.' Similar clefts are sometimes produced by frost, as well as by drought. *Rote*, in one of its senses, appears to signify the lowest or deepest point of a thing. Thus, *herte rote* ('bottom, depths, ground of the heart'): *Rom. Rose* 1661-2:

The savour of the roses swote  
Me smoot right to the *herte rote*;

and again (*Wife's Prol.* 471):

It tikleth me aboute myn *herte rote*.

The association of *droghte* and *rote* may perhaps have been facilitated by Isa. 53. 2; Hos. 9. 16.

*veyne* (3). This is difficult to visualize. Vein of what? Of the dry earth? Then it must mean minute cracks, well under the surface (cf. Petrarch's 'dentro, dove già mai non s'aggiorna,' quoted in *Romanic Review* 8. 225; my note there must be judged in the light of the present paper). Of the embryonic plant? Or of the matrix or mould for the plant, continuing the

---

<sup>24</sup> *Par. Lost* 2. 594-5. Cf. Ecclesiasticus 43. 20-21: 'When the cold north wind bloweth, and the water is congealed into ice, . . . it . . . burneth the wilderness, and consumeth the grass as fire.' *Urere, adurere* are thus used in Latin: for the latter, cf. Virgil, *Georg.* 1. 92; Ovid, *Met.* 14. 763-4; for the former, Lucan 4. 54-5: 'The whole earth [in Spain] . . . was parched, hardened beneath the winter's clear sky.' All of these were accessible to Chaucer, as was possibly Macrobius, *Sat.* 1. 12. 14, with its truer etymology of 'April' (see p. 9, note 15): 'Cum fere ante æquinoctium vernum . . . terræ . . . aut aqua aut pruina aut nivibus contegantur, eaque omnia verno, id est hoc mense, aperiantur, . . . ab his omnibus mensem Aprilem dici merito credendum est, quasi Aperilem.'

physiological figure? Cf. *Perc. Veneris* (immediately following the last passage on p. 7, above):

Ipse *venas* atque mentem permeanti spiritu  
Intus occultis gubernat procreatrix viribus.<sup>25</sup>

*licour* . . . . engendred (3-4). Again *fecundis imbribus*.

*Zephrus* (5). The Latin poets are apt to think of Zephyr as thawing the frozen ground. Thus Virgil, *Georg.* I. 43-4:

Vere novo, gelidus canis cum montibus umor  
Liquitur, et Zephyro putris se glæba resolvit.<sup>26</sup>

Horace, *Od.* I. 4. I, 5:

Solvitur acris hiems grata vice veris et Favoni. . . .  
Jam Cytherea chorus duxit.<sup>27</sup>

And Statius, *Theb.* 4. I-2:

Tertius horrentem Zephyris laxaverat annum  
Phœbus.

At the beginning of the Second Book of the *Teseide*, Boccaccio is evidently amplifying the sentence just quoted from Statius:

Il Sole avie due volte dissolute  
Le nevi agli alti poggi, ed altrettante  
Zefiro aveva le foglie rendute  
E gli be' fiori alle spogliate piante.<sup>28</sup>

Boccaccio, in turn, is imitated by Chaucer (*T. and C.* 5. 8-11):

The golden-tressed Phebus heighe onlofte  
Thryes hadde alle with his bemes shene  
The snowes molte, and Zephirus as ofte  
Ybrought ayein the tendre leves grene.

Elsewhere (*L. G. W.* 171-4) Zephyr and Flora are associated as god and goddess:

<sup>25</sup> Translated by Mackail: 'Herself the creatress in hidden might sways flesh and spirit from within with her enkindling life.'

<sup>26</sup> Translated by Lonsdale and Lee: 'In early spring, as soon as the dissolving snow melts on the white mountains, and the earth trembles, unbound by zephyrs.'

<sup>27</sup> 'Keen winter is melting away beneath the welcome change to spring and the western breeze [Zephyr]. . . . Now Venus, Lady of Cythera, leads her choirs' (Lonsdale and Lee).

<sup>28</sup> Ed. Camposampiero, Milan, 1819.

And Zephirus and Flora gentilly  
 Yaf to the floures, softe and tenderly,  
 Hir swote breth, and made hem for to sprede,  
 As god and goddesse of the floury mede.<sup>29</sup>

Cf. Lydgate, *Balade for May Day at Bishop's Wood* I-16<sup>30</sup>:

Mighty Flourra, goddes of freshe floures,  
 Whiche clothed hast the soyle in lousty grene;  
 Made budde springe with his swete showres,  
 By influence of the sonnes so sheene,  
 To do pleasaunce of entent ful clene,  
 Unto the states whiche that now sitte here;  
 Hath Veere doune sent hir owen daughter dere,  
 Making the vertue that dured in the roote,  
 Called of clerkes, the vertue vegytable,  
 For to trascend moste holsome and moste sweete,  
 Into the crope this saysoun so greable.  
 The bawmy lykour is so comendable,  
 That it rejoythe with the fresshe moysture,  
 Man, beeste, and foole, and every creature,  
 Whiche hathe repressed, swaged, and bore doune,  
 The grevous constreinte of the frostes heere.

Zephyr is called 'the debonair wind' in *Boeth.* I m. 5. 15. Deschamps has 'Zephirus, li doulz vens' (*Oeuvres*, ed. Saint-Hilaire, 6. 98) and 'Doulz Zephirus, qui faiz naistre les fleurs' (5. 229), the last clause of which looks like an original for *Bk. Duch.* 403. Cf. Alain de Lille (ca. 1128-1202), *De Planctu Naturæ*, Metre III (tr. Moffat): 'Flower-bearing Zephyrus had softened the rugged year, and quelled the wars of Boreas with its peace, and, bathed in a hail of flowers, rained privet-bloom, and ordered the blossoming snows to be in the meadows.'<sup>31</sup>

*swete breeth* (5). One is at first tempted to think of such a passage as *Par. Lost* 4. 156-8:

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<sup>29</sup> Cf. *Bk. Duch.* 402-3:

For bothe Flora and Zephirus,  
 They two that make floures growe.

<sup>30</sup> *Chronicle of London*, ed. Tyrrell and Nicolas, p. 257; cf. Gross, *Sources and Lit. of Eng. Hist.*, No. 1739; MacCracken, *Lydgate Canon*, p. xviii.

<sup>31</sup> *Yale Studies in English* 36. 21; cf. Wright, *Anglo-Latin Satirical Poets* 2. 447.

Now gentle gales  
Fanning their odoriferous wings, dispense  
Native perfumes, and whisper whence they stole  
Those balmy spoils<sup>82</sup>;

or of the Shakespearean lines from which it was perhaps imitated  
(*T. N. I. I. 5-7*):

Like the sweet South,<sup>83</sup>  
That breathes upon a bank of violets,  
Stealing and giving odor.

And so it was evidently taken by Hawes (*Pastime of Pleasure*  
I. 2):

Encensying out the aromatike odoure  
Of Zepherus breath, whiche that every floure  
Through his fume doth alwaye engender.

But *swete* does not, I believe, here mean 'odorous.' Chaucer  
first uses the phrase in *Rom. Rose* 547, as a translation of *douce*  
*alene*, and there it clearly does mean 'odorous':

With swete breeth and wel savoured.

We have noted above the *swote dewes* of *Rom. Rose* 60, and  
this may account for *Bk. Duch.* 415:

Swetnesse of dewe had mad it waxe.

In neither case should we be tempted to define the word by  
'fragrant,' 'fragrance'; see the remark under *shoures sote*, above.

To understand what is meant by the sweet breath of Zephyrus,  
we must first see what is meant by his breath in general. The  
'tepentibus auris' of *Georg.* 2. 330 is a plural, so that one is  
tempted to look for a singular in another author whom Chaucer  
is known to have translated. Such a singular we find in the  
Third Metre of the Second Book of Boethius:

Cum nemus flatu Zephyri tepentis  
Vernis inrubit rosis.

<sup>82</sup> Cf. Herodotus 3. 113; Lucian, *True History* 2. 5; Evelyn, *Dedication of Fumifugium* to Charles II (*Misc. Writings*, ed. Upcott, p. 208); *Memoirs*, ed. Bray, I. 127 (*Diary*, ed. Bray-Wheatley, I. 95); *Voyage de François Leguat* (Hakluyt Soc.) I. 39, cf. I. 1x; Tennent, *Ceylon* I. 4, note; Longfellow, *Tales of a Wayside Inn*, Part I, Prelude 195-200; Maupassant, *A Repulse* (*English Works* 4. 51); Countess Martinengo Cesaresco, *Lombard Studies*, p. 104; T. Moore, *Epist.* 3 (from Bermuda, Jan., 1804). Add Diodorus Siculus 2. 49; Stisted, *Life of Burton*, p. 176.

<sup>83</sup> Emendation for *sound*.

Here is a word which might be translated 'breath'—in one of its meanings; here we have the warm Zephyr that recalls Virgil's line; and here is *nemus*, which might be translated 'holt.' Let us see what Chaucer makes of it in a prose translation:

Whān the *wode* wexeth rody of rosene floures, in the first somer sesoun, thourgh the *brethe* of the winde Zephyrus *that wexeth warm*.<sup>34</sup>

As the words for the breath of men or animals are such as *anima*, *halitus*, *spiritus*, and as *flatus* is virtually never employed with that meaning,<sup>35</sup> it is evident that here, at least, *breeth* must mean 'blowing.' Then neither the 'Zephyri tepentibus auris' of Virgil, nor the 'flatu Zephyri tepentis' of Boethius, if rendered by Chaucer 'Zephyrus . . . with his swete breeth,' can be said to warrant the interpretation of *breeth* as 'respired air,' or of *swete* as 'fragrant'; the first might be rendered by 'breeze,' and the second by 'warm, mild, soft, genial, gentle, balmy'—or even, with Pope (*Dunciad* 4. 422, 'Waves to the tepid Zephyrs of the spring'), by 'tepid.' It would appear, then, that Chaucer, though he coined *swete breeth* in *Rom. Rose* 547 on the basis of the French *douce alene*,<sup>36</sup> employs it in the *Prologue* in a quite different sense.<sup>37</sup>

*Inspired* (6). Blown upon. Lowes (see above, p. 11) quotes from Boccaccio, *Filocolo* 2. 239: 'Come quando Zeffiro soavemente spira si sogliono le tenere sommità degli alberi muovere per li campi.'

*holt and heeth* (6). Cf. *T. and C.* 3. 351-3:

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<sup>34</sup> The Old English prose translation runs: 'Ponne smylte blāweð sūþan-westan wind, þonne weaxað swiðe hraðe feldes blōsman.' In verse we have:

Ponne smolte blāwēð sūðan and westan  
Wind under wolcnum, þonne weaxað hraðe  
Feldes blōstman, fægen þæt hī mōton.

<sup>35</sup> A typical use of *flatus* is exemplified by *Georg.* 2. 339:

Hibernis parcebant flatibus Euri.

<sup>36</sup> For another form of the phrase, see p. 27.

<sup>37</sup> Spenser has our line in mind in *Prothalamion* 2:

Sweete-breathing Zephyrus did softly play.

Thomson (*Spring* 32-3) thus renders *Georg.* 2. 330-1:

Forth fly the tepid airs; and unconfined,  
Unbinding earth, the moving softness strays.

But right so as these holtes and these hayes,  
That han in winter dede been and dreye,  
Revesten hem in grene whan that May is.

Other authors of Chaucer's time employ *holt* and *heeth* in alliterative combination. So in *Dest. Troy* 1350 (about 1350-1400 A. D.): 'Over hilles and hethes into holte woddes'; *Gawain and the Green Knight* 1320 (ca. 1370): 'To hunt in holtez and hepe.' The combination is also found in *Middle High German*: thus in Hartmann von Aue's *Erec*<sup>38</sup> 3105-7 (ca. 1192):

Nû riten si beide  
Nû holt nû heide,  
Unz daz si der tac verlie.

The conjunction of the two words suggests the 'silvas saltusque' of Virgil, *Aen.* 4. 72; *Georg.* 3. 40 ('saltus silvasque,' *Georg.* 4. 53), *saltus* being defined as 'woodland-pastures,' 'glades or open spaces in forests, where cattle pastured and wild beasts wandered.'

*heeth*. Current definitions are: 'An uncultivated tract of heathy or shrubby land, usually of a desolate character' (*Cent. Dict.*); 'A bare, more or less flat, tract of land, clothed with low herbage and dwarf shrubs, esp. with the shrubby plants known as heath, heather, or ling' (*New Eng. Dict.*). Neither of these suggests the presence of trees, as does the Latin *saltus*, and explicitly *Prol.* 606-7 (of the Reeve):

His woning was ful fair upon an heeth,  
With grene trees shadwed was his place.

In Hardy's *Return of the Native*, too, there was at one side of a house (IV. 5) 'a knoll, and on the top of the knoll a clump of fir trees' (but see his descriptions in I. 1).

*tendre croppes* (7). See above, p. 10.

*yonge sonne*. See Virgil's *novos soles*, and cf. Ovid, *Fasti*

I. 163-4:

Bruma novi prima est, veterisque novissima solis;  
Principium capiunt Phœbus et annus idem.<sup>39</sup>

<sup>38</sup> Based upon Chrétien de Troyes' *Érec et Énide* (ca. 1192). Tennyson thus conceives the landscape (*Geraint and Enid* 31-2):

Gray swamps and pools, waste places of the hern,  
And wildernesses, perilous paths.

<sup>39</sup> 'The winter solstice is the first day of the new, and the last of the old sun; Phœbus and the year take the same period for commencement.'

*slepen al the night with open ye* (10). Cf. *Sowdone of Babylon* 41-6 (ed. Hausknecht):

Hit bifelle bytwyxe March and Maye,  
Whan kynde corage begynneth to pryke,  
Whan ffrith and felde waxen gaye,  
And every wight desirith his like,  
Whan lovers slepen with opyn y3e,  
As nightyngalis on grene tre.

See also 963-978 (Wells, *Manual*, p. 84). The poem is 'of about 1400 or shortly thereafter.'

*So priketh hem nature* [better, *Nature*] *in her corages* (11). Apparently from Lucretius I. 12-3:

Aeriæ primum volucres te, diva, tuumque  
Significant initum percussæ corda tua vi.<sup>40</sup>

If we assume this to have been Chaucer's original, he can hardly have read *percussæ* (see Munro's definitions below), since this would not correspond to any recognized meaning of *priken*, which, along with such senses as 'spur,' has one that is illustrated by the following Chaucerian quotations, and which may be represented by 'stab, pierce' (cf. Spenser, *F. Q.* 4. 10. 45. 7):

*Rom. Rose* 1058-9:

They *prike* [MS. *prile*] and poynten  
The folk right to the bare boon.<sup>41</sup>

*A. B. C.* 163-4:

Longius his herte *p[r]ighte*,  
And made his herte blood to renne adoun.

Now as the meaning of *prick* with which we are familiar might stand for Lat. *pungere*, so this other might well represent Lat. *percutere*. In Cicero, *Pro Milone* 26. 65, we are told of a certain

<sup>40</sup> 'First the fowls of the air, O Lady, shew signs of thee and thy entering in, thoroughly smitten in heart by thy power.'

Munro comments: '*Percussæ* is literally "knocked down, struck to the ground"; . . . hence often "stunned, smitten through all the frame" by a strong passion, as here by love; . . . comp. Plaut. *trin.* 242, . . . where *percussus* is restored from the Ambrosian, the other mss. having *percussus*, with which it is so often confused.'

<sup>41</sup> Les gens poignant

Par derriere dusques a l'os.

Licinius, 'se gladio *percussum* ab uno de illis' (he was stabbed by one of them). If, then, we may suppose Chaucer to have read *percussæ*, his translation is accounted for, since that word is used in the metaphorical sense of 'agitate, excite' (so, for example, *Pro Milone* 29. 70). Cf. *K. T.* 185-6:

The sesoun *priketh* every gentil herte,  
And maketh him out of his sleep to sterte.

It may be objected that Chaucer could have known nothing of Lucretius,<sup>42</sup> since scholars were ignorant of that poet until Poggio sent a manuscript of his poem from Germany to Italy in 1417.<sup>43</sup> However, there is testimony that Lucretius was read throughout the Middle Ages,<sup>44</sup> and Philippe (33. 133; see note 44) speaks of manuscripts of the *De Rerum Natura* as existing in abbeys<sup>45</sup> ruled over by disciples of Alcuin.

Nolhac denies<sup>46</sup> that either Petrarch or Boccaccio knew Lucretius at first hand; but, however that may be, it seems reasonably certain that Dante was acquainted with him. The evidence for

<sup>42</sup> Cf. Lounsbury, *Studies in Chaucer* 3. 405.

<sup>43</sup> Lucretius, ed. Munro, 4th ed., Text, p. 2.

<sup>44</sup> Jourdain, *Recherches Critiques sur l'Age et l'Origine des Traductions Latines d'Aristote* (Paris, 1843), p. 21: 'A toutes les époques du moyen âge on a lu . . . le poème de Lucrèce.' Cf. Monnier, *Alcuin et Charlemagne* (Paris, 1864), p. 279; Philippe, *Lucrèce dans la Théologie Chrétienne du III<sup>e</sup> au XIII<sup>e</sup> Siècle* (*Rev. de l'Histoire des Religions* 32. 284-302; 33. 19-36, 125-162).

<sup>45</sup> Corbie (p. 153), St. Bertin, near St. Omer (p. 151; cf. Munro, Text, p. 22), Bobbio (pp. 151-2; cf. Munro, p. 2), Mainz (p. 132). The manuscript of the last-named abbey was copied by a scribe of the calligraphic school of Tours, and carefully corrected by a Saxon scribe (p. 132). A twelfth-century catalogue of the library of Corbie has an entry: 'Titus Lucretius Poeta.' It is hardly to be supposed that Chaucer read Lucretius at either St. Bertin or Bobbio; yet St. Bertin (in the vicinity of Chaucer's 'Popering,' *Sir Thopas* 9) was only a day's easy ride from Calais (in or near which Chaucer was in 1360 and 1377), and Bobbio was on the main road from Genoa to Piacenza, about 60 miles from the former (where Chaucer was in 1373, being again in Lombardy in 1378). Seven manuscript copies, made directly or indirectly, between 1417 and 1473, from that which Poggio sent to Italy, are still extant in England (Munro, p. 3), but of course none of these could have been in Chaucer's hands.

<sup>46</sup> *Pétrarque et l'Humanisme*, 2d ed., I. 159-160.

this is furnished by a comparison of *Par.* 14. 112-7<sup>47</sup> with Lucretius 2. 115-121. The former reads<sup>48</sup>:

Così *si veggion* qui diritte e torte,  
 Veloci e tarde, rinnovando vista,  
*Le minuzie dei corpi* lunghe e corte,  
 Moversi per *lo raggio*, onde si lista  
 Tal volta *l'ombra*, che per sua difesa  
 La gente con ingegno ed arte acquista.<sup>49</sup>

The passage of Lucretius runs:

*Contemplator* enim, cum solis lumina cumque  
 Inserti fundunt radii per *opaca* domorum:  
 Multa *minuta*, modis multis, per inane *videbis*  
*Corpora* misceri *radiorum* lumine in ipso,  
 Et, velut æterno certamine, proelia pugnas  
 Edere, turmatim certantia nec dare pausam,  
 Concilia et dissidiis exercita crebris.<sup>60</sup>

<sup>47</sup> First suggested by I. C. Wright, in his translation (1840). Moore seems to suppose (*Studies in Dante* 1. 295) that the discovery was made by Butler.

<sup>48</sup> Correspondences are indicated by italics. Their number and closeness may be estimated by a comparison with the following sentence from Isidore of Seville (13. 2. 1), which employs the same general figure: 'Hi per inane totius mundi irrequietis motibus volitare, et huc atque illuc ferri dicuntur, sicut tenuissimi pulveres qui infusis per fenestras radiis solis videntur.'

<sup>49</sup> Thus translated by Butler: 'Thus are seen here, straight and twisted, swift and slow, changing appearance, the particles of bodies, long and short, to move through the ray wherewith at times the shade is bordered which folk acquire with art and wit for their protection.' And thus by Wicksteed: 'So we see here, straight, twisted, swift, or slow, changing appearance, long or short, the motes of bodies moving through the ray which doth sometimes streak the shade which folk with skill and art contrive for their defense.'

Longfellow comments: 'Mr. Cary here quotes Chaucer, *Wife of Bath's Tale* [12]:

As thikke as motes in the sonnebeme.

And Milton, *Penesero* 8:

As thick and numberless

As the gay motes that people the sunbeam.'

<sup>60</sup> Munro translates: 'Observe, whenever the rays are let in, and pour the sunlight through the dark chambers of houses: you will see many minute bodies, in many ways, through the apparent void, mingle in the midst of the light of the rays, and, as in never-ending conflict, skirmish

Moore<sup>51</sup> is not disposed to allow that Dante was acquainted with the *De Rerum Natura*. He says: 'Even if the passage of Lucretius be copied here (which seems to me very doubtful), it was probably found by Dante as quoted by some other author, or else it may be in some of the *Florilegia*, though the former would here seem the more probable supposition, if any is needed.' It is not easy to see why Dante, as well as the author whom he is supposed to have quoted, should not have had access to Lucretius; but, if we accept either of Moore's alternative hypotheses as true for Dante, there appears no reason why it should not be equally true for Chaucer. It may be noted that Scartazzini also quotes Lucretius on Dante's lines.

With the foregoing parallels may be confronted a few passages from modern authors. Lowell, *Chaucer (Prose Works, Riverside ed., 3. 292)*: 'If here be not the *largior ether* [*æther, Aen. 6. 640*], the serene and motionless atmosphere of classical antiquity, we find at least the *seclusum nemus* [*Aen. 6. 704*], the *domos placidas* [*Aen. 6. 705*], . . . that persuade us we are in an Elysium none the less sweet that it appeals to our more purely human, one might almost say domestic, sympathies.'

*Ibid.*, p. 302: 'Virgil had wellnigh become mythical' [in the thirteenth and fourteenth centuries].

*Ibid.*, p. 306: 'The invocation of Venus, as the genetic force of nature, by Lucretius [1. 1-43], seems to me the one sunburst of purely poetic inspiration which the Latin language can show.'

Mather, edition of *Prologue*, etc., p. lv: 'The opening lines of the *Prologue* set us in the very heart of an English springtime; we know that buds are bursting, and hear the song of birds.'

and give battle, combating in troops and never halting, driven about in frequent meetings and partings.'

*Modis multis* seems to have suggested Dante's *diritte e torte, veloci e tarde, lunghe e corte*.

<sup>51</sup> *Studies in Dante* 1. 295.

## II. THE 'SWEET BREATH' OF ZEPHYR

A passage which Chaucer may have had in mind in writing *Prolog.* 5<sup>1</sup> is one from the Old French poem entitled *La Dame de Fayel*,<sup>2</sup> written (ca. 1190) by we know not certainly whom, but attributed by one out of six manuscripts to Guiot de Dijon. This poem puts into the mouth of a lady her fears and sadness on account of the lover absent on pilgrimage in Holy Land. The text of the poem, in the critical edition of Bédier, is as follows<sup>3</sup>:

Chanterai por mon corage  
 Que je vueill reconforter,  
 Car avec mon grant damage  
 Ne quier morir n'afoler,  
 Quant de la terre sauvage  
 Ne voi nului retourner  
 Ou cil est qui m'assoage  
 Le cuer, quant j'en oi parler.  
 Dex, quant crieront Outree!  
 Sire, aidiés au pelerin  
 Por cui sui espoentee,  
 Car felon sunt Sarrazin.

Soferrai en tel estage  
 Tant quel voie repasser.  
 Il est en pelerinage,  
 Dont Dex le lait retourner!  
 Et maugré tot mon lignage  
 Ne quier ochoison trover  
 D'autre face mariage;  
 Folz est qui j'en oi parler!  
 Dex, etc.

De ce sui au cuer dolente  
 Que cil n'est en Biauvoisis  
 Qui si sovent me tormente:  
 Je n'en ai ne gieu ne ris.

<sup>1</sup> See above, pp. 14-16.

<sup>2</sup> Otherwise spelled *Fael*, *Faiocl*.

<sup>3</sup> Bédier, *Les Chansons de Croisade*, pp. 112-4 (cf. 308-9); Meyer, *Recueil d'Anciens Textes*, p. 368; Gaston Paris, *Litt. Fr. au Moyen Age*, 3d ed., p. 198; *Hist. Litt. de la France* 23. 556-7; 28. 373; *Chansons du Châtelain de Coucy*, ed. Michel, pp. 95-8 (*Chansons de Divers Auteurs*); *L'Histoire du Châtelain de Coucy et de la Dame de Fayel*, ed. Crapelet, pp. xvii-xx, etc. (see Bédier, p. 109).

Il est biaux, et je sui gente.  
 Sire Dex, por quel feïs?  
 Quant l'uns a l'autre atalente,  
 Por coi nos as departis?  
 Dex, etc.

De ce sui en bone atente  
 Que je son homage pris,  
 Et quant la douce ore vente  
 Qui vient de cel douz païs  
 Ou cil est qui m'atalente,  
 Volentiers i tor mon vis:  
 Adont m'est vis qui jel sente  
 Par desoz mon mantel gris.  
 Dex, etc.

De ce sui mout deceüe  
 Que ne fui au convoier;  
 Sa chemise qu'ot vestue  
 M'envoia por embracier:  
 La nuit, quant s'amor m'argue,  
 La met delez moi couchier  
 Mont estroit a ma char nue  
 Por mes malz assoagier.  
 Dex, etc.

Which may be thus translated<sup>4</sup>:

I will sing for my heart, which I wish to console, for, in spite of my great misery, I desire not to perish nor go mad; and yet I see no one return from the savage country where he abides who solaces my heart when I hear him spoken of.

O Lord God, when they cry *Outrée*,<sup>5</sup> succor the pilgrim for whom I am in terror, for cruel are the Saracens.

I will endure in this estate until I see him return. He is now on pilgrimage; God grant that he may come back from it! Noble though my lineage be, I seek no occasion to wed another—mad is he whom I hear suggest it!

O Lord God, etc.

What makes me sorrowful is that he is not in the Beauvaisis<sup>6</sup> who so often causes me torment; of him I have neither joy nor laughter.

<sup>4</sup> There is a translation into modern French in Crapelet, pp. xix-xx, from a text published on pp. xvii-xix.

<sup>5</sup> The marching-shout of the pilgrims. Cf. *Romania* 9. 44; Bédier, pp. xiv-xv.

<sup>6</sup> The territory of Beauvais.

If he is handsome, I am lovely: O Lord God, why hast thou done so? When each longs for the other, why hast thou parted us?

O Lord God, etc.

What gives me assured hope is that I have received his homage; and when the sweet breeze blows from that sweet land where he is for whom I yearn, I turn my face thither with gladness, and at that moment seem to feel him underneath my gray mantle.

O Lord God, etc.

Where I have been cozened is that I was not of his escort when he departed.<sup>7</sup> He sent me, that I might kiss it, the tunic that he had donned; and at night, when love for him gives me no rest, I take it to my bed and lay it next my naked flesh, to soothe my woe.

O Lord God, etc.

The last two lines of the first stanza are referred to<sup>8</sup> in Guillaume de Lorris' part of the *Roman de la Rose* (ed. Michel, 2688-94):

Si me semble [Kaluza, *sovient*] que por ce dist  
 Une dame qui d'amer sot,  
 En sa chançon un cortois mot:  
 'Moult sui, fet-ele, à bonne escole,  
 Quant de mon ami oi parole;  
 Se m'aïst Diex, il m'a garie  
 Qui m'en parle, quoi qu'il m'en die.'

The Middle English rendering of the above lines is (2837-50), in Skeat's text (cf. Kaluza, p. 165):

And therefore now it cometh to minde,  
 In olde dawes, as I finde,  
 That clerkis writen that hir knewe,  
 Ther was a lady fresh of hewe,  
 Which of hir love made a song  
 On him for to remembre among,  
 In which she seide, 'Whan that I here  
 Speken of him that is so dere,  
 To me it voidith al [my] smerte;  
 Ywis, he sit so nere myn herte,  
 To speke of him, at eve or morwe,

<sup>7</sup> The pilgrim, with the staff and scrip he had assumed, was accompanied through the first stage of his journey by his relatives and friends. This being passed, he resumed his ordinary garments, of which the tunic in question was not one. See Bédier, p. 117.

<sup>8</sup> So *Hist. Litt. de la France* 28. 373, note 3; *Romania* 8. 360, note 5.

It cureth me of al my sorwe.  
 To me is noon so high plesaunce  
 As of his persone daliaunce.'

Chaucer, as translator of the *Roman de la Rose* (*L. G. W.* 255: 329) would of course have known of this passage of Old French. It is generally denied,<sup>9</sup> however, that he was the translator of B (1706-5810). As bearing on this point, I subjoin indications of Chaucer's probable translatorship of the above lines:

## (A) Rhymes:

minde: finde (common in Chaucer).

knewe: hewe (*K. T.* 789-790; *L. G. W.* 55-6 (57-8), 1760-1).

song: among (*Bk. Duch.* 297-8; *T. and C.* 2. 883-5; 3. 1814-6).

here: dere (*K. T.* 1905-6; *Man of L. T.* 139-140; *Clerk's T.* 275-8).

herte: smerte (*Prol.* 149-150; *K. T.* 1367-8, 1533-4, 1907-8; *Franklin's T.* 127-8, 245-6, 531-2, etc.).

morwe: sorwe (common).

plesaunce: daliaunce (*To Rosemounde* 22-4).

Observe particularly the rhyme-sequence in *K. T.* 1905-8:  
 dere: here: herte: smerte; cf. *R. R.* 2843-6, above.

## (B) Correspondences of phrase:

in olde dawes (so *Franklin's T.* 452).

as I finde (so *T. and C.* 4. 1138; cf. *Sec. N. T.* 94, 124; *T. and C.* 4. 1415; *Man of L. T.* 807; *Prior. T.* 200; *K. T.* 1297; *T. and C.* 5. 375, 1463; *Monk's Prol.* 99).

fresh of hewe (so *L. G. W.* 57: 55, cf. *L. G. W.* 1761; *R. R.* 3629).

sit so nere myn herte (cf. sit so in myn herte (rhyming with *smerte*), *Bk. Duch.* 1108).

eve and morwe (*K. T.* 1963; *Wife's Prol.* 152; *T. and C.* 1. 487; 5. 725; cf. on even and amorwe, *Prol. Merch. T.* 2; ne night ne morwe, *Bk. Duch.* 22; either on morwes or on evenes, *H. F.* 4).

Cf. my remarks on *R. R.* 3809-14 in *The Historical Background of Chaucer's Knight* (*Trans. Conn. Acad. of Arts and Sciences* 20. 181, note 4).

<sup>9</sup> Wells, *Manual*, p. 650.

The *Roman de la Rose* does not name 'la dame de Fayel,' but this is done in a ballade attributed with much reason to Eustache Deschamps,<sup>10</sup> of which I quote the first two stanzas<sup>11</sup>:

*Hester, Judith, Penelopé, Helaine,*  
*Sarre, Tisbe, Rebeque et Sarry,*  
*Lucesce, Yseult, Genevre, chastellaine*  
 La très loyal nommée de Vergy,  
 Rachel aussi, la dame de Fayel  
 Onc ne furent sy precieux jouel  
 D'onneur, bonté, senz, beauté et valour  
 Con est ma très douce dame d'onnour.

Se d'*Absalon* la grant beauté humaine,  
 De Salomon tout le senz sanz demy,  
 D'*Alixandre* l'avoir et le demaine  
 Des .ix. preux eusse et leur prouesse aussy  
 Et la force, syque se aucun appel  
 Avoye, ne seroie bon ne bel  
 Ne digne assez pour sy très noble flour  
 Con est ma très douce dame d'onnour.

If these be compared with the corresponding two stanzas of Chaucer's ballade in the *Legend of Good Women* (B 249-262), and the underscored words be noted (see also the *-aine* rhyme of the one, and the *-eyne* rhyme of the other—thus, *Helaine*, *Eleyne*), it will seem probable that Chaucer had Deschamps in mind as he wrote:

Hyd, *Absolon*, thy gilte tresses clere;  
*Ester*, ley thou thy meknesse al adoun;  
 Hyd, *Jonathas*,<sup>12</sup> al thy frendly manere;  
*Penalopee*, and *Marcia Catoun*,<sup>13</sup>  
 Mak of your wyfhod no comparisoun;  
 Hyde ye your beautes, *Isoude* and *Eleyne*,  
 My lady cometh, that al this may disteyne.

Thy faire body, lat hit nat appere,  
 Lavyne; and thou, *Lucesse* of Rome toun,  
 And *Polixene*, that boghten love so dere,  
 And *Cleopatre*, with al thy passiouun,

<sup>10</sup> Cited by Skeat, who, however, did not know of the attribution to Deschamps.

<sup>11</sup> *Oeuvres* 9. 49.

<sup>12</sup> Deschamps has 'Jonathas' (*Oeuvres* 2. 195).

<sup>13</sup> 'Marcia, la fille Cathoun' (*Oeuvres* 9. 178).

Hyde ye your trouthe of love and your renoun;  
 And thou, *Tisbe*, that hast of love swich payne;  
 My lady cometh, that al this may disteyne.

Froissart also mentions the lady of Fayel (*Prison Amoureuse* 219-222: *Poésies*, ed. Scheler, I. 217):

La castellainne de Vregi,  
 Et le castellan de Couchi,  
 Qui oultre mer morut de doel  
 Tout pour la dame de Faiuel.

Chaucer's acquaintance with the name of the lady of Fayel, through these or any other intermediaries, would, however, prove nothing as to his familiarity with the poem bearing that title; but if we might assume such familiarity, we should have another source for the phrase 'swete breeth,' in the *alaine douce* which is a variant reading for the *douce ore*<sup>14</sup> of the fourth stanza. Thus we read (Michel, *Chansons*, p. 97):

Et quant l'alaine<sup>15</sup> douce vente  
 Qui vient de cel douz païs  
 Où cil est qui m'atalente,  
 Volontiers i tour mon vis.

### III. PRÓLOGUE 386

As supplementary to the quotation concerning a mormal, or ulcerated leg, in *Mod. Lang. Notes* 33. 379, I print below an extract from John Arderne's (1307- after 1377) *Treatises*, ed. Power (*E. E. T. S.*, No. 139), pp. 52-4, omitting the details of cure, including the composition of the Dublin ointment.

'[A] chanon was on a tyme seke, and when he bigan to wex hole, þar was made a grete gedryng togidre of humours descend-

<sup>14</sup> This expression is probably taken from the beginning of a poem by Bernart of Ventadour (fl. 1275), the troubadour (ed. Appel, p. 212, No. 37):

Cun la rej' aura venta  
 Deves vostre païs,  
 Vejaire m'es qu'eu senta  
 Un ven de Paradis,

where some manuscripts read *douss(a) aura*.

<sup>15</sup> MS. B (Meyer), *l'aleisne*.

yng doune in his legge. After a tyme, forsoþ, þer wex puscelez brounysch and clayisch.<sup>1</sup> . . . At þe last, forsoþ, þer grow in þat party of þe legge a large wounde, and about þe ankles þre or four smale woundez to þe brede of ane halfpeny. And þe legge semed of zelow<sup>2</sup> colour, medled with rednes, fro þe calf to þe ankelez. And þe skynne kast evermore out many skalez. . . . It come to a mormale; þe which, when I had sene it, I affermed it to be a mormale.

‘And I did sich a cure to it: þis is þe cure to þe mormale—ffirst sewe þe pacient[s] legge strongly with a lynne cloþe. After wasche wele þat legge so sewed with hote watre, after þat þe pacient may suffre. And so after þe waschyng lat it lye by a naturel day, þat is ane hole day & a nize,<sup>2</sup> kepyng þe legge fro aier and fro cold. Þe second day, forsoþ, remove þe cloþe, and mundifie þe wounde, or þe woundes if þai be many, and putte in every wounde a litel pece of lynne cloþe moisted in cold watre. Afterward putte of þe oyntment of Dyvylyne in þe circuite of þe wounde above þe hole skynne, so þat it touche no waiez þe woundez within, & cover it with a lynne cloþe ywette. Do þus euery day tuyeze, renewyng þe oyntment, and mundifyng þe woundez, and fylling þam of a lynne cloþe ywette, as it is seid above. . . .

‘Þer was dede flesch of blo colour, to þe brede of a peny; þat dede flesch, forsoþ, was mich þikke, and, þat yse, I kutte with a rasour a litel þe over party of þat flesch. Afterward I putte to larde, and so at þe last, with larde & with cuttyng, I dissolved, i.[e.] lesyd, it utterly. Þat flesch þerfor remove[d], eftsonez with þe oyntment of Dyvylyn aforeseid, and a cloþe wette in water, I held þe wounde opne to þe brede of a peny. And þan eftsonez þer brest out a wounde aboute þe sidez, and it bygan to large it unto þat it was almost of þe same gretnes as it was afore. . . .

‘And if þou se þe bone mortified, witte þou þat it is incurable, or unneþ for to merowe [mowe?] be cured. If þou trow it be curable, it is to be helped with some cure of þe mormale in þe boke of Lamfrank. Also, as it is seid above, som tyme a man is smytyn som party of þe legge violently without wondyng of þe skynne, as of ane hors fote, or of a stone or staffe, or sich oper,

<sup>1</sup> The margin reads: *pustulæ fusca et lata*.

<sup>2</sup> The *z* represents open (palatal) *g*.

and þan is it gode sone for to scarifie þe place ysmyten, and drawe þe blode þennez, and after put on enplastrez repressyng akyng and bolnyng, ffor ofttymez þe mormale comeþ of sich þings.'

## IV. PROLOGUE 493-8, 527-8

We are told of Chaucer's Parson that he would

visite

The ferreste in his parisshe, muche and lyte,  
 Upon his feet, and in his hand a staf.  
 This noble ensample to his sheep he yaf,  
 That first he wroghte, and afterward he taughte—  
 Out of the gospel he tho wordes caughte. . . .  
 But Cristes lore, and his apostles twelve,  
 He taughte, and first he folwed it himselve.

In the *Oxford Chaucer*, published in 1894, Skeat has two notes on the sources of these lines: '498. The allusion is to Matt. v. 19, as shewn by a parallel passage in P. Plowman, C. xvi. 127. . . . 528. Cf. Acts, i. 1; Gower, Conf. Amantis, ii. 188.'

More than a dozen years earlier, Mayor and Lumby, in their edition of Books 3 and 4 of Bede's *Ecclesiastical History*, had brought the above lines into relation with Bede's account of Aidan, in their notes on *Eccl. Hist.* 3. 5. Thus they quote: 'Non aliter quam vivebat cum suis ipse docebat. . . . Discurrere per cuncta et urbana et rustica loca non equorum dorso sed pedum incessu vectus . . . . solebat'; and to this they add a number of parallels. Still other parallels may be found in Plummer's edition (1896) of Bede, *Opera Historica* i. xxxvi. To these we may add a line from the epitaph on Gregory the Great (*Eccl. Hist.* 2. 1):

Implebatquē actu quicquid sermone docebat.

'In his hand a staf' scarcely demands a literary source; if it did, the Bible would readily suggest the form: Gen. 33. 18; Exod. 12. 11; 1 Sam. 17. 40; 2 Kings 4. 29; Zech. 3. 4.

## V. KNIGHT'S TALE 1290

On the wall of the Camera degli Sposi of the Castello di Corte at Mantua, Andrea Mantegna, between 1468 and 1474, represented a meeting between Lodovico II Gonzaga, lord of Mantua, and his son Francesco, then Cardinal. In one of the smaller compartments of the fresco is depicted the horse from which the Marquis has just alighted, and near the horse two large dogs, perhaps three feet in height to the top of the head, white or grey in color, one at least being held by a leash. This dog, the one facing the spectator, is of powerful build, the head large, the eyes small, and the ears cropped. The picture is reproduced by Thode (*Mantegna*, p. 61), Knapp (*Andrea Mantegna*, p. 41), and Kristeller (*Andrea Mantegna*, p. 251). Thode describes the dogs merely as Lodovico's favorites; Cruttwell (*Andrea Mantegna*, p. 69), as 'fierce looking boarhounds'; and Kristeller (p. 249), as 'huge dogs (not hounds for the chase, as has been supposed).' It is evident that the biographers are in considerable uncertainty as to the species of the dogs in question, even though Kristeller elsewhere maintains (p. 262) that these 'animals [are] studied from nature with amazing care and fidelity.' It occurs to me to suggest that these dogs may perhaps be alaunts, of which Baillie-Grohman remarks (Cook, *The Last Months of Chaucer's Earliest Patron: Trans. Conn. Acad. of Arts and Sciences* 21. 135): 'Both Gaston [de Foix] and the Spanish king [Alfonso XI] say that the body of the *Alaunt* was like that of a heavy greyhound, their eyes were small, they were square in the jaw, and that their ears were trimmed and pointed to make them look alert. The tail was rather large than small. They were of three colors, white, grey, and blackish.' De Noirmont (*op. cit.*, p. 136) 'compares it to the Great Dane or German boarhound, to which he assigns a height of 30 to 32, or, exceptionally, 34 inches'—that is, to the shoulder. It will be seen that these accounts apply sufficiently well to the dogs delineated by Mantegna. Chaucer's alaunts, as we know, were white.

Other representations of dogs which might be consulted in this connection are in Titian's picture of Charles V (Prado), Venus and Adonis (Prado), and Van Dyck's Duke of Juliers and Berg (Munich).

For the alaunt in a fifteenth-century shield, see *Encyc. Brit.*, 11th ed., 13. 326.

## VI. BOOK OF THE DUCHESS 368

The present Master of Peterhouse, writing in 1880,<sup>1</sup> thus comments on this line: 'The Emperor Octovian (a favorite character of Carolingian legend,<sup>2</sup> . . . in Chaucer's poem probably a flattering allegory for the King) is holding his hunt.' Skeat, though he says<sup>3</sup> 'the name originally referred to the emperor Augustus,' and notwithstanding its occurrence in that sense in *L. G. W.* 624, apparently accepts Ward's view, and supposes the allusion to be to the personage of the mediæval romance.

As bearing on this matter, it may be noted that Deschamps, who employs the name five times, never alludes to the legendary personage. Once, in discoursing on the Nativity, and the conditions then prevailing in the Roman world, he says<sup>4</sup>:

Octovien sanz doubtance  
Regnoit vertueusement.

'Le temps Octovien' is conceived as a golden age. Thus (2. 5):

Quant verray je le temps Octovien,  
Que toute paix fut au monde affermée?

And at the beginning of another ballade (7. 251):

Je voy le temps Octovien  
Que toute paix fut reformée,  
Je voy amer le commun bien,  
Je voy justice estre gardée,  
Je voy Sainte Eglise essaucée,  
Chasteté en religion,  
Bonnes euvres, devocion,  
Charité, foy, droit jugement  
Faire et tenir sanz fiction.  
—Dit il voir?—Par may foy, il ment.

Elsewhere he compares the Emperor Charles IV (1316-1378), son of John of Bohemia, to Augustus (1. 296):

Et l'empereur ot gracieux renom,  
L'empire tint com fist Octoviens,  
Sanz nul debat.

<sup>1</sup> *Chaucer (English Men of Letters)*, pp. 68-9.

<sup>2</sup> Cf. Gaston Paris, *Litt. Fr. au Moyen Age*, 3d ed., p. 50; Wells, *Manual*, p. 118.

<sup>3</sup> *Oxford Chaucer* I. 472-3.

<sup>4</sup> *Oeuvres*, ed. Saint-Hilaire, 7. 153.

Finally, after the death of Charles V of France (1380), he complains to Charles VI, possibly with allusion to his father (8. 159)<sup>5</sup>:

Li tempts n'est pas qu'Octoviens  
Regnoit.

In the light of these instances, then, it would seem probable that Chaucer is comparing Edward III to Augustus Cæsar.

In representing Edward as enjoying the pleasures of the chase, Chaucer is upheld by the monk of St. Albans to whom we owe the *Chronicon Angliæ*. On his deathbed, it appears, being encouraged by Alice Perrers to believe that he would recover, he would talk of nothing but hunting and hawking, 'and trifles of that sort.'<sup>6</sup>

## VII. CHAUCER'S 'SWERD OF WINTER'

In the *Legend of Good Women* (125-7) we read:

Forgeten had the erthe his pore estat  
Of winter, that him naked made and mat,  
And with his *sword of cold* so sore greved.

And in the *Squire's Tale* (52-7):

Ful lusty was the weder and benigne,  
For which the foules, agayn the sonne shene,  
What for the seson and the yonge grene,  
Ful loude songen hir affeccions;  
Hem semed han geten hem protecciouns  
Agayn the *sword of winter* kene and cold.

With these may be compared *Roman de la Rose* 6678-82 (ed. Michel):

Et quant bise resouffle, il fauche  
Les floretes et la verdure  
A l'espée de sa froidure,  
Si que la flor i pert son estre  
Sitost cum el commence a nestre.

The general notion is that of the 'penetrable frigus' of Lucretius I. 494, and the 'penetrabile frigus' of Virgil, *Georg.* I. 93; Martial 4. 19. 9; so in English we speak of piercing, biting (and bitter), cutting, sharp, keen cold.

<sup>5</sup> Cf. *Oeuvres* II. 253-5.

<sup>6</sup> Ed. Thompson (Rolls series), p. 142: 'Itaque factum est ut, per totum illud tempus, de aucupatione, venatione, talibus quoque nugis sermocinaretur.'

VIII. THE COMPLAINT OF CHAUCER TO HIS  
EMPTY PURSE

Root<sup>1</sup> justly calls this a 'delightful poem, which with delicate humor applies the conventional language of amorous poetry to an empty purse.' Assigning the envoy to 1399, he adds: 'It is, of course, possible that the preceding stanzas had been written at an earlier time.' The latter statement is in accord with Skeat's view<sup>2</sup>: 'I think it highly probable that the poem itself is older than the Envoy.' This is suggested by the fact that MS. Harl. 7333 heads the poem: 'A Supplicacion to Kyng Richard by Chaucier.' Wells says<sup>3</sup>: 'There is a general impression that the envoy is Chaucer's latest composition, and was added to the stanzas, which are of earlier date.'

Skeat's remarks on the model for the poem are as follows<sup>4</sup>: 'A somewhat similar complaint was addressed to the French king John II by G. de Machault in 1351-6; but it is in short rimed lines; see his works, ed. Tarbé, p. 78. But the real model which Chaucer had in view was, in my opinion, the Ballade by Eustache Deschamps, written in 1381, and printed in Tarbé's edition, at p. 55 [*Oeuvres*, ed. Saint Hilaire, 2. 81]. This Ballade is of a similar character, having three stanzas of eight lines each, with a somewhat similar refrain, viz. "Mais de paier n'y sçay voie ne tour," i. e. but how to pay I know therein no way nor method. It was written on a similar occasion, viz. after the death of Charles V of France, and the accession of Charles VI, who had promised Deschamps a pension, but had not paid it. Hence the opening lines:—

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<sup>1</sup> *The Poetry of Chaucer*, p. 78.

<sup>2</sup> *Oxford Chaucer* 1. 88; cf. p. 562; and see Ten Brink, in *Litteraturblatt* for 1883, pp. 426-7.

<sup>3</sup> *Manual*, p. 637; cf. p. 616. On p. 637 he also says: 'It is a pleasing bit of humorous application of conventional love-phrasing, not to a lady, but to an empty purse. It occurs in three forms: three rime-royal stanzas with like rime-sounds and final refrain line, followed by an envoy aabba; the three stanzas without the envoy; and the three stanzas without the envoy and with a set of rime-royal stanzas on imprisonment.'

<sup>4</sup> *Oxford Chaucer* 1. 562-3.

Dieux absoille le bon Roy trespasé!  
 Et Dieux consault celui qui est en vie!  
 Il me donna rente le temps passé  
 A mon vivant; laquelle je n'ay mie.

The Envoy has but six lines, though the stanzas have eight; similarly, Chaucer's Envoy has but five lines (rimed *a a b b a*), though the stanzas have seven. Chaucer's Envoy is in a *very* unusual metre, which was copied by the author of the Cuckoo and the Nightingale' [cf. *Oxford Chaucer* 7. 347-358].

This opinion of Skeat is not very convincing. In the first place, Chaucer's envoy, which, if we adopt Skeat's view, would be the link between Chaucer's ballade and that of Deschamps, has the air of being an afterthought, and, in tone, as well as in construction, is quite different from the body of the poem. Like *Steadfastness* and *Truth*, this poem has an envoy; but while in the former it is a rhyme-royal stanza, on the same rhymes as the three preceding stanzas, in this it has five lines, on entirely new rhymes.<sup>5</sup>

But not only is the envoy different from the body of the poem; the latter is quite different, in tone and diction, from the ballade of Deschamps. Deschamps' ballade is not light and humorous, nor is its language that of an amatory poem.<sup>6</sup> Chaucer's ballade has the air of being a genial parody of a love-lyric, perhaps a well known one—or, at least, of employing some of its phraseology. Such a love-lyric exists—famous, too, in its period. It was written by Guy de Coucy, who was castellan of the castle of that name from 1186 to 1203,<sup>7</sup> and of whom Villehardouin<sup>8</sup> relates that he was lost at sea in 1203<sup>9</sup> on the way from the island of Andros, south-east of Eubœa, to Constantinople: 'Et rentrerent en lor vaissiaus et corurent par mer. Lors lor avint uns granz domaiges; que uns halz hom de l'ost, qui avoit nom Guis li chastelains de Coci, morut et fu gitez en la mer.'

The Châtelain de Coucy, as he is generally designated, was an imitator of the troubadours, belonging to the same general

<sup>5</sup> Cf. Ten Brink, *Chaucers Sprache und Verskunst*, p. 213; Schipper, *Altenglische Metrik* 1. 335.

<sup>6</sup> Cf. *Oeuvres* 2. 81-2.

<sup>7</sup> *Encyc. Brit.*, 11th ed., 7. 307.

<sup>8</sup> Ed. Natalis de Wailly, § 124; cf. § 114.

<sup>9</sup> Not 1201, as Lanson would have it (*Hist. de la Litt. Fr.*, p. 85).

period as Conon de Béthune, Blondel de Nesles, Gace Brûlé, and Thibaut de Navarre.<sup>10</sup> Of his poems, some fifteen or sixteen are accredited by modern criticism, of which none attained the celebrity of that which we print below.

Our text is taken from Brakelmann, *Les Plus Anciens Chansonniers Français*, pp. 103-5. Another is to be found in Michel, *Chansons du Châtelain de Coucy*, 1830, pp. 79-84 (its ancient music on pp. 190-1), and a critical text in Fath, 1883, *Die Lieder des Castellans von Coucy*, pp. 36-9 (from twelve MSS.). Still a fourth is incorporated in *L'Histoire du Châtelain de Coucy*, 1829, pp. 244-5 (translation on pp. 409-11).

*A vos, amant, plus<sup>11</sup> qu'a nule altre gent  
Est bien raisons que ma dolor complaigne,  
Quant il m'estuet partir oltretement  
Et dessever de ma dolce compaigne;  
Et quant li pert, n'ai rien qui me remaigne  
Et sache bien amors seürement  
Se n'i morisse por avoir cuer dolent,  
Jamais par moi n'iert meüs vers ne lais.*

*Dolce dame, qu'iert ce donc et coment  
Covendra moi qu'a la fin congié praigne?  
Oil, par Deu, ne puet estre autrement;  
Por vos m'en vois morir en terre estraaigne.  
Ne cuidiez mais qu'altres mals me soffraigne,  
Que je n'en ai confort n'aligement,  
Car de nule altre avoir joie n'atent  
Fors que de vos, ne sai se c'iert jamais.*

*Dolce dame, qu'iert il del consirrer,  
Des dolz solas et de la compaignie,  
Del bel semblant que me soliez mostrer  
Quant vos m'estiez, dame, compaignie, amie?  
Et quant recort sa simple cortoisie  
Et les dolz moz que solt a moi parler,  
Coment me puet li cuers el cors durer  
Que ne s'en part? Certes, trop est malvais!<sup>12</sup>*

<sup>10</sup> Lanson, as above.

<sup>11</sup> The *Histoire* and MS. A have *ains*.

<sup>12</sup> This stanza is quoted in *La Chastelaine de Vergi*, ed. Brandin, p. 69 (= *Romania* 21. 173, Raynaud's text, from which Brandin's is taken), with a translation on p. 18; line 2 of stanza 3 here reads:

Du dous solaz et de la compaignie.

Or voi je bien qu'il m'estuet comparer  
 Toz les deduis qu'ai eüs en ma vie,  
 Deüs ne m'i volt en pardon rien doner ;  
 Ançois criem molt, cist loiers ne m'ocie.  
*Merci*, amors,<sup>13</sup> que Deus hait vilenie,  
 Que vilain font bone amor dessevrer,  
 Et je ne puis mon cuer de li oster,  
 Si me covient que je ma dame lais.

Or seront lié li fals losengeor  
 Qu'avoient duel des biens qu'avoit soloie,  
 Ja pelerins ne serai a nul jor  
 Por ce qu'a els en bone pais resoie.  
 Por tant puis bien perdre tote ma voie,  
 Et sachent bien li felon menteor,  
 Se Deus voloit qu'il reüssent m'amor  
 Ne me porroit chargier plus *pesant* fais.<sup>14</sup>

Je m'en vois, dame, a Deu le creator,  
 Qui soit o vos en quel liu que je soie.  
 Et sachiez bien, niant iert del retor,  
 Aventure est que jamais vos revoie,  
 Por Deu vos pri qu'en quel liu que je soie,  
 Que mes covens tiegniez, viegne ou demor ;  
 Et je pri Deu qu'ensi me doinst honor,  
 Com je vos ai esté amis verais.

---

The romance in question was written about 1280 (Gaston Paris) or between 1282 and 1288 (G. Raynaud, in *Romania* 21. 153). It is referred to by Froissart, *Paradys d'Amour* 992, and *Prison Amoureuse* 219, as well as by Deschamps 2. 182; cf. also pp. 26, 27, above. Chaucer would therefore have known of the romance, and, if he read it, as he doubtless did, would have had his attention attracted by this stanza, and by the fact that it was assigned by the author to the 'chastelains de Couci' (l. 292). Four ivory caskets, besides the fragment of another (Bargello, Florence), representing scenes from *La Chastelaine de Vergi*, and all belonging to the first quarter of the fourteenth century, are still preserved; these are in the British Museum (reproduced as the frontispiece of Brandin's edition), the Louvre, and the Pierpont Morgan collection (two). Others are to be found at Milan, Vienna, and Lyons (R. S. Loomis, in *Romantic Review* 8. 197, supplemented by information in a letter of Dec. 18, 1917).

<sup>13</sup> Four MSS., including Brit. Mus. Egerton 274. 13 (13th century), have *Merci li cri*.

<sup>14</sup> 'Pesant fais' occurs in an anonymous poem of the thirteenth century (*Chansons du Châtelain de Coucy*, ed. Michel, p. 101; cf. Gaston Paris, in *Romania* 8. 354).

De moie part di, chançons, si t'en croie,  
Que sols m'en vois, que n'ai altre seignor :  
Et bien sachiez, dame de grant valor,  
Se je revienng, que por vos servir vais.

If, now, the italicized passages in the French poem are compared with those written by Chaucer, as given below, I think it can hardly be doubted that he expected the literate to enjoy his playful allusions to the former. From line 6 it is evident that the manuscript Chaucer knew was of type *z* (Fath, pp. 21, 36); see the variant reading at the foot of page 36. It will be observed that two of Chaucer's rhyming words, *companye* and *curtesye*, both coupled with the refrain, are also rhyming words of the French poet.

*To you, my purse, and to non other wight  
Compleyne I, for ye be my lady dere!  
I am so sory, now that ye be light;  
For certes, but ye make me hevvy chere,  
Me were as leef be leyd upon my bere;  
For whiche unto your mercy thus I crye:  
Beth hevvy ageyn, or elles mot I dye!*

Now voucheth sauf this day, or hit be night,  
That I of you the blisful soun may here,  
Or see your colour lyk the sonne bright,  
That of yelownesse hadde never pere.  
Ye be my lyf, ye be myn hertes stere,  
Quene of comfort and of good companye:  
Beth hevvy ageyn, or elles mot I dye!

Now purs, that be to me my lyves light  
And saveour, as doun in this worlde here,  
Out of this tounne help me through your might,  
Sin that ye wole nat been my tresorere;  
For I am shave as nye as any frere.<sup>15</sup>  
But yit I pray unto your curtesye:  
Beth hevvy ageyn, or elles mot I dye!

LENVOY DE CHAUCER

O conquerour of Brutes Albioun!  
Which that by lyne and free eleccioun

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<sup>15</sup> Cf. *Prol.* 590 (of the Reeve):

For he was shave as ny as ever he can.

Ben verray king, this song to you I sende;  
 And ye, that mowen al our harm amende,  
 Have minde upon my supplicacioun!

Chaucer's envoy is more in the vein of such demands as Deschamps sometimes made upon his patrons (cf. Skeat's remarks above, p. 33, and Deschamps, *Oeuvres* II. 32 ff., 256, 300).<sup>16</sup> The phrase, 'Brutes Albioun,' too, seems to repose on reminiscences of Deschamps, who introduces both words, and variants of them ('Albie,' etc.), not only in his poem addressed to Chaucer (2. 138-140; cf. *Oxford Chaucer* I. lvi-lvii<sup>17</sup>), but elsewhere (1. 106-7, 318; 2. 33; 3. 110; 6. 87; 7. 244-5). In the rhymes with *Albio(u)n*, Latin derivatives are usually, and almost necessarily employed, as by Chaucer here (1. 317-8; 3. 109-10; 6. 133-4; 7. 244-5; but *Bullion*, 3. 110; *Lion*, 7. 244).

## IX. SIR GEOFFREY CHAUCER

Would not the poet, from August, 1386, have been entitled to the above designation? On the 6th of that month, a writ was addressed to the Sheriff of Kent, requiring him to have 'duos Milites, gladiis cinctos, magis idoneos et discretos,' chosen as knights of the shire, whereupon he returned William Betenham as the one knight, and Chaucer as the other.<sup>1</sup> Other testimony, some of it more dubious on account of its lateness, is as follows:

1. Bale, in 1548, calls Chaucer 'eques auratus.'<sup>2</sup> and Leland (ca. 1545) had written 'De Gallofrido Chaucero, Equite.'<sup>3</sup>

<sup>16</sup> The first two lines are illustrated by Gower's *Cronica Tripartata* 3. 322-5:

Unde coronatur trino de jure probatur,  
 Regnum conquestat, que per hoc sibi jus manifestat;  
 Regno succedit heres, nec ab inde recedit;  
 Insuper eligitur a plebe que sic stabilitur.

Cf. Stubbs, *Const. Hist. Eng.* 3. 11-12.

<sup>17</sup> Critical edition by Jenkins, *Mod. Lang. Notes* 33. 268, 437.

<sup>1</sup> Kirk, *Life-Records IV*, pp. 261-2.

<sup>2</sup> Hammond, *Chaucer*, p. 8. Pits (1619) has: 'Ipse tandem auratus factus est Eques' (*ibid.*, p. 13). Phillips (1674) calls him 'Sir Geoffrey Chaucer' and 'Knight' (*ibid.*, p. 36).

<sup>3</sup> Spurgeon, *Five Hundred Years of Chaucer Criticism and Allusion*, p. 87.

2. Chaucer bore arms, which were formerly to be seen upon his tomb.<sup>4</sup>

3. The designation of 'Sir' is given to him ca. 1560 in Sloane MS. 314 (Spurgeon, p. 95); by Legh, 1562 (97); by Whetstone, 1576 (113); by Greene, 1590 (131); in 1590 (132); in 1592 (137-8); by Peacham, 1622 (197); by Foulis, 1635 (211); by Baker, 1643 (222); by Gayton, 1654 (229); by Jones, 1659 (237); by Gayton, 1663 (240); by Aubrey, 1669-96 (245); by Ramesey, 1669 (246), and in Dryden's patent as poet laureate, 1670 (247), etc.

## X. CHAUCER'S MISSION TO FLORENCE IN 1372

No one seems ever to have conjectured what was the errand on which Chaucer was dispatched to Florence. What service could the Florentines render Edward III, in the existing state of his affairs? He would hardly have sent Chaucer to negotiate concerning the establishment of a Florentine quarter in some English port, since they only incidentally and individually traded to foreign ports; and for a similar reason he would not have been in quest of galleys. Besides, why should such a mission be secret, since for these objects Edward sent public embassies to Genoa, and openly declared the reasons why they were sent? In relation to distant countries, what interest did Florence peculiarly represent? No one needs to be told that it was banking and the coinage of money. The florin was a standard measure of value, and the Bardi were known throughout Western Europe. Now that Edward was at this time in dire need of money is beyond question. In 1371 Parliament demanded £50,000 from the parishes of England, and the clergy were induced to vote £50,000 more.<sup>1</sup> But these sums were as nothing in comparison with the amounts lost or wasted by the government. Off La Rochelle, on June 24, 1372, 20,000 marks, with which Guichard d'Angle, fellow-commissioner with Chaucer in 1377 and 1378, was to pay Edward's soldiers in Guienne, went down in a founde-

<sup>4</sup> Hammond, pp. 20, 47.

<sup>1</sup> *Dict. Nat. Biog.* 17. 66

ing ship, or were carried away by the victorious Spaniards<sup>2</sup>; and by Oct. 9 of that year, Edward, who had been cruising in the Channel for several weeks, in a vain endeavor to bring succor to his troops in Guienne, returned to England, having wasted £900,000 in a hopeless enterprise.<sup>3</sup> At the October Parliament, 'a heavy subsidy on wool was granted for two years, and a fifteenth for one year, to meet the king's urgent need of money for the expenses of the war.' A little later, Edward received 'a grant of customs, which was clearly an unconstitutional proceeding.'<sup>4</sup> These measures indicate the straits to which the King was reduced, especially since in January, 1370, he had received the grant of a tenth for three years from the clergy, and yet borrowed largely from his subjects for the expenses of the war.<sup>5</sup> Guienne was being lost to England, because of the financial embarrassment prevailing there.<sup>6</sup> John of Gaunt's disastrous raid through France in 1373 cost immense sums, for which he was not only obliged to draw on his own princely income, but also to pledge his credit in every direction, borrowing here £2000, there £200 or 200 marks.<sup>7</sup> Even before leaving Guienne, toward the end of 1371, he was reduced to borrowing so small a sum as £20<sup>8</sup>—and this when he had permanently in his pay a hundred knights and a hundred squires, of whom a single individual might receive a yearly retainer amounting to more than \$25,000 of our money.<sup>9</sup> Well might it be said of the King that he was profuse in his expenditure<sup>10</sup>; well might it be said of John of Gaunt; and well might it be said of the Black Prince.<sup>11</sup> At the time of Chaucer's appointment, Edward was

<sup>2</sup> Froissart, ed. Luce, 8. 43, cf. p. xxvii; Walsingham, *Hist. Angl.* 1. 314; Nicolas, *Hist. of the Royal Navy* 2. 145.

<sup>3</sup> Walsingham 1. 315; cf. Armitage-Smith, *John of Gaunt*, pp. 98-9.

<sup>4</sup> *Dict. Nat. Biog.* 17. 67.

<sup>5</sup> *Dict. Nat. Biog.* 17. 66.

<sup>6</sup> Armitage-Smith, pp. 85, 88; *Dict. Nat. Biog.* 17. 100.

<sup>7</sup> Armitage-Smith, pp. 102-3.

<sup>8</sup> *Ibid.*, p. 117, note 2.

<sup>9</sup> *Ibid.*, p. 228. With the number of knights, cf. *K. T.* 993, 2096, 2099.

<sup>10</sup> *Dict. Nat. Biog.* 17. 51.

<sup>11</sup> When he was preparing in 1365 for the expedition which was to be a principal means of losing England her French empire, he lent Peter the Cruel 56,000 florins (£8,400 = \$630,000 or more), and broke up his plate to pay the soldiers whom he engaged on Peter's behalf.

falling into premature and dishonored senility, having less than five years more to live; after Crécy and Poitiers, after the naval exploits of Sluys and Espagnols-sur-Mer, England was fallen upon evil days, and encountering reverses on every hand: the Black Prince had come home to die; Guienne was practically lost; and John of Gaunt, who was now working his will with the kingdom and the King.<sup>20</sup> Whether he was successful or not, cessful. Edward knew not where to betake himself for the indispensable funds, become more indispensable than ever, now that the shadows of the fifth act of his dramatic life were thickening round him, and the skill and indomitable perseverance of Charles V were at length proving more than a match for the brilliant impetuosity which signalized the Edwardian house. The Commons were beginning to grumble, to contrast the present plight of the kingdom with its glory twenty years earlier<sup>12</sup>; and, worst of all, they were more and more loath to appropriate the heavy sums repeatedly called for. Edward engaged a Genoese fleet,<sup>13</sup> and appointed a Genoese captain, but where was he to

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<sup>12</sup> Cf. Nicolas 2. 148-9: 'Parliament met on the 3rd of November [1372], and the state of the Navy received immediate attention. After the Commons had granted another subsidy for its support, they represented that "twenty years since, and always before that time, the navy of the realm was so noble and so plentiful in all ports, maritime towns, and those on rivers, that the whole country deemed and called our Lord King of the Sea, and he and all his country were the more dreaded both by sea and land on account of the said navy. And now it was so decreased and weakened from diverse causes that there was hardly sufficient to defend the country in case of need against royal power, whence there was great danger to the realm, the causes of which were too long to write."'

<sup>13</sup> Nothing came of this, apparently. The skill of Pietro Fregoso was required in another quarter, with rewards far beyond any that Edward was prepared to offer, and no doubt the proposed mariners and galleys were requisitioned for the Genoese adventure in Cyprus. Historians continue to say that the Genoese fleet was on the spot, or actually employed in the English service (Nicolas, 2. 149; Roncière, *Hist. de la Marine Fr.* 2. 23), but I see no proof of this, and the contract for a year with Gregorio Usodimare and Oberto Gay on Jan. 8-9, 1373 (Rymer) seems a clear indication to the contrary. The 50 crossbow-men and 50 sailors called for by this contract were not nearly enough to man a single galley (each galley of the Genoese fleet engaged by the French in 1337 was to carry 210 men, according to Roncière 1. 411, note 3; according to Nicolas 2. 225, these consisted of 180 rowers and 30 crossbow-men, the latter to

obtain the money it would cost?<sup>14</sup> Where, but in the financial centre of Europe, in Florence?

With Florentine banks England had had relations for at least three-quarters of a century. In 1299 Edward I was endeavoring to obtain a large sum from the Spini (Rymer, June 12), and two years later Boniface VIII complained that they had been molested in London (Rymer, Sept. 24). In 1317 Edward II sent to Philip V, requesting protection for the Bardi (Rymer, Nov. 23). Before 1345 Edward III must have borrowed large sums from both the Bardi and the Peruzzi, for in that year both these banks failed, dragging down many smaller houses in their fall, and causing widespread misery in Florence. Edward owed the Bardi 900,000, and the Peruzzi 600,000 gold florins<sup>15</sup> (£135,000 and £90,000, respectively—say, normally, \$10,125,000 and \$6,750,000, but really, in the present year, 1919, much more).<sup>16</sup>

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include the master of the vessel and four other officers; in 1356, 15 Aragonese galleys were each to have 30 crossbow-men, besides the rowers, according to Roncière 1. 507, note 2, and cf. 1. 267; again, Nicolas, 2. 225, tells us of five galleys in 1335, each with 154 rowers and 12 crossbow-men).

<sup>14</sup>The cost per galley to Charles V was 1000 florins a month in 1371 (Roncière 2. 12), and the same to John II in 1356, with the addition of bread (*ibid.* 2. 507); and 900 gold florins to Philip VI in 1337 (Nicolas 2. 225). Edward's contract with Usodimare and Gay called for 25 francs a month for each of these, 15 each for two companions, 10 for each crossbow-man, and 7 for each sailor, besides half of all prisoners and goods captured, and everything that could properly be accounted pillage (Nicolas 2. 224-5); the monthly expense for even this comparatively slight aid was therefore 930 francs. If we suppose the Genoese fleet originally contemplated by Edward to have consisted of 20 galleys, the cost per month would have been £3000 (at least \$225,000), not to speak of the probably high salaries of Fregoso and Provan (cf. the scale of wages in the English navy, Nicolas 2. 177, 193-4).

<sup>15</sup>Giovanni Villani 12. 54 (*Rer. Ital. Script.* 13. 934); *Dict. Nat. Biog.* 17. 57; Coulton, *Chaucer and his England*, p. 126. The rate of interest at this period, owing to debasement of coin, defalcations, repudiation, etc., varied from 20 to 33 per cent.

<sup>16</sup>Notwithstanding, the Bardi did not utterly decline to deal with Edward, for they were bound to him in a large sum of money on the following dates (*Cal. Pat. Rolls*): Oct. 12, 1364; Sept. 29, 1365; Sept. 29, 1366; July 28, 1368; one member of that company on Dec. 10, 1373; while considerable amounts are recorded as having been paid to them for the King on Aug. 16, 1372, and July 7, 1373. These sums, however, probably represented but a fraction of Edward's requirements.

Now, however, the King and the realm were in sore straits, and no stone must be left unturned. The Genoese fleet must be paid for; the services of the Doge's brother were sure to come high; and greater sums might possibly be obtained by an application in Florence itself than by an approach through the agencies. At all events, it was worth the effort.<sup>17</sup> So Edward may have reasoned, and, so reasoning, may have resorted to a skilful negotiator<sup>18</sup>—to whom but the silver-tongued, mild-mannered, capable, dexterous young squire, already perhaps possessing some knowledge of Italian, already perhaps a visitor to Italy in the train of Prince Lionel in 1368?<sup>19</sup> If so, it is explicable why he was sent on the King's *secret* business—the matter must make no stir, else the chances of success were imperiled; explicable, too, why a person of no greater note was sent; explicable why his ostensible mission, publicly proclaimed, was to Genoa, and that he occupied only the third place in that commission; explicable, finally, why he dispatched those three messengers to the King in succession during his stay in Italy—the matter was too important to brook delay until he should return, while yet it was imperative that he should stay until every expedient was exhausted.

All this, so far as it relates to Chaucer, is conjectural, to be sure; but I can not help thinking that it fits in sufficiently with

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<sup>17</sup> Some light is thrown upon the relations between Florence and England about this time by the following (*Dict. Nat. Biog.* 12. 343): 'About this time [1376] a bull of Gregory XI against the Florentines, with whom the Pope was then at war, was brought into England. Wherever they were, the Florentines were to be pronounced excommunicate, and their effects were to be forfeited. Courtenay published the bull at Paul's Cross. . . . As a constitutional politician, he probably was glad to forward the downfall of the Italian merchants, from whom the King had long derived the money which he wasted in extravagance, and as Bishop of London he was no doubt willing to gratify the citizens, who were jealous of foreign traders. The Londoners pillaged the houses of the Florentines, and made a riot. This caused the interference of the city magistrates, and they sided with the King, who took the foreigners under his protection.'

On Mar. 9, 1373, John Gouche, spicer, a Florentine resident in London from his youth, had the liberties of the city of London conferred upon him (*Cal. Pat. Rolls*).

<sup>18</sup> Cf. Legouis, *Chaucer*, p. 19.

<sup>19</sup> See *Trans. Conn. Acad. of Arts and Sciences* 21. 6 ff.

the known conditions, and especially the known exigencies of the kingdom and the King.<sup>20</sup> Whether he was successful or not, his efforts were certainly appreciated. Pollard has remarked<sup>21</sup>: 'From the mission to Genoa dates a great advance in Chaucer's prosperity.'<sup>22</sup>

## XI. KATHARINE SWYNFORD

It has often been assumed of late that John of Gaunt's irregular relations with Katharine Swynford began about the year 1372. Armitage-Smith,<sup>1</sup> relying on the Monk of Evesham's statement, 'Quam ut concubinam multo tempore vivente uxore Constancia carnaliter cognovit,' and Froissart's assertion<sup>2</sup> that he had kept her in the lifetime of his queen, Constance, that is, within the period 1371-94, and also as well before as after the death of her husband (Nov. 13, 1371),<sup>3</sup> concludes: 'Only the years 1371 and 1372 fit in with this statement.' In fact, any connection which took place between John of Gaunt's marriage to Constance

<sup>20</sup> Cf. Young, *Kittredge Anniversary Papers*, pp. 415-6, unfortunately overlooked till this paper was in type.

<sup>21</sup> *Chaucer*, p. 13.

<sup>22</sup> Cf. Legouis, p. 12; Skeat, *Oxford Chaucer*, p. xxv. Kirk (*Life-Records IV*, p. xxv) thus summarizes his income for the year after his return, 1374: 'Geoffrey was receiving 13l. 6s. 8d. yearly from the King, a pitcher of wine daily (of about the same value), 10l. from the Controller-ship, . . . and 10l. from the Duke, while his wife's two pensions amounted to 16l. 13s. 4d; in all, 63l. 6s. 8d., or more than 1000l. a year of our money.' Of all this, Chaucer had previously had only the item first mentioned, besides Philippa's two pensions, so that now their joint income was more than doubled. By 1376, as Kirk notes (p. xxvi), two years later, he had received three extra grants, which 'may have brought him a sum equal in our present currency to about four thousand pounds' (more than \$300,000).

No less significant than the increase of Chaucer's income is the fact that towards the close of 1376 he was again employed on the King's secret business, that between Feb. 17 and March 25 of 1377 he was engaged on another secret mission, and between April 20 and June 26 on still another—75 days in all, at his regular wages of 13s. 4d. per day (say \$3750, before the recent decline in the value of money). Cf. Froissart, ed. Luce, 8. cxxxix, note 3.

<sup>1</sup> *John of Gaunt*, p. 462.

<sup>2</sup> Ed. Kervyn de Lettenhove 15. 239.

<sup>3</sup> *Derby Accounts*, ed. L. T. Smith, p. 301.

and the death of Sir Hugh Swynford must have been between September, 1371,<sup>4</sup> and November 13 of that year. Armitage-Smith adds: 'The petition to the Pope<sup>5</sup> . . . mentions the adultery in the life of Duchess Constance, not in that of the Duchess Blanche.' Accordingly, he assigns these conjectural dates<sup>6</sup> for the birth of the illegitimate children of the pair: John, 1373(?); Henry, 1375(?); Thomas, 1377(?); Joan, 1379(?). These dates, it will be observed, are purely inferential from the assumed date of the first illicit connection of Catherine and the Duke. Other good authorities do not differ widely from this. Sir Harris Nicolas,<sup>7</sup> arguing from the fact that John, the eldest son, was a knight in 1391, deduces that he 'must have been born at least as early as 1375,' while Lucy Toulmin Smith<sup>8</sup> says that he 'would be about 15<sup>9</sup> in 1390, when he joined the Barbary crusade.'

It is my purpose, in the next few pages, to adduce some reasons for believing that Armitage-Smith's dates are too late to account for certain indisputable facts.

First, as to John Beaufort.

(1) In 1390 he was closely associated with seasoned knights, and pitted against some of the boldest and most adventurous spirits in Western Europe, for in the spring of that year he belonged to a group of four knights who jousted on the same day at St. Inglevert,<sup>10</sup> near Calais, one of these being his half-brother, then 24 years old, who nine years later was to become King Henry IV, and who on this occasion gained much distinction for his prowess.<sup>11</sup> Another of the same group, also prominent in the tilting, was Robert Ferrers, who had borne

<sup>4</sup> Armitage-Smith, p. 93.

<sup>5</sup> *Papal Letters* 4. 545: 'While Constance was still alive, he had committed adultery with the said Catherine, an unmarried woman, and had offspring by her.' This does not agree with Froissart's statement that their relations had preceded, as well as followed, the death of Sir Hugh Swynford.

<sup>6</sup> P. 389.

<sup>7</sup> In Samuel Bentley's *Excerpta Historica*, p. 155; cf. *Derby Accounts*, p. 302.

<sup>8</sup> *Derby Accounts*, p. 301.

<sup>9</sup> So Beltz, *Memorials*, p. 354.

<sup>10</sup> Froissart 14. 416; Armitage-Smith, p. 462.

<sup>11</sup> Wylie, *Henry the Fourth* 1. 5; 4. 127, note 4.

arms as early as 1378 or 1379<sup>12</sup> (Chaucer, we may remember, is supposed to have first borne arms at the age of 19). Still another Englishman who distinguished himself in the jousting was Lewis Clifford, then about 54 years old.<sup>13</sup> If we suppose John Beaufort to have been only 17 years old at this time, how can he have held his own with men so much older and more experienced?

(2) From St. Inglevert a number of Englishmen repaired to the siege of Mehediah (called by the chroniclers Africa), southeast of Tunis. In one band there were 25 men of rank (*gentils hommes*) and 100 archers, prominent among whom were Lewis Clifford, Thomas Clanvowe,<sup>14</sup> and Peter Courtenay.<sup>15</sup> At this siege we find John Beaufort as a knight banneret,<sup>16</sup> encamped as second in a group of 29 knights at the left of the commander in chief of the expedition, Louis de Bourbon.<sup>17</sup>

(3) While it is uncertain whether he joined Henry of Derby in Germany,<sup>18</sup> after the siege of Mehediah was raised, he was certainly in Lithuania in 1394, where he took part in an extensive raid,<sup>19</sup> and was probably at the disastrous battle of Nicopolis on Sept. 25, 1396.<sup>20</sup> Is it likely that he was a knight banneret at 17, encamped in so honorable a station; that he served with the Prussian knights at the age of 21 (Henry, who was certainly adventurous enough, did not go thither till after St. Inglevert, when he was 24 years old; Henry of Lancaster, his grandfather, till he was 52; William Ufford, till he was 26; Thomas Beau-

<sup>12</sup> Froissart 21. 193.

<sup>13</sup> Beltz, *Memorials*, p. 261; cf. Froissart 14. 110-2; *Hist. Background*, p. 192. Clifford was made a Knight of the Garter in 1377 (Beltz, p. cliii).

<sup>14</sup> Wylie 3. 261; cf. *Hist. Background*, pp. 214-5.

<sup>15</sup> Cabaret, *Chronique du Bon Duc Loys de Bourbon*, p. 222 (cf. pp. 238, 248-9; Cabaret misspells Courtenay's name); cf. Le Roulx, *La France en Orient* 1. 166 ff.; *Derby Accounts*, p. xxxviii. Courtenay became Knight of the Garter in 1388 (Beltz, p. cliv).

<sup>16</sup> Froissart 14. 225: 'Messire Jehan de Beaufort, fils bastard au duc de Lancastre, à banière.'

<sup>17</sup> Cf. *Hist. Background*, p. 209; Wylie 3. 261; *Derby Accounts*, pp. xxxviii, 301; Le Roulx, *La France en Orient* 1. 176, 242; 2. 14.

<sup>18</sup> *Derby Accounts*, p. 301; *Hist. Background*, p. 209.

<sup>19</sup> *Hist. Background*, p. 209.

<sup>20</sup> Wylie 3. 261; Le Roulx 1. 242.

champ, till he was 52; nor Hotspur, till he was 28<sup>21</sup>); and that he was at Nicopolis at the age of 21?

(4) In 1396 John was made a Knight of the Garter<sup>22</sup>; on Feb. 9, 1397, he, with his brothers and sister, was legitimated by act of Parliament<sup>23</sup>; and the next day he was created Earl of Somerset, reason for this being found in the exploits he had performed in foreign countries, by which he had shed lustre on the English name.<sup>24</sup> Had he probably brought great honor to the King and kingdom by his various campaigns and enterprises in many realms and lands before he was fully 24?

(5) On May 9, 1388, John Beaufort was made Admiral of both the Northern and the Western Fleet,<sup>25</sup> whereas, for the most part, each fleet had its own admiral. Of thirteen admirals belonging to that century whose ages can be exactly or approximately ascertained,<sup>26</sup> the average was over 40, the range being from 31 to 52. If we assume the lowest of these ages for Beaufort, he would have been born in 1367; but such an assumption must be viewed in the light of other facts, which will be adduced below.

<sup>21</sup> For these see *Hist. Background*, pp. 203, 205, 207.

<sup>22</sup> Beltz, *Memorials* I. cliv.

<sup>23</sup> Rymer, *Rot. Parl.* 3. 343.

<sup>24</sup> *Rot. Parl.* 3. 343: 'Le grant honour q'il ad fait par sa persone en diverses journees et travaux en pluseurs roialmes et terres d'outre meer, a grant honour du roy et de [du?] roialme.' On this occasion the new Earl was led to King Richard by the Earl of Huntingdon, half-brother of the King, and son-in-law to John of Gaunt; and by the Earl Marshal, Mowbray, 'banished Norfolk' that was to be. After being girt with the sword by the King, he was seated between the Earl Marshal and the Earl of Warwick. Among the witnesses were his father and his half-brother, who in a little more than two years was to be Henry IV.

<sup>25</sup> On Feb. 2, of the Irish Fleet (Nicolas, *Hist. Royal Navy* 2. 338, 518, 532). Beaufort was appointed under the title Marquis of Dorset, which he bore from Sept. 29, 1397, to Oct. 6, 1399 (Cokayne, *Complete Peerage* 3. 146). He was also Warden of the Cinque Ports (Cokayne 7. 170; Beltz, p. 355).

<sup>26</sup> These are: Thomas Ughtred, 45; Robert Ufford, 39; William Montacute, 36; Robert Morley, 43; Richard Fitzalan II, 33; William Bohun, 41; Henry of Lancaster, 52; Thomas Percy, 34 (37?); Henry Percy, 41; John Holland, 37; Michael de la Pole, 46; William Montacute, 48; Richard Fitzalan III, 31. The general result is only confirmed by Bartholomew Burghersh, who, when he was made Admiral of the Western

Secondly, as to Henry Beaufort.

(1) Of his early life the following account was given by Foss<sup>27</sup>:

In January, 1397, . . . Henry Beaufort, the second son, was probably just of age; as he is called Clericus<sup>28</sup> on the Roll, and his next brother, Thomas, is styled Domicellus. Of his youth we have little information beyond the fact that he was educated in part at Aix-la-Chapelle,<sup>29</sup> and in part at Queen's College,<sup>30</sup> Oxford, and that when he was little more than a boy he formed an amatory connection with Alicia, daughter of Richard,<sup>31</sup> Earl of Arundel, sister to the Archbishop of Canterbury, and nearly related by marriage to John of Gaunt himself. . . . If this is a true relation, the lady must have been much older, and therefore probably the corrupter of his youth; be this as it may, the amour did not impede his future fortunes, nor

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Fleet in 1337, had borne arms for 20 years. John's younger brother, Thomas, made Admiral in 1408 (Nicolas 2. 532), may have been born about 1377 (Cokayne 3. 297). For the list of admirals, see Nicolas 2. 524-532. John Hastings, Earl of Pembroke, came to grief off La Rochelle in 1372, at the age of 25; but he, though in command of that expedition, was not an admiral.

<sup>27</sup> *Judges of England* 4. 286-7.

<sup>28</sup> 'Clericus' would of course mean nothing as to his age.

<sup>29</sup> This is an error. Godwin, it is true, says (*Bishops of England*, ed. 1615, p. 241): 'He was brought up for the most part at Aken in Germany, where he studied the civill and canon law many yeares'; but Wylie (3. 263, note 5) asserts that this statement, based upon Holinshed, and often repeated, is a mistake, Oxford being meant.

<sup>30</sup> He was in residence there during the terms 1390-1, 1392-3, 1395-6 (*Obituary Book of Queen's College*, p. 70, cf. p. 14; *Hist. MSS.*, 2d Report, p. 141; Beltz, *Memorials*, p. 354, note 2); but he was also in residence at Peterhouse, Cambridge, in 1388 (*Hist. MSS.*, 1st Report, p. 78). Queen's College was founded in 1340-1, in honor of his grandmother Philippa, and its books bear the name of Edward, the Black Prince. In 1397 Henry Beaufort was still contemplating further study at Oxford, for on April 13 of that year he was allowed, by papal indult, to let to farm the fruits of his deanery of Wells, with the annexed prebend of Wadmore, and of his other benefices, while studying letters at Oxford or other university (*Papal Letters* 5. 26). In this he is called student of theology and Master of Arts (cf. p. 49).

<sup>31</sup> Foss thinks of this Richard as the second of the name (1307?-1376), instead of the third (1346-1397). The Archbishop of Canterbury was Alicia's uncle, not her brother (*Dict. Nat. Biog.* 19. 99, 101). Alice may easily, then, have been as young as Henry, or younger, since her father was six years younger than his. The Johanna, wife of Edward Stradlyng, to whom Henry makes a bequest (*Test. Vet.*, p. 251) is assumed to be his daughter.

prevent his brother, King Henry IV, from placing his own son, afterwards Henry V, under his tuition in the same college.<sup>32</sup> This was about the year 1399, when Beaufort had been appointed Chancellor of the University, an office which he held only one year. . . . Bred up as an ecclesiastic, he received in the year of his legitimation the deanery of Wells, together with a prebend in the church of Lincoln,<sup>33</sup> and was elected<sup>34</sup> Bishop of the latter see on July 14, 1398.

(2) Beaufort was a Master of Arts by Feb. 4, 1393, as appears from an account—'magistro Henrico Beaufort'—quoted by Beltz.<sup>35</sup> As the average age of the Bachelors was 17 or 18, and as it required three years more to become a Master,<sup>36</sup> it may be supposed from this that Henry could not have been born later than 1373. But it must be remembered that he might have remained for years in the status of Master.

(3) As we have seen, Henry Beaufort was made Bishop of Lincoln in 1398, and that implies, in the absence of any information to the contrary, that he had completed his thirtieth year before Feb. 27.<sup>37</sup> Rarely, in the English history of the period, do we find this requirement dispensed with.<sup>38</sup> Only four<sup>39</sup> cases have come to my notice—those of William Courtenay (1370), Thomas Arundel (1373), Robert Neville (1427), and George

<sup>32</sup> This is a tradition (Wylie 3. 263; Tyler, *Henry the Fifth* 1. 21).

<sup>33</sup> 'He was made prebendary of Thame 1389, and of Sutton 1391, both in the diocese of Lincoln' (*Dict. Nat. Biog.* 4. 41). We also find him named as 'Warden of the Free Chapel in Tickhill Castle,' in Yorkshire (Wylie 3. 263; cf. *Dict. Nat. Biog.* 51. 144), and Canon of York (*Papal Letters* 5. 641).

<sup>34</sup> Rather, consecrated (see Tyler, *Henry the Fifth* 1. 21). His approaching consecration is referred to on Feb. 27, 1398, where he is called 'elect of Lincoln' (*Papal Letters* 5. 112; cf. 5. 115, 175). Boniface IX informs him that on that day he had provided Henry to the see of Lincoln, Tickhill to be retained (*Papal Letters* 5. 507; cf. 5. 284).

<sup>35</sup> *Memorials*, p. 354, note 2.

<sup>36</sup> Lyte, *Hist. of the Univ. of Oxford*, pp. 206, 211.

<sup>37</sup> *Corpus Juris Canonici, Decret. Greg. IX, De Electione* 1. 6. 7: 'Nullus in episcopum eligatur nisi qui jam trigesimum annum ætatis exegerit.' Cf. *Realencyk. für Prot. Theol.*, 3d ed., 3. 245. The Pope, however, might dispense (Wetzer and Welter, *Kirchenlexikon*, 2d ed., 1. 635).

<sup>38</sup> Cf. Hook, *Lives of the Archbishops of Canterbury* 4. 405.

<sup>39</sup> Thomas Bourchier, made Bishop of Worcester in 1434, may well have attained the canonical age (*Dict. Nat. Biog.* 6. 15; Foss, *Judges of England* 4. 297).

Neville (1458). Courtenay was born about 1342, and his defect in age was made up by a papal bull of Aug. 17, 1369, so that he was consecrated Bishop of Hereford in the following July.<sup>40</sup> Arundel, who eventually became Archbishop of Canterbury (1396), was born in 1353, being own cousin to Blanche, John of Gaunt's first wife. Gregory XI conferred upon him the bishopric of Ely on Aug. 13, 1373, when he was 20 years old, though he was not consecrated till 1374. The Pope wrote him<sup>41</sup> on Aug. 29, 1373<sup>42</sup>: 'No one so young has been appointed to a see. The Pope has done this at the request of your father, Richard, Earl of Arundel, whose example in defending ecclesiastical liberties the Pope exhorts you to follow.' Robert Neville (1404-1457), a nephew of Arundel, was made Bishop of Salisbury by papal provision in 1427,<sup>43</sup> and received a special dispensation 'super defectum ætatis.'<sup>44</sup> George Neville, nephew of Robert, was born before Dec. 21 (probably before Dec. 3), 1432, since Nicholas V had required him to complete his twenty-second year before he should be ordained priest,<sup>45</sup> and this occurred on Dec. 21, 1454. He was consecrated Bishop of Exeter on Dec. 3, 1458, Calixtus III having insisted, three years before, that he should first reach his twenty-seventh year.<sup>46</sup>

We have, then, these four instances in which the Pope makes an exception, once confessedly at the intercession of a relative; in the second he notes the exception in a letter to the bishop designate, and in the others there is a formal dispensation. In still another case, the Pope declines to accede to the request, though the candidate is apparently related to the Earl of Warwick, and Edward III, his sponsor, is at the summit of his power. With respect to Henry Beaufort, there is no hint of a dispensation, though, as Walsingham and the author of the *Annales*

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<sup>40</sup> *Dict. Nat. Biog.* 12. 342-3.

<sup>41</sup> *Papal Letters* 4. 129.

<sup>42</sup> Ten years before (Nov. 28, 1363), Urban V had written to Edward III, declining to appoint Philip Beauchamp to the see of Bath and Wells, as being under age—presumably the canonical age—and therefore unfit for the episcopate (*Papal Letters* 4. 5).

<sup>43</sup> Cf. *Papal Letters* 8. 209.

<sup>44</sup> *Dict. Nat. Biog.* 40. 300.

<sup>45</sup> *Papal Letters* 10. 717-8.

<sup>46</sup> *Dict. Nat. Biog.* 40. 253.

*Ricardi Secundi* say, the appointment was made out of regard for John of Gaunt.<sup>47</sup> Accordingly, we must suppose him to have been born not later than Feb. 27, 1368.

(4) In 1398 Henry Beaufort also became Chancellor of Oxford.<sup>48</sup> While this office was exceptionally conferred upon younger men,<sup>49</sup> it was one of much responsibility,<sup>50</sup> and until in the next century it suffered degradation,<sup>51</sup> and the custom grew up of allowing it to be held by practical absentees,<sup>52</sup> it was usually bestowed upon a Doctor of Theology or Canon Law,<sup>53</sup> who had often spent 20 years on the studies leading to this degree.<sup>54</sup>

(5) On Feb. 28, 1403, Beaufort was appointed Chancellor of England. This was an office almost never held at an early age, Thomas Arundel (b. 1353), Chancellor in 1386, being the youngest I have noted in that epoch. Other Chancellors were: Richard de Bury (55), Courtenay (ca. 39), Stafford (52), Wykeham (65), Michael de la Pole (ca. 53), Richard le Scrope (ca. 51), Waynflete (ca. 61). Add Sudbury (18 years after becoming Bishop of Lincoln); Braybrooke (22 years after becoming priest); Thoresby (29 years after becoming acolyte); Offord (15 years after becoming Archdeacon of Chester, and

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<sup>47</sup> 'Ob Ducis reverentiam et amorem' (Walsingham, *Hist. Angl.* 2. 228; *Annales*, p. 227). When the author of the *Annales* subjoins 'admodum puero,' he may be contrasting Beaufort with the previous incumbent, John Bokyngham, translated to Lichfield in order to make way for his successor, for the Pope had alleged his 'imbecillitatem et senectutem, quibus reddebatur impotens ad regendum tantum diocesim et plebem.' When Beaufort was translated to Winchester in 1404, again by papal provision, he succeeded William Wykeham, who had died at the age of 80; Beaufort himself died in 1447, 'annis non minus quam divitiis gravis' (Froissart 20. 282); and Waynflete, who succeeded Beaufort, was about 91 when he died, still Bishop of Winchester, in 1386.

<sup>48</sup> Wylie 3. 263.

<sup>49</sup> Courtenay obtained it in 1367, when only 25 (*Dict. Nat. Biog.* 12. 342).

<sup>50</sup> Lyte, *Hist. Univ. Oxford*, pp. 170, 231-2. Robert Stratford, Chancellor in 1335, was already Chancellor of England in 1331; Richard Fitzralph, born before 1300, was Chancellor in 1333; Thomas Gascoigne (b. 1403), in 1434; Thomas Bourchier (b. 1404?), in 1434, the same year he was made Bishop of Worcester.

<sup>51</sup> Lyte, pp. 326-7.

<sup>52</sup> Lyte, p. 325.

<sup>53</sup> Lyte, p. 231.

<sup>54</sup> Lyte, p. 223; cf. p. 199.

three years before becoming paralytic); John Stratford (19 years after becoming Doctor of Laws); Robert Stratford (12 years after becoming priest); Edington (10 years after becoming Bishop of Winchester); Knyvet (25 years after he was already practising law in the courts), etc.<sup>55</sup>

We have seen that a birth-date at least as early as 1367 will best account for the various recorded facts in the early life of John Beaufort, and that his next younger brother, Henry, could not well have been born after Feb. 27, 1368.<sup>56</sup> But as Thomas Swynford, the only child of Katharine born in wedlock, was four years old at his father's death on Nov. 13, 1371,<sup>57</sup> he must have been born in 1367, and therefore neither John nor Henry Beaufort can have been born in that year. Moreover, Richard III asserted to his chancellor, John Russell, in 1485, that John Beaufort was 'in double avoutry gotyn.'<sup>58</sup> This being assumed, he must have been begotten between May 19, 1359, when John of Gaunt married Blanche, and Sept. 12, 1369, when she died. But we have seen that a date later than Feb. 27, 1368, would not fit the birth of Henry Beaufort, and that John's birth was of course earlier. Hence both brothers were probably born before Thomas Swynford, in other words, before 1367. It follows that at any period between May 19, 1359, and (say) 1365, the two brothers might have been begotten through the adultery of their father; for John we must assume a year not later than 1364. If, then, John Beaufort was begotten in *double* adultery, Katharine must have been married to Hugh Swynford by 1364, or earlier. This would seem fairly unlikely if we accept the current theory that she was born about the year 1350.<sup>59</sup> That date, however, is purely conjectural, and I know of no attempt to justify it. John of Gaunt was born in 1340; Hugh Swynford was born in 1340<sup>60</sup>; and there seems no good reason why

<sup>55</sup> See *Dict. Nat. Biog.* under these names.

<sup>56</sup> See p. 49, (3).

<sup>57</sup> *Derby Accounts*, p. 301; *Exc. Hist.*, p. 157. Katharine also had a daughter, Blanche, born in wedlock (Armitage-Smith, p. 461).

<sup>58</sup> *Paston Letters*, ed. Gairdner, 3. 317, and note 14; Ellis, *Orig. Letters* 2. 1. 164; cf. *Exc. Hist.*, pp. 152, 155-6; Wylie 3. 260; *Dict. Nat. Biog.* 55. 243; Cokayne 7. 169.

<sup>59</sup> *Exc. Hist.*, p. 155; *Dict. Nat. Biog.* 55. 243.

<sup>60</sup> *Exc. Hist.*, p. 157.

Katharine might not have been born within half a dozen years thereafter. She became the mistress, or governess, of Blanche's two daughters,<sup>61</sup> Philippa and Elizabeth, of whom Philippa was born in 1360.<sup>62</sup> Froissart tells us (15. 238) that Katharine 'fut mise de sa jeunesse en l'ostel du duc et de la duchesse Blanche de Lancastre.'

The assumption of adultery with Katharine in Blanche's lifetime is confirmed by Froissart's account (15. 240) of the indignation expressed by the foremost ladies of England when John of Gaunt married her, for they referred to her as 'une telle duchesse qui vient de basse lignie, et qui a esté concubine du duc ung trop long temps en ses mariages.'<sup>63</sup> Now *mariages* must refer to *both* his previous marriages, that to Blanche as well as that to Constance. An even more explicit statement is made in the Percy manuscript 78, quoted by Armitage-Smith (pp. 464-5):

Iste etiam Johannes Gaunt post mortem Constancie secunde uxoris sue adhuc superduxit dominam Katerinam de Swynfurth, de qua genuit in diebus domine Blanche prime uxoris sue Johannem Bowfurth, comitem Somersissie; Johannam Bowfurth, comitissam Westmorelandie; Henricum Bowfurth, presbiterum, cardinalem, et episcopum Wyntonyensem; . . . Thomam Bowfurth, ducem Exoniensem.

The comment of Armitage-Smith is (p. 462): 'No contemporary evidence supports the statement of Percy MS. 78, . . . which places the birth of the Beauforts in the life of the Duchess Blanche. There is no doubt, however, that most historians have postdated the birth of the Beauforts, or at least of the eldest of them.' He quite ignores the testimony borne by Froissart, as quoted above, and asserts (p. 461): 'There is no evidence that any *amour* disturbed the married life of John of Gaunt and Blanche of Lancaster.'<sup>64</sup>

<sup>61</sup> *Exc. Hist.*, p. 152; Wood, *Letters of Royal and Illustrious Ladies* 1. 78; Armitage-Smith, p. 227.

<sup>62</sup> Armitage-Smith, p. 94.

<sup>63</sup> Translated in the plural by Johnes (4. 473). Cf. *Jahrb. für Rom. und Engl. Lit.* 8. 142 (Hertzberg).

<sup>64</sup> He ascribes, however, to 1358 or 1359 (p. 461) an *amour* with Marie de Saint Hilaire (like Katharine, a Hainauter), of which the issue was a daughter Blanche. May not this Blanche, like Katharine's own daughter (see p. 52, note 57), have been born after his marriage, and have

Another circumstance pointing to the birth of John Beaufort, at least, not only during the lifetime of Blanche, but even before

been named after his wife? She herself was no doubt named after her great-grandmother, Blanche of Artois, niece of St. Louis, through whom the lordship of Beaufort, near Troyes, came to the Lancasters (Armitage-Smith, p. 197). She, in turn, may have derived her name from her great-aunt, Blanche of Castile, the mother of St. Louis. Chaucer's Blanche seems to have been very lenient toward Katharine, since in 1372 (May 15) John of Gaunt, in commuting a former grant of 20 marks a year, in recognition of the 'bone et greable service quelle avoit fait et ferroit a nostre tres chere compaigne, que Dieux assoille,' to a present 50 marks for life, alleges 'la tres grande affection que nostre dite compaigne avoit envers la dite Katerine' (*John of Gaunt's Register* i. 169). No wonder John wished to be laid by Blanche; and no wonder Chaucer puts into his mouth these praises (*Bk. Duch.* 929-932, 937, 994-8):

I durste swere, thogh the Pope hit songe,  
That ther was never through hir tonge  
Man ne woman gretly harmed;  
As for hir, [ther] was al harm hid. . . .  
Ne chyde she coude never a del. . . .  
Therto I saw never yet a lesse  
Harmful than she was in doing—  
I sey nat that she ne had knowing  
What was harm, or elles she  
Had coud no good, so thinketh me.

With certain obvious changes one might apply to Blanche and her mother-in-law, Philippa (cf. *Dict. Nat. Biog.* 45, 167), who died scarcely a month earlier, what I have elsewhere (*Last Months*, p. 110) quoted concerning the wife of John of Gaunt's brother, Lionel, and two women nearly related to her: 'She was a lady of sweet and honorable soul. It rarely happens that in one house are found three spirits so exquisite, so compassionate, and so swift to all goodness, as were Bianca of Savoy, Isabella of France, and Violante. . . . They were noble souls in lovely bodies, and Heaven only knows what good they wrought in natures like those of Galeazzo and his son.'

Considering Blanche's goodness, it is not so surprising that she should have condoned Katharine's most grievous fault; but, notwithstanding the public acceptance of certain bastards, such as the Count de la Roche toward the end of the 15th century (see *Exc. Hist.*, p. 172), and of the Beauforts themselves, we are not prepared to hear the following with regard to Katharine (Wylie 3, 258-9): 'During the lifetime of . . . Constance, she and her daughter Joan were attached to the household of the Countess Mary (Henry's first wife), and received every Christmas their livery in scarlet and white silk furred with miniver, with pieces of white damask bawdekin, and their presents of diamonds, gold rings, coral rosaries, and so forth each New Year's Day and Egg-Friday.'

that of Henry IV (May 30, 1366),<sup>65</sup> is the fact that when this monarch confirmed in 1407 the patent of legitimation granted ten years earlier by Richard II, he caused to be inserted the words, *excepta dignitate regali*, a phrase which might indeed have been intended to bar his illegitimate half-brother, or his descendants, in any case, but which would certainly have more point if John Beaufort had been born earlier than Henry himself; the case thus guarded against actually arose<sup>66</sup> when the throne was claimed by Henry VII.<sup>67</sup>

Finally, such a reputation had Katharine acquired by the acts of her earlier life that doubts were cast, in her native country of Hainaut, upon the legitimacy of her lawful son Thomas Swynford (born, as we have seen, probably in 1367), for in October, 1411, Henry IV found it necessary, in order that he might inherit in that country, to certify that he was begotten in lawful wedlock.<sup>68</sup> As Sir Harris Nicolas observes, 'the suspicion of his legitimacy may have arisen from his mother losing her reputation when she became the mistress of John of Gaunt, and from the idea that he was the Duke's child'; but this suspicion would have been all the more justified, had it been known that she had already borne a child or children to the Duke.

## XII. SIR PAON DE RUET AND CHAUCER

Paon de Ruet was a Hainauter, who was the lineal ancestor, at the fifth remove, of Henry VII of England,<sup>1</sup> and so, at the seventh remove, of Queen Elizabeth; he was also the ancestor, at the fifth remove, of that young Earl of Lincoln<sup>2</sup> who was a

<sup>65</sup> See *Hist. Background*, p. 166, note 4.

<sup>66</sup> See the charge made by Richard III (above, p. 52).

<sup>67</sup> Nicolas, in *Exc. Hist.*, pp. 152-3; Wylie 3. 260, note 2; *Derby Accounts*, p. 202.

<sup>68</sup> *Exc. Hist.*, pp. 157-9; Wylie 3. 260; Cokayne 7. 169.

<sup>1</sup> Paon had (1) daughter, Katharine, who had (2) son, John Beaufort, Earl of Somerset, who had (3) son, John Beaufort, Duke of Somerset, who had (4) Margaret, Countess of Richmond and Derby, who had (5) Henry VII.

<sup>2</sup> Paon had (1) daughter, Philippa, who had (2) son, Thomas Chaucer, who had (3) daughter, Alice, who had (4) son, John de la Pole, Duke of Suffolk, who had (5) son, John de la Pole, Earl of Lincoln (1464?-1487), chosen by Richard III as heir (*Hist. Background*, p. 178).

rival of Henry VII for the English throne, and who died in battle against the King at Stoke upon Trent in 1487, two years after Bosworth Field. The most comprehensive statement that we have about Paon de Ruet is this by Froissart (15. 238):

En ce temps [1396] se remaria le duc de Lancastre tiercement à une damoiselle, fils d'un chevalier de Haynnau, qui jadis s'appella messire Paon de Roet [*var.* Ruet], et fut en son temps des chevalliers à la noble et bonne reyne Philippe d'Angleterre, qui tant ayma les Haynnuras, car elle en fut de nation.

His relation to Philippa becomes clearer on comparison with Froissart's passage descriptive of the young queen's departure from Valenciennes to join her youthful husband in England at the close of 1327 (1. 195):

La jone roine Phelippe d'Engleterre, en l'eage entre trèse et quatorse ans, se départi de Valenchiennes en la compagnie de messire Jehan de Hainnau, son oncle, dou signeur de Fagnoelles, dou signeur de Ligne, dou signeur de Brifuel, dou signeur de Haverech, dou signeur de Wargni, et plus de quarante chevaliers et esquiers de Hainnau, et servoit devant lui adont uns jones esquiers qui se nommoit Watelès de Mauni, qui puis fu messires Watiers; . . . et se départirent de Hainnau pluissier jone esquier en entente que pour demorer en Engleterre avecques la roine.

As the king was in the North, a number of the Flemings returned home without proceeding further than London, but Kervyn de Lettenhove assumes that Paon de Ruet was one of those who remained in England, and that he was already a knight (2. 513):

Nous voyons Édouard III, dès le commencement de son règne, combler de ses faveurs les barons de Hainaut, en même temps que la reine Philippe s'entoure de gentes damoiselles venues avec elle de ce bon et doux pays. Les chevaliers entrés au service du roi d'Angleterre sont Michel de Ligne, Robert de Fiennes, Nicolas d'Aubrecicourt, Guillaume de Saint-Omer, Wulfard de Ghistelles, Thiéri de la Croix, Simon de Hale, plus connu sous le nom de Simon de Mirabel, et Paonnet de Roet,<sup>3</sup> dont la fille fut plus tard duchesse de Lancastre

<sup>3</sup> There seems no sufficient reason for assuming Ruet to have been a knight when he came to England. Froissart, writing three-quarters of a century later, calls him a knight of Philippa's (see above), but the context shows that the love for the Hainauters here spoken of belongs to a time when she was well established in her new home. His name does

et l'aïeule des Tudor. Parmi les écuyers on cite Watelet de Mauny,<sup>4</sup> Robert de Gagès, Robert de Maule.

If Paon de Ruet was, as Kervyn supposes, a knight in 1327, he may well have been born in the early years of the century. Kervyn conjectures (15. 399) him to have been the son of Jean de Ruet († 1305), himself a son of Huon de Ruet.

As to the name, Paon de Ruet, we find it as early as 1227 in a legal document, in the form Paganus de Rodio.<sup>5</sup> Now Rodium is the mediæval Latin form corresponding to the modern Rœulx, or Le Rœulx, the name of a town of 3000 inhabitants, 8 miles north-east of Mons,<sup>6</sup> on the highway leading from Mons to Nivelles. It stands upon a hill, 400 feet above sea-level, in the

not appear in the list of knights who accompanied the queen from Hainaut, and there is no ground for supposing that he occupied a higher status than Walter Mauny, who was not knighted till 1331 (*Dict. Nat. Biog.* 36. 76), though in high favor with Philippa from the first. He is more likely to have been one of the 'plussier jone esquier' mentioned above.

<sup>4</sup>Another manuscript says, with reference to the departure of the Flemings (1. 194): 'Messires Jehans de Haynau prist congiet, et s'en parti o toute sa compagnie de Haynau, . . . et demora li jone royne Phelippe à petite compagnie de son pays, formis ung jeune damoiseiel que on clamoit Watelet de Mauni, qui y demora pour servir et taillier devant li.' The Walter Mauny whose name will always be remembered in connection with Philippa's intercession for the burghers of Calais appears here as carving before his mistress at the table (cf. *Prol.* 100). He was not knighted till four years later (*Dict. Nat. Biog.* 36. 76).

<sup>5</sup>*Monuments* (see below, p. 58, note 8) 2. 834-5.

The representation of the Latin Paganus by Paon is not easy to understand; yet, though it is customary to cite the name of Katharine's father in modern books as Payne Roet, no form corresponding to Payne is found in the fourteenth-century texts which mention him, so far as I am aware. Such a form would of course be Païen(s), and this indeed occurs in Païens de Maisières, designating a poet who flourished about 1200 (*Hist. Litt. de la France* 19. 722; 20. 68); the names of four crusading knights who appear in the earlier French epics (Langlois, *Table des Noms Propres dans les Chansons de Geste*, p. 512); and that of Payen d'Orléans (Geoffroi de Villehardouin, ed. Natalis de Wailly, pp. 6, 305, etc.).

<sup>6</sup>Not, as Kervyn de Lettenhove supposes, the French Rœulx, just north of Bouchain.

midst of a broken and wooded country.<sup>7</sup> The town grew up around a Premonstratensian abbey founded about 1126, bearing the name of St. Fullan, or Foillan, an Irish missionary to this region, who was murdered in 655. The lords of Rœulx, who sprang from the counts of Hainaut, and several of whom had borne the name of Eustace, came to an end about 1336; but the lordship finally devolved in the fifteenth century upon the family of Croy, to which is due the existing chateau, one of the finest edifices in Belgium. Charles V erected the domain into a countship in 1530. Its arms are: Vert, a lion argent, armed [teeth and claws] and langued gules, holding in its dexter paw a wheel or, surmounted by a count's coronet.<sup>8</sup> A great variety of spellings for Rœulx is found in the ancient documents, of which the commonest is Rues; others are: Ruet, Rueth, Ruez, Roes, Roelx, Roeld, Ruelt.<sup>9</sup> It may be noted that Katharine of Lancaster's name is spelled Roelt in the Patent Roll for Oct. 5, 1411.<sup>10</sup>

The circumstances in Hainaut which determined the knighterrantry of its nobles are suggested by the following passage<sup>11</sup>:

In Holland, the population was mainly burgher and peasant, while Hainaut was the very last stronghold of the feudal nobility, with all the virtues and with all the faults of chivalry.<sup>12</sup> Spurs of the

<sup>7</sup> Froissart mentions it in a pastourelle (*Poésies*, ed. Scheler, 2. 319; Bartsch, *Altfr. Romanzen und Pastourelle*, p. 328):

Entre le Roes at la Louviere  
Vi awen desous un ourmiel,  
Ensi qu'a basse remontiere,  
Mainte touse et maint pastouriel, etc.

La Louvière is 6 miles east of Rœulx. With the opening line compare Froissart's (Bartsch, pp. 321, 323) 'Entre Aubrecicourt et Mauni' and 'Entre Eltem [Eltham] et Wesmoustier' [Westminster].

<sup>8</sup> *Grande Encyclopédie* 28. 810; Jourdain and Van Stalle, *Dict. Encyc. de Géog. Hist. du Royaume Belgique* 2. 271-2; *Monuments pour servir à l'Histoire de Namur, de Hainaut, et de Luxembourg* (Coll. des Chron. Belges) 1. 757; Larousse, *Grand Dict. Univ.* 13. 1291; Chevalier, *Répertoire: Topo-Bibliographie* 2. 2573; Bede, *Hist. Eccl.*, ed. Plummer, 2. 172.

<sup>9</sup> See *Monuments*, Vols. 1 and 2; Froissart 2. 64, 113, 117; 17. 16.

<sup>10</sup> *Exc. Hist.*, p. 159; Rymer; *Cal. Pat. Rolls*.

<sup>11</sup> Blok, *Hist. of the People of the Netherlands* 1. 302-6.

<sup>12</sup> It will be remembered that this region was the home of Cæsar's Nervii. Holmes says (*Cæsar's Conquest of Gaul*, p. 53): 'This people, whom of all his enemies Cæsar most respected, and of whom he wrote

Ardennes made Hainaut hilly and unfit for agriculture, while the picturesque points of jagged rock offered many a tempting site for castles which could command the surrounding country from a craggy and easily defended height. The forests offered extensive hunting-grounds.<sup>13</sup> Commerce had almost no foothold; the mines were not exploited till a late date, and manufacture was not established until the fourteenth century, and then was a protected industry fostered by the counts. . . . The people in Hainaut remained unknown, while her nobles were renowned throughout Europe, and proudly maintained their feudal state, feudal sentiment, and feudal manners. . . . Count William I of Hainaut (1304-1337) was prominent in European politics, acting frequently as mediator, being brother-in-law to the king of France, father-in-law to the king of England and to the emperor. . . . Meanwhile the cities of Hainaut began to grow powerful in proportion as the nobles lost ground. The very battles in which they gained honor were their destruction; and the flower of Hainaut chivalry was left on the battle-fields to which their prowess and love of adventure had led them.

Paon de Ruet may have been impelled to seek his fortune in England by the recital of the exploits of Fastré de Ruet, who accompanied Sir John Beaumont in 1326, when, with three hundred followers, he went to assist the English against the Scots. Fastré<sup>14</sup> was the younger brother of the last lord of Rœulx descended from the Counts of Hainaut. Both brothers fell into pecuniary straits, and were obliged to alienate their landed possessions. Fastré died in 1331, and was buried in the abbey-church of Rœulx, while his brother Eustace survived till 1336.<sup>15</sup> Perhaps Paon was, like Fastré, a younger brother, possibly of a collateral line.

Of the rewards for Paon's services in England we know almost nothing; only Kervyn de Lettenhove tells us (23. 38): 'En 1332, un compte de la maison de la reine d'Angleterre mentionne un

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with one of those rare touches of enthusiasm that here and there relieve the severity of his narrative, were the Nervii.' The battle in which they were overcome was fought near the present Neuf-Mesnil and Hautmont (Holmes, pp. 53 ff., 654 ff.), west of Maubeuge, and 25 miles south-west of Rœulx.

<sup>13</sup> The modern Hainaut is larger than Rhode Island, and smaller than Long Island.

<sup>14</sup> Froissart 2. 64, 66, 113, 114, 117, 119, 122; 17. 16; Jean le Bel, ed. Viard and Déprez, I. 40.

<sup>15</sup> Froissart 23. 39-41.

don fait *Panneto de Roed, de Hannonia*.' This I have not been able to verify. Perhaps it is on the form Panneto that Kervyn bases his Paonnet<sup>16</sup> (above, p. 56).

Ruet is reported, on the faith of a document which I have not seen, to have been Guienne King of Arms as early as 1334 (Edmondson, *Complete Body of Heraldry* I. 104): 'A grant said to be made by Sir Paen Roet, in 1334, to Andrew, stiles him expressly king of arms of the duchy of Guyenne,<sup>17</sup> which, if it be not genuine, shews however the opinion of the age wherein that instrument was made.' This statement, which Edmondson seems to doubt, is confirmed, though not with respect to the date, by Speght (1598), in the life of Chaucer prefixed to his edition, where a genealogical tree<sup>18</sup> begins: 'Paganus de Rouet Hannoniensis, aliter dictus Guien Rex Armorum.'<sup>19</sup> Just before he has: 'He [Chaucer] matched in marriage with a Knight's daughter of Henault, called Paon de Ruet, king of Armes,<sup>20</sup> as by this draught appeareth,<sup>21</sup> taken out of the office of the Heraldes.'

In 1347, Ruet was at the siege of Calais, and was one of two

<sup>16</sup> The *paonnet* of *Rom. Rose* (ed. Michel) 7390 (cf. 7400) is from Lat. *pedonem* (cf. *Book of the Duchess* 661), and can have no connection with our name.

<sup>17</sup> It is certain that there was a Guienne King of Arms at the coronation of Henry the Fifth (1413), that Sir William Bruges held that title in the fifth year of his reign (Edmondson I. 104), and that the same monarch was accompanied to France before Agincourt by a herald bearing that name (Wylie, *Reign of Henry the Fifth* I. 493).

<sup>18</sup> Hammond, *Chaucer*, p. 22. According to Speght (*ibid.*, p. 24), the authority for this stemma was the trustworthy Somerset Herald, Robert Glover (1544-1588).

<sup>19</sup> *Ibid.*, p. 23.

<sup>20</sup> Speght's authority was Stow, as in *Annales of England*, 1592 (there is nothing to the point in the edition of 1580), p. 517: 'He had to wife the daughter of Paine Roete alias Gwine [ed. 1631, Guian] king at armes, by whom he had issue Tho. Chaucer.' To the same effect *Annales*, 1614, pp. 527-8. In the edition of 1631, p. 326, Stow states that he supplied the information to Speght from records in the Tower and elsewhere. Add Joseph Holland (1601), quoted by Spurgeon, *Five Hundred Years of Chaucer Criticism*, p. 167: 'John of Ghaunt, Duke of Lancaster, married Katharine daughter of Guyon King of Armes in the time of K. Edward the 3, and Geoffrey Chaucer her sister.' Francis James, in 1638, calls Chaucer 'Payne Roets Nephew' (Spurgeon, p. 219).

<sup>21</sup> Kervyn de Lettenhove (*Froissart* 23. 38) says that Ruet was thus designated in the English Rolls, but this I have not been able to confirm.

knights deputed by Queen Philippa to conduct out of town the citizens whom she had saved (Froissart 5. 215):

Et au matin elle fist donner a casqun sys nobles [say, \$150], et les fist conduire hors de l'oost par messire Sansse d'Aubrecicourt et messire Paon de Ruet, si avent que il vorrent, et que il fu avis as deus chevaliers que il estoient hors dou peril, et au departir il les commandèrent a Dieu, et retournèrent li chevalier en l'oost.

He was still living in 1351, according to the following item of account quoted by Kervyn de Lettenhove (*Froissart* 15. 399-400): 'A monseigneur Paon de Ruet, pour offrandes pour monseigneur le duch Willame, le duch Aubiert, et le duch Othon, quant il alèrent en pellegrinage à Saint-Ornon à Sebourch.'

In 1658, Dugdale thus reports<sup>22</sup> concerning Ruet's tomb:

In australi ala, navi Ecclesie opposita (prope tumulum D. Johannis de Bellocampo), sub lapide marmoreo, jacet Paganus Roet, Rex Armorum tempore Regis Edwardi tertii.

With this may be compared the remarks of Nicolas (*Aldine Chaucer*, p. 107):

It is remarkable that the name of Sir Payne Roet has not been found in any of the numerous Records that have been examined. All that has been discovered of him is the following statement<sup>23</sup> in Weever's 'Ancient Funeral Monuments,' p. 413<sup>24</sup>: 'In St. Paul's, near unto Sir John Beauchamp's tomb, commonly called Duke Humphrey's, upon a fair marble stone inlaid all over with brass (of all which nothing but the heads of a few brazen nails are at this day visible), and engraven with the representation and coat of arms of the party defunct, thus much of a mangled funeral inscription was of late times perspicuous to be read, as followeth:

HIC JACET PAGANUS ROET MILES GUYENNE REX  
ARMORUM PATER CATHERINE DUCISSE LANCASTRIE.'

The Rœulx coat of arms seems always to have played upon the word for wheel.<sup>25</sup> Thus the modern family of Rœult, *dit* Resteau, has, for the Rœult quarterings, Gules, three wheels argent.<sup>26</sup> Kervyn (*Froissart*, p. 462) describes the arms of

<sup>22</sup> *Hist. of St. Paul's Cathedral*, p. 55.

<sup>23</sup> Kirk also says (p. xvi): 'This seems to be all that is known of him'; to the same effect Skeat, *Oxford Chaucer* 1. 1.

<sup>24</sup> This refers to the edition of 1767, edited by William Tooke. There is nothing on the subject in the edition of 1631.

<sup>25</sup> Godefroy gives *roelz*, *roeux*, *roculx*, as the plural of *rocl*, *roucl*, *roal*.

<sup>26</sup> Rietstap, *Armorial Général*.

Paon de Ruet as Gules, three Catherine wheels or; but this seems a mere inference from the arms borne by Katharine of Lancaster (who perhaps substituted the Catherine-wheel, with spikes or teeth projecting from the rim, for the ordinary form, in allusion to her own name<sup>27</sup>) and by Thomas Chaucer.<sup>28</sup> The same arms are assigned to Roet and Chaucer by Glover's *Ordinary*, and to Roet and Swinford by Edmondson.

The backward reference to Paon de Ruet from Thomas Chaucer depends upon the assumptions that the latter was the son of Philippa Chaucer, and that she was the sister of Katharine Swynford. The arguments in favor of these assumptions have been summarized by Wylie (4. 313-4), with citation of the authorities, and may be briefly recapitulated here:

1. The pedigree referred to above (p. 60) gives as Chaucer's wife *Altera*<sup>29</sup> *filiarum et cohæredum Guienni Armorum Rex*, and, as their son, Thomas Chaucer.<sup>30</sup>

2. The Ruet arms on Thomas Chaucer's tomb. But this is no testimony to the descent from Paon de Ruet, unless we have independent evidence that they were borne by the latter. Such evidence, as we have seen, is only constructive in this case, but nevertheless valuable.

3. A letter,<sup>31</sup> probably of 1420, from Henry Beaufort (see pp. 48-52) to Henry V, his half-nephew, in which he refers to 'my Cousin Chaucer,' which every one interprets as meaning Thomas.

4. The seal used by Thomas Chaucer at one period of his life is the same as that of the poet, Per pale argent and gules, a bend counterchanged. This would imply that he was Chaucer's son, but would have no bearing on his descent from Ruet.<sup>32</sup>

<sup>27</sup> So on her tomb in the choir of Lincoln Cathedral (*Exc. Hist.*, p. 155, note 2). She gave to the cathedral a variety of vestments figured with silver wheels (Wylie 3. 259).

<sup>28</sup> On his tomb at Ewelme. So Nicolas, p. 45; *Dict. Nat. Biog.* 10. 158.

<sup>29</sup> Not elder, as assumed by Nicolas (*Aldine Chaucer*, p. 49).

<sup>30</sup> Born, according to Speght (Hammond, p. 25), about 1364 or 1365.

<sup>31</sup> Printed by Kirk, p. 334.

<sup>32</sup> Cf. Nicholas, p. 45; Hammond, pp. 19-20; *Archæologia* 34. 42; Kirk, pp. 333-4 (Wylie says the legend is *Thomai*, not *Ghofrai*: *Athenæum*, Oct. 5, 1901). Chaucer's tomb, on which his arms were to be found, is gen-

5. Thomas succeeded Chaucer as Forester of North Pether-ton, in Somersetshire.

6. Thomas Gascoigne, Chancellor of Oxford University, positively asserts (at some time between 1434 and 1457) that Geoffrey Chaucer was the father of Thomas: 'Fuit idem Chawserus pater Thome Chawserus, armigeri, qui Thomas sepelitur in Nuhelm [Ewelme], juxta Oxoniam.'<sup>33</sup> This, of course, proves nothing as to his descent from Ruet.

To the foregoing may be added the fact discovered by Edward Scott,<sup>34</sup> and published by Skeat in 1900 (*Athenæum*, June 27), that about 1422 Thomas Chaucer paid the warden of St. Mary's Chapel at Westminster £1 6 8 for the rent of his house, which, was just half what Chaucer was to pay,<sup>35</sup> is assumed by Skeat to represent a half-year's rent. The payments continued till 1434, in which year Thomas Chaucer died.

This, again, proves nothing as to the descent from Ruet, which must therefore repose upon 1, 2, and 3—the explicit assertion of Robert Glover, the cousinship acknowledged by Henry Beaufort, and the fact that Thomas Chaucer's arms, *as found upon his tomb*, were those of Katharine Swynford. That he was the son of Chaucer there seems no valid reason to doubt.<sup>36</sup>

erally supposed to have been erected by Nicholas Brigham in 1555 (Hammond, pp. 17, 30, 44 ff.; *Dict. Nat. Biog.* 6. 331); but cf. Hammond, pp. 42-3.

<sup>33</sup> Printed by Kirk, p. 322. Hales, who prints the passage (*Folia Literaria*, p. 111, from the *Athenæum* for March 31, 1888), remarks: 'Thomas Chaucer . . . must have been well known, not only by report, but personally, at Oxford; for he had residences both at Woodstock, some seven miles north, and at Ewelme, some fifteen miles south-west, the direct road between Woodstock and Ewelme passing through Oxford.'

<sup>34</sup> See Coulton, *Chaucer and his England*, p. 73.

<sup>35</sup> The lease to Chaucer bears date Dec. 24, 1399, and is printed, with comments, by Kirk, pp. 329-330.

<sup>36</sup> For discussion of the whole subject, see Nicolas, *Aldine Chaucer*, pp. 44-50, 86; Hammond, pp. 24, 47-8; Kirk, pp. li-lvii; *Dict. Nat. Biog.* 10. 158-9; Lounsbury, *Studies in Chaucer* 1. 104 ff.; Skeat, *Oxford Chaucer* 1. 1-li; Pollard, *Chaucer*, pp. 9-10.

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# Spenser's English Rivers

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## SPENSER'S ENGLISH RIVERS

Critics of Spenser have often remarked that he is eminently a pictorial poet. His poetry is like a gallery crowded with pictures of all kinds—portrait, *genre*, landscape, free invention—ever varied in their composition, spirit, and significance. To the restricted uses of mural decoration his designs are admirably suited, and one wonders that mural painters, as they confront great wall-spaces teeming with possibilities unrealized, have not discovered the vast riches lying at arm's length in the poetry of Spenser. No other poet is more fertile in designs which, both in subject and manner, would lend themselves to this kind of painting. They are highly objectified, symmetrical, spectacular, and vivid with color and motion. Spenser's art is in a peculiar measure decorative. Surely it was in large part this excellence of the poet in pictorial pageantry that delighted Milton with his

Pomp, and feast, and revelry,  
With mask and antique pageantry,  
Such sights as youthful poets dream  
On summer eves, by haunted stream.

Some of Spenser's greatest and most conspicuous passages are in their primary effect spectacular. They present a crowded stage filled with gorgeous, rapidly shifting color. Among his favorite themes are elaborate tableaux, visionary and emblematic, or thronging processions, or glimpses of a crumbling antique world, fading in rich and solemn splendor. Examples will multiply in the mind of every reader, from the fanciful idylls in the April and the June eclogue of the *Shepherd's Calendar*, to the highly wrought wedding-procession in the *Epithalamion*.

In each book of the *Faery Queen* the poet has introduced one or more conspicuous examples of elaborated spectacle. In the First Book are the procession of the Seven Deadly Sins and the series of episodes in the House of Holiness; in the Second, the Cave of Mammon, the House of Temperance, the Voyage of Life, and the Bower of Bliss; in the Third, the Gardens of Adonis, the House of Busirane, and the Mask of Cupid; in the Fifth, the Wedding of Florimel, the Temple of Isis, and the Hall of Mercilla; in the Sixth, the Dance of the Graces; in the fragment of the so-called Seventh, the Trial of Mutability.

The Fourth Book presents the Temple of Venus, and what may be described as the purest example of pageant which Spenser has given us; that is, a procession devoid of symbolism or implied significance. So purely spectacular is it that, in at least one critic's opinion, it may have been modeled after some contemporary mask.<sup>1</sup> It is the pageant of sea-gods, rivers, and nymphs coming to attend the marriage of the river Medway with the Thames in the hall of Proteus. First appear the sea-gods—Neptune and Amphitrite, Phorcys, Brontes, Orion, the many ruling sons of Neptune, and the rest. Then follow the great rivers, the Nile, the Rhone, the Ister, and some dozen more, including Orinoco, 'though but knowen late.' In another group are enumerated the many English rivers, led by the bridegroom, Thames. 'Ne thence the Irishe rivers absent were,' but are told to the number of nearly twenty. Following these is the bride, attended by her tributaries, after whom troops a host of sea-nymphs, over fifty of whom Spenser calls by name, and the air is astir with the roar of Triton's horn or the softer murmurings of Amphion's harp.

In a learned and charming article in *Fraser's Magazine* for 1878,<sup>2</sup> P. W. Joyce has considered that part of the eleventh canto of the Fourth Book<sup>3</sup> which deals with the Irish rivers, identifying those which are not apparent, and explaining epithets and allusions. He writes with the authority of one who has traversed the ground, and viewed with his own eye the regions of which he speaks. This was necessary to a full explanation of the passage, since it is evident that Spenser himself depended in writing it much less upon printed accounts and hearsay than upon his own observation, and his familiarity with the scenes themselves.

The case of the English rivers is different. Though the passage devoted to them—stanzas 23-39—is more than three times as long as that which describes the Irish rivers, it wants the peculiar freshness and spontaneity of the other, which doubtless came from the poet's familiarity with the rivers themselves, and indeed from his undisguised love of his Irish home. The passage about the English rivers, for all its lovely movement and cadence,

<sup>1</sup> O. Elton, *Introduction to Michael Drayton*, Spenser Soc. Pub., extra number, p. 38. Cf. H. R. Patch, *Modern Language Notes* 35. 178.

<sup>2</sup> N. S. vol. 17, pp. 315-333.

<sup>3</sup> Stanzas 40-44.

breathes in comparison a faint odor of lucubration and bookishness.

And bookish it proves, both by the poet's own statement and by detailed analysis. In an oft-quoted passage from a letter to Harvey dated 'Quarto Nonas Aprilis,'<sup>4</sup> 1580, Spenser writes: 'I minde shortly at convenient leysure, to sette forth a Booke in this kinde, whiche I entitle *Epithalamion Thamesis*; whyche Booke, I dare undertake wil be very profitable for the knowledge, and rare for the Invention and manner of handling. For in setting forth the marriage of the Thames: I shewe his first beginning, and offspring, and all the Countrey, that he passeth thorough, and also describe all the Rivers throughout Englande, whyche came to this Wedding, and their righte names, and right passage, &c. A worke, beleeve me, of much labour, wherein notwithstanding Master *Holinshed* hath muche furthered and advantaged me, who therein hath bestowed singular paines, in searching oute their firste heades and sources: and also in tracing and dogging oute all their Course, til they fall into the Sea.'<sup>5</sup>

The English rivers named by Spenser in his pageant of the marriage of the Medway and the Thames are in most cases easily recognized and traceable on any good modern map. Several there are, however, whose identity is not clear, and various details of the passage require explanation. It has long been observed that the *Epithalamion Thamesis* probably bears some precedent relation to the bridal passage before us. Setting aside for the moment the question of this relationship, the poet's hint in the passage quoted points any inquirer concerning the meaning of his lines in the *Faery Queen* on English rivers to Holinshed's *Chronicles*, where he finds a part—perhaps half—of the light he seeks. It is found in chapters 11 to 16 of the First Book, entitled 'The Description of Britain.' This part, as is well known, was written

<sup>4</sup> April 2.

<sup>5</sup> *Works of Spenser*, Globe ed., p. 709. In the second chapter of her study on *The Sources of the British Chronicle History in the Faerie Queene* (pp. 10-22), Dr. Carrie A. Harper quotes this passage, and makes several scattered notes on the sources of Spenser's knowledge of English rivers. She finds that while, of course, he referred to the first edition, 1577, of Holinshed's *Chronicles* in the passage of 1580 just quoted, yet in arranging the pageant of English rivers of the Fourth Book he used the edition of 1587.

by William Harrison, but is here sometimes cited as 'Holinshed' for convenience.

For the rest a hint is given in the *Ruins of Time*. The poem is essentially the monody of a grief-stricken woman, who is the genius of the ancient city of Verulam, lamenting dead members of the Dudley family, especially Sir Philip Sidney. Some one hundred and twenty verses she devotes to a recital of her own history, her past glories and particularly her woes. This recital concludes (166-75) with an apostrophe to William Camden as the only

one, that maugre Fortunes injurie  
And Times decay, and Envies cruell tort,  
Hath writ my record in true-seeming sort.

Camden, the nourice of antiquitie,  
And lanterne unto late succeeding age,  
To see the light of simple veritie  
Buried in ruines, through the great outrage  
Of her owne people, led with warlike rage,  
Camden, though Time all monuments obscure,  
Yet thy just labours ever shall endure.

This amounts almost to a statement that Spenser learned what he has to say of Verulam from Camden. That this is true but in part will appear later in the present discussion. For the moment it is enough to follow the poet's hint, and to discover that something like half his material about the English rivers he owes to Camden's *Britannia*.<sup>6</sup>

But beyond his use of books, Spenser knew at first hand some of the English rivers which he mentions, though not so many as in the case of the Irish rivers. One who dwells on this subject, therefore, must be aware that in studying the geography of Spenser he could profitably visit some of the regions mentioned by the poet, and see for himself what Spenser saw. In default of

<sup>6</sup> William Camden's *Britannia* first appeared in 1586, and other editions in Spenser's lifetime followed in 1587, 1590, and 1594. I have usually quoted from the first translation, by Philemon Holland, 1610, said to have been overseen by Camden himself. But all quoted passages have been compared with the Latin original in the edition of 1590, and where the original differs significantly from the translation, I have given the Latin version as that which the poet used. Miss Harper observes some traces of help from the *Britannia* in Spenser's stanzas on the Irish rivers, and merely intimates, without demonstration (p. 17), that he read in it also for his knowledge of English rivers.

such an advantage, I have followed Bartholomew's half-inch-to-the-mile maps, based on the ordnance-maps, and occasionally the ordnance-maps themselves, and have consulted various chorographic works. The results may perhaps be most conveniently presented in the form of quotation and running comment.

First came the bridegroom,

The noble Thamis, with all his goodly traine;  
 But him before there went, as best became,  
 His auncient parents, namely th' auncient Thame:  
 But much more aged was his wife then he,  
 The Ouze, whom men doe Isis rightly name;  
 Full weake and crooked creature seemed shee,  
 And almost blind through eld, that scarce her way could see.<sup>7</sup>

Harrison writes of the Thames: 'I affirme that this famous streame hath his head or beginning out of the side of an hill, standing in the plaines of Cotswold, about one mile from Tetburie, . . . where it was sometime named Isis, or the Ouse, although diverse doo ignorantie call it the Thames even there, rather of a foolish custome than anie skill, bicause they either neglect or utterlie are ignorant how it was named at the first.'<sup>8</sup> And later: 'From hence [Abingdon] it goeth to Dorchester, and so to Thame, where joining with a river of the same denomination, it looseth the name of Isis or Ouse (whereof Ouseneie at Oxford is produced) and from thenceforth is called Thamesis.' And again (p. 84), the Isis 'beneath Dorchester taketh in the Thame water, from whence the Isis loseth the preheminance of the whole denomination of this river, and is contented to impart the same with the Thame, so that by the conjunction of these two waters Thamesis is produced.' Camden says: 'A little beneath this towne *Tame* and *Isis* meeting in one streame become hand-fast (as it were) and joynd in Wedlocke: and as in waters, so in name, they are coupled. . . . For ever after this, the river by a compound word is called, Tamisis, that is, Tamis' (p. 384, Oxfordshire). He then quotes at considerable length from a Latin poem, on the wedding of the Isis and the Thame, from which he cites other passages elsewhere.<sup>9</sup> In that

<sup>7</sup> St. 24.

<sup>8</sup> Vol. I, p. 79. I cite from the edition of 1807.

<sup>9</sup> See below, p. 103, for the contents of the fragments in Camden, and n. 67 on the question of authorship.

poem, however, Isis is the groom and Thame the bride. Spenser may have got from it a suggestion both of subject and method of treatment, as Upton thinks,<sup>10</sup> but he borrowed no details except possibly one in the picture of the Medway.<sup>11</sup>

As for the 'weake and crooked' Isis, that 'scarce her way could see,' Harrison carefully describes her deviousness just above and about Oxford; but Spenser is almost certainly writing with a map before him, as is indicated by various details in his account. Here his characterization would be readily suggested by the crooked course of the Isis on the map. That the map was one of Christopher Saxton's, who published his portfolio of maps of sections of England in 1579, to which Camden often refers, is almost certain.<sup>12</sup>

Therefore on either side she was sustained  
Of two smal grooms, which by their names were hight  
The Churne and Charwell, two small streames, which pained  
Them selves her footing to direct aright.<sup>13</sup>

'From hence [Tetbury] it runneth directlie toward the east (as all good rivers should) and meeteth with the Cirne or Churne' (Hol. I. 79). 'It passeth at length by Oxford, of some supposed rather to be called Ouseford of this river, where it meeteth with the Charwell' (Hol. I. 79). On page 82 Harrison traces in detail the course of the Churne, and on pages 83-4 that of the Cherwell. On the map it readily appears that Isis was sustained on either side by these smaller streams.

But Thame was stronger, and of better stay.

Thame is, of course, the smaller stream, and, as we have seen, in the old poem is the bride of Isis. Spenser may have reversed the relation because Isis is feminine in implication, and because the name of Thame dominates the new name Thames. And to emphasize this reversal he has insisted upon the feebleness of Isis, and, contrary to fact, upon the greater strength of Thame.

Whether purposely or by mistake, he contradicts himself in stanza 26, making it the Thame, not the Isis, which flows by

<sup>10</sup> Note on *F. Q.* IV. xi. 8. 3, in Todd's *Spenser* 5. 431.

<sup>11</sup> See below, p. 90.

<sup>12</sup> Many of Saxton's maps reappear in Holland's translation of Camden, from which I quote.

<sup>13</sup> St. 25.

Oxford, though in stanza 25, by mention of the Cherwell, whose mouth is in the lower end of Oxford, the river is there the Isis.

And eke he somewhat seem'd to stoupe afore  
 With bowed backe, by reason of the lode  
 And auncient heavy burden which he bore  
 Of that faire city, wherein make abode  
 So many learned impes, that shoote abrode,  
 And with their branches spred all Britany,  
 No lesse then do her elder sisters broode.<sup>14</sup>

In Saxton's map the courses of the Isis near Oxford are shown more in a southeasterly than a southerly direction, as on the modern maps. Oxford is represented by a group of towers, and the effect of the whole is exactly that of a laboring back bent under the 'auncient heavy burden' of the 'faire city.'<sup>15</sup>

In stanza 28 Thames is crowned with towers, that is, with Troynovant or London. The idea is obviously classical, but is clearly illustrated in Saxton's way of indicating more important cities, by crowded clusters of towers arranged coronet-wise.<sup>16</sup> His crown seems to mark him as the chief and king of the attendant English rivers (cf. st. 30), illustrating Camden's phrase, 'fluminum Britannicorum regnator' (ed. 1590, Gloucestershire, p. 281; cf. p. 173).

Thames is attended by many little rivers, which 'owe vassalage to him':

The chaulky Kenet, and the Thetis gray,  
 The morish Cole, and the soft sliding Breane,  
 The wanton Lee, that oft doth loose his way,  
 And the still Darent, in whose waters cleane  
 Ten thousand fishes play, and decke his pleasant streame.<sup>17</sup>

These tributaries are named by Spenser in order of their occurrence on the course of the Thames toward the sea. 'Chaulky Kenet' is obviously the Kennet, which joins the Thames at Reading. Holinshed does not call it chalky, except to speak of its 'taking the Chalkburne rill withall' (I. 85). Camden, mentioning Marlborough on its upper waters, is not sure whether

<sup>14</sup> St. 26.

<sup>15</sup> For Cambridge as the 'elder sister', see below, p. 82.

<sup>16</sup> Cf. st. 34, I. 7.

<sup>17</sup> St. 29.

it takes its name from marl: 'Marleborow, olim Marleberge. . . . An hoc recentius factum fuerit nomen a Marga, quam Marle nostra lingua dicimus, . . . non facile dixerim' (1590, Wiltshire, pp. 184, 5). In Holland's translation is added: 'Certes, it lieth neere a chaulkey hill, which our Ancestours before they borrowed this name Chaulke of the Latine word Calx, named Marle' (Wiltshire, p. 255).

'Thetis gray' is the least of all this group. It is the modern Wye, which meets the Thames from the north at Bourne End, near Hedsor. Harrison twice refers to it—once at 1. 80: 'the Thetis commonlie called the Tide that commeth from Thetisford'; and again at 1. 86: 'It [Thames] meeteth with a brooke soone after that consisteth of the water of two rilles, whereof the one called the Use, riseth abcut west Wickham [mod. West Wycombe], out of one of the Chilterne hilles, and goeth from thence to east Wickham or high Wickham, a pretie market towne. The other named Higden, descendeth also from those mountaines but a mile beneath west Wickham, and joining both in one at the last, in the west end of east Wickham towne [High Wycombe], they go together to Wooburne, Hedsor, & so into the Thames. Some call it the Tide; and that word doo I use in my former treatise.' Higden survives in the name of the village Hughendon, on the north branch of the little stream, but I find no name Thetisford on the modern map. Why Thetis is called 'gray' I do not know.

'Morish Cole' is the Colne, which meets Thames from the north at Staines. 'Morish' in Spenser means 'marshy',<sup>18</sup> and the epithet may well describe the Colne valley as it was in Spenser's time. In Leland's *Itinerary* (Ed. T. Smith 1. 105) Colne is called 'the moore water.'

'Soft sliding Breane' is probably the old Brane or modern Brent. Harrison says (1. 87): 'The next fall of water is at Sion [cf. modern Sion House], neere unto new Brainford, so that it issueth into the Thames between them both. This water is called Brane, that is in the Brittish toong (as Leland saith) a frog. It riseth about Edgeworth [Edgeware], and commeth from thence by Kingesburie, Twiford, Perivall, Hanwell, and Austerleie [Osterley].' Spenser may himself have observed that it is 'soft sliding.'

<sup>18</sup> Cf. *Vergil's Gnat* 251; *Ruins of Time* 140; *F. Q. V. x.* 18, 4.

'Wanton Lee' is obvious. Though Holinshed does not speak of its wantonness, his long description (I. 87-9) supports Spenser's line. Saxton's, or any other map, makes his characterization even more evident. The river first flows generally southeast for some fifteen miles, then east and northeast about ten, to Ware, then, by a wide bend, to the southeast and south towards its mouth at Blackwall. Camden speaks of its hastening 'with a merry glee' to the Thames—'Lea jam letior ad Tamesim properat' (1590, Hertfordshire, p. 313).

Of 'still Darent' Camden says it 'runneth with a soft streame' (Kent, p. 328). Its course through Kent to the Thames near Dartford is fully described by Holinshed (p. 89), but neither he nor Camden speaks of its fish. This and the beauty of the country the poet had opportunity to observe for himself.

The 'stately Severne' (st. 30) needs no comment. Holinshed says that in many respects 'it commeth farre behind the Thames,' though in others 'it is nothing at all inferiour,' and calls it a 'noble streame' (I. 117). For the Humber see the comment on stanza 38.

There was the speedy Tamar, which devides  
The Cornish and the Devonish confines;  
Through both whose borders swiftly downe it glides,  
And meeting Plim, to Plimmouth thence declines:  
And Dart, nigh chockt with sand of tinny mines.<sup>19</sup>

'The river Tamara, now Tamar,' says Camden, 'shewing his head heere not farre from the northern shore, taketh his course with a swift running streame southward' (Cornwall, p. 196). Both he and Harrison (I. 104) speak of it as the boundary between Devonshire and Cornwall.<sup>20</sup> Neither describes it as joining the Plim; indeed, Harrison makes clear the contrary. Spenser, in a hurried glance at the map, may have confused the Plim and the Tavy, which meets with the Tamar in the upper reaches of Plymouth Bay, or he may have thought of the narrow bay as the Plim River above Plymouth. Saxton's map favors such an error. More likely, however, Spenser is here careless, as in stanzas 25 and 34.

<sup>19</sup> St. 31.

<sup>20</sup> This fact and the following inaccuracy are noted by Dr. Harper, pp. 12, 17.

Of the Dart Holinshed says: 'Of it selfe moreover this water is verie swift, and thorough occasion of tin-workes whereby it passeth, it carrieth much sand to Totnesse bridge [near its mouth], and so choketh the depth of the river downeward, that the haven it selfe is almost spoiled by the same' (I. 103).<sup>21</sup>

But Avon marched in more stately path,  
Proud of his adamants, with which he shines  
And glisters wide, as als' of wondrous Bath,  
And Bristow faire, which on his waves he builded hath.<sup>22</sup>

Holinshed calls the Avon 'a goodlie water, and growne to be verie famous by sundrie occasions' (I. 115), and Camden writes of 'the noble river Avon: which holding a crooked course, runneth anon to that ancient City which of the hote Bathes. . . we at this day [call] Bath' (Somerset, p. 233). Then follow long descriptions of the glories of Bath and Bristol (pp. 233-9). As the Avon leaves Bristol, 'there are on ech side very high cliffes . . . the one of them which on the East-side overlooketh the river beareth the name *S. Vincent's rock*, so full of Diamants [adamantum adeo foecunda, p. 173], that a man may fill whole strikes or bushels of them. These are not so much set by, because they be so plenteous. For in bright and transparent colour they match the Indian diamants, if they passe them not: in hardnesse onely they are inferior to them; but in that nature her selfe hath framed them pointed with six cornered or foure cornered smooth sides; I thinke them therefore worthy to be had in greater admiration. The other rocke also on the West-side is likewise full of Diamants [adamantum est ferax, p. 172], which by the wonderfull skill and worke of nature, are enclosed as young ones within the bowels of hollow and reddish flints.' Camden is speaking of the valley-walls underneath Clifton Downs, a suburb of Bristol. In Saxton's map of Somerset both Bath and Bristol are shown by clusters of towers rising from the line of the river.

And there came Stoure with terrible aspect,  
Bearing his sixe deformed heads on hye,  
That doth his course through Blandford plains direct,  
And washeth Winborne meades in season drye.<sup>23</sup>

<sup>21</sup> Quoted by Dr. Harper, pp. 12-14.

<sup>22</sup> St. 31.

<sup>23</sup> St. 32.

This is the Stour in Dorset. Harrison describes it (I. 98) as 'a verie faire streame,' and says: 'It riseth of six heads,<sup>24</sup> whereof three lie on the north side of the parke at Sturton within the pale, the other rise without the parke; & of this river the towne and baronie of Sturton dooth take his name as I gesse, for except my memorie do too much faile me, the lord Sturton giveth the six heads of the said water in his armes.' He was right: the arms of Baron Mowbray, Segrave, and Stourton, are to-day 'quarterly of six; 1st sable, a bend or, between six fountains.'<sup>25</sup> When Spenser describes Stour 'with terrible aspect, Bearing his sixe deformed heads on hye,' he may be framing a heraldic compliment to the then Lord Stourton.<sup>26</sup> Or more likely Stour's 'terrible aspect,' as Joyce suggests, is another instance of Spenser's fondness for etymology in proper names.<sup>27</sup> The word 'stour,' meaning variously 'struggle,' 'agony,' 'paroxysm,' 'terrifying menace,' is a favorite of Spenser's; he uses it more than fifty times.

By Blandford plains, which are not especially mentioned in either Holinshed or Camden, Spenser may mean the broad open country, four or five miles above Blandford, traversed by the Stour, the Cale, and the Lydden; or more likely the region just below Blandford, where the valley spreads into a wide plain towards Wimborne Minster, Spenser's Winborne. Leland remarks that 'the soile about Winburn Minstre self is very good for corne, grass and woodde.'<sup>28</sup>

Next him went Wylibourne with passage slye,  
That of his wylinesse his name doth take,  
And of him selfe doth name the shire thereby.<sup>29</sup>

<sup>24</sup> Quoted by Dr. Harper, p. 12.

<sup>25</sup> Debrett's *Peerage*, s. v. Mowbray. The six springs which form the northern sources of the Stour are all now within Stourton Park (Baedeker, *Great Britain*, 1906, p. 111). The modern map shows a string of little ponds lying in the park, along what is called Six Wells Bottom.

<sup>26</sup> This was Edward, ninth baron, who married Frances, daughter of Sir Thomas Tresham. He was of no eminence, but his father was one of the peers who sat at the trial of Mary Queen of Scots. His grandfather had been hanged for murder.

<sup>27</sup> Joyce cites 'Tygris fierce' (IV. xi. 20. 9), Wylibourne and Mole (IV. xi. 32), Trent (IV. xi. 35. 8), Stour, and among the Irish rivers 'sad Trowis' (41. 7), 'balefull Oure' (44. 5), and 'false Bregog' (VII. vi. 40. 4). Perhaps one may add Wharf, Dee, and Humber; see below.

<sup>28</sup> *Itinerary*, ed. Smith, vol. I, p. 256.

<sup>29</sup> St. 32.

This is the modern Wylve, which flows from the northwest to meet the Avon at Salisbury. Camden, speaking of Wiltshire plains, says: 'On the South side thereof, there runne quietly two most still Rivers, Willey-borne. . . and Nadder.' The Nadder is so called from its serpentine windings. Spenser seems to invent, as he is always ready to do, the explanation of the name Wylibourne. Camden adds: 'At the meeting of these two rivers Willey giveth his name to Wilton, a place well watered, and sometime the head towne of the whole Shire, which thereof tooke the name' (Wiltshire, pp. 245-6). So unimportant a stream as the Wylve may well have found its place in the procession by way of honor to Mary Sidney, Countess of Pembroke, who lived at Wilton House, on its banks.

And Mole, that like a nousling mole doth make  
His way still under ground, till Thamis he overtake.

This is the modern Mole, which flows from north of Dorking, Surrey, and joins the Thames at Hampton Court. Spenser doubtless found the reason for its name in Camden: 'Within some few miles from thence the river *Mole*, having from the South side passed through the whole country, hasteneth to joine with the Tamis; but at length beeing letted by overthwart hils, maketh him selfe a way under the ground in manner of a mould-warp; . . . whereof it may seeme it tooke name, seeing that creature living within the ground, is called also in English a Mole' (Surrey, p. 296). On Norden's map of Surrey<sup>30</sup> this interruption of the Mole's course is indicated at Mickleham, but I find no modern mention of it. At this point the river swings a half mile out of its general direction around a rise of ground. From Camden's indefinite statement Spenser proceeds to represent that much of the river's course runs underground.

Then came the Rother, decked all with woods  
Like a wood god, and flowing fast to Rhy:  
And Sture, that parteth with his pleasant floods  
The easterne Saxons from the southerne ny,  
And Clare and Harwitch both doth beautify:  
Him follow'd Yar, soft washing Norwitch wall  
And with him brought a present joyfully  
Of his owne fish unto their festivall,  
Whose like none else could shew, the which they ruffins call.<sup>31</sup>

<sup>30</sup> 1610, in Speed's *Theatre*.

<sup>31</sup> St. 33.

The Rother is perhaps thirty miles long, and flows southeast into the Channel. Thus Holinshed, who calls it 'a noble river': 'This Rother separateth Sussex from Kent, and hath his head in Sussex, not farre from Argas hill neere to Waterden forrest.' He then traces its old course, to a point in its lower waters; 'hence also growing into some greatnesse, it runneth to Rie' (i. 92). The interior of Sussex, the region of Ashdown Forest, where the Rother takes its rise, was famous for its woods. Camden says: 'Citerior et Borealis tractus sylvarum opacitate amœnissimus uti olim universa hæc regio, sylvis invia fuerat' (1590, Sussex, p. 227).

'The Sture or Stoure parteth Essex from Suffolke, as Hoveden saith, and experience confirmeth' (Hol. i. 177). And Camden: 'This is the Stour, that running betweene Essex and Suffolke serveth as a bound to them both, and on this side [Essex] watereth nothing else but rich and fruitfull fields' (Essex, p. 451). Camden mentions its mouth, 'where now lieth *Harwich* a most safe road.' Harrison, in describing the river's course, mentions both Clare and Harwich.

The Yar is modern Yare, Norfolk. Strictly speaking the Yare does not come within a mile or two of 'soft washing Norwich wall,' but it generally encircles the southern half of the town at about that distance, from west to east, where it receives the Wensum, just below the city to the east. On Saxton's map it appears to touch the city. The Yare is described by Camden as 'Ruffo pisce admodum fœcundus' (1590, Norfolk, p. 374). In Holland's version of 1610 this phrase is expanded into a description of the ruff, as a kind of perch, 'much commended for holsomnesse; and for eating tender & short' (Norfolk, p. 476). That Spenser was an angler and curious about varieties of fish none of his readers can doubt. The *New English Dictionary* records the form 'ruffin' as 'obs. rare,' and the line in Spenser is the first of only two quotations.

Next these the plenteous Ouse came far from land,  
 By many a city, and by many a towne,  
 And many rivers taking under hand  
 Into his waters, as he passeth downe,  
 The Cle, the Were, the Grant, the Sture, the Rowne,  
 Thence doth by Huntingdon and Cambridge flit,  
 My mother Cambridge, whom as with a crowne  
 He doth adorne, and is adorn'd of it  
 With many a gentle muse, and many a learned wit.<sup>32</sup>

<sup>32</sup> St. 34.

This general description of the Ouse is illustrated by any map. The tributaries, however, offer some difficulty. The Cle, or Clee in Holinshed, is the modern Ouzel or Lovat, as appears by his description (I. 173): 'This river riseth in the verie confines betweene Buckingham and Bedfordshires, not farre from Whippsnade [modern Whippsnade on the heights three miles south of Dunstable], and going on toward the northwest, by Eaton [Eaton Bray?] and Laiton [Leighton Buzzard], it commeth to Linchlade [Linslade], where it entreth whollie into Buckinghamshire, and so goeth on by Hammond [Stoke Hammond], Brickle [Brickhill, Great and Little], Fennie Stratford, Simpson, Walton, and Middleton [Milton Keynes], . . . and so goeth on till it meet with the Ouze neere unto Newport [Newport Pagnell].'

The Were is the modern Tove, which joins the Ouze from the northwest, near Stony Stratford and Wolverton, some five or six miles above the Ouzel. 'Here,' says Holinshed (I. 173), 'the Ouze meeteth with a water (called, as Leland conjectureth, the Vere or Were) on the left hand, as you go downewards, that commeth betweene Wedon [Weedon Lois] and Wexenham [Wapenham?] in Northamptonshire, and goeth by Towcester, and Alderton, and not farre from Wolverton and Haversham into the foresaid Ouze, which goeth also from hence to Newport-paganell.' Then follows the account of the Clee.

The Grant is, of course, the modern Granta or Cam, flowing through Cambridge. As you go upstream, about three miles south of Cambridge, and nearly a mile above Grantchester, the river is divided: one branch (a) comes from Ashwell and the southwest, and on modern maps is named the Cam or Rhee; another comes from the southeast, which two or three miles above, near Stapleford, is again divided, one branch (b) flowing from Great Chesterford and the south, and now named on some maps Cam, on others Granta; the other branch (c) flowing from Linton and the southeast, and now named Granta. Below the junction where all these streams are united in one, the river is the Cam or Granta until after passing Cambridge, when it is simply the Cam. In Holinshed (I. 173-5) the name Cam does not occur; (a) is called the Rhee or Barrington Water, (b) the Granta, and (c) the Babren. As Harrison, author of the description in Holinshed, had studied at Cambridge, and by his own statement (I. 174) had viewed this region at least in part,

and as Spenser from his days at Cambridge was likely to know it as well as any part of England, it is fairly safe to infer that by the Grant he meant (b) the southerly branch. Yet his statements grow careless in the last lines of the stanza.

In Holinshed the Granta is traced in its course among the colleges through Cambridge, 'receiving by and by the Stoure, or Sture (at whose bridge the most famous mart in England is yearlie holden and kept)' (I. 174). This is the famous Stour-bridge Fair, on the lower side of Cambridge. But the little Stour, tiniest of all Spenser's rivers, seems now to be lost in the ditches.

The Rowne is a mystery; it is mentioned in neither Holinshed nor Camden, nor in any of the books or maps of the time that I have seen. I suspect that 'Rowne' is a misprint for 'Downe,' which might easily have been made by the printer to avoid what looked to him like an identical rhyme. Such rhymes, however, are not infrequent in Spenser.<sup>33</sup> The Downe, or Dune, is, by the description in Holinshed (I. 175), clearly the Little Ouse, which rises in Suffolk in the same source as the Waveney, but flows west, while the Waveney flows east. It meets the Ouse more than twenty miles below Cambridge. 'The Dune,' writes Harrison, 'goeth first of all by Feltham [Thelnetham?], then to Hopton, & to Kinets hall [Knettishall],' thence on to Euston, receiving various tributaries. 'From hence also they hasten to Downeham,' that is, Santon Downham, clearly marked 'Downeham' on Saxton's map, between Thetford and Brandon, and so through the fens to its mouth.

Spenser's 'thence' in line 6 is careless, as one, and probably two, of the rivers mentioned are below Cambridge. Furthermore, he speaks of the Ouse as if it passed Cambridge, as well as Huntingdon. For the moment he implies that the name Ouse covered not only the main river, but the whole system.

<sup>33</sup> Thus in this Fourth Book we have *went*, n.: *went*, v., in lines 4 and 5 as here, of stanza 47 of canto ii; *morne*:*morne*, st. 41 (really *concatenation*); *sound*, n.:*sound*, v., IV. vii. 4, 8, 9; between alternate lines, IV. i. 23. 5, 7; ii. 30. 5, 7; iii. 3. 6, 8; iv. 15. 5, 7; v. 33. 5, 7; vii. 39. 2, 4; identical rhymes more widely separated abound: i. 24. 2, 7; 35. 2, 7; 36. 4, 7; ii. 9. 6, 9; 37. 6, 9; 43. 4, 7; 52. 2, 9, etc. In the Fourth Book identical lines average about two and one half to a canto. The number is more than doubled if one includes such rhymes as *bound*:*abound*, i. 13; *along*:*long*, x. 7.

The reference to Cambridge, like that in stanza 26, is altogether in the spirit of Camden, who pauses in his description to glorify the town and the university. His words are in one or two details close to Spenser's: 'Cis pontem, ubi urbis pars longe maxima jacet, platearum descriptione, templorum frequentia et quatuordecim pulcherrimis Musarum sacrariis, sive Collegiis omnia nitent, in quibus eruditissimi viri magno numero aluntur'; cf. Spenser's 'With many a gentle muse, and many a learned wit'; 'maximarumque artium scientia, et linguarum cognitio ita florent, ut literarum, religionis, et totius doctrinæ fontes jure optimo censeantur, qui ecclesiæ et Reipub. hortos salutaribus aquis suavissime irrorant' (1590, p. 384).<sup>34</sup> In stanza 26 Spenser calls Cambridge the 'elder sister' of Oxford. The phrase had more significance than a casual reader might suspect, prompted as it doubtless was by the contest for seniority then raging between the two universities.<sup>35</sup> Camden says (1590, pp. 344-5): 'Verum ne in optimos illos literarum patronos, imo (ut cum Eumenio loquar) liberorum nostrorum parentes pessime ingrati videamur, ipsos et Collegia, quæ bonis literis consecrarunt, honoris causa ex historia Cantabrigiensi summam memoremus. Cantabrum Hispanum anno ante Christum natum 375. Academiam hanc primum instituisse, et Sebertum Orientalium Anglorum regem post Christum 630 restituisse perhibetur.' In Holland's translation, which Camden is thought to have overseen, the author discredits this tradition, and fears to become involved in the controversy. The question is also raised by Holinshed in his chapter on the Universities (Bk. 2, chap. 3, p. 249), who seems to favor the seniority of Cambridge.

And after him the fatall Welland went,  
That if old sawes prove true (which God forbid)  
Shall drowne all Holland with his excrement,  
And shall see Stamford, though now homely hid,  
Then shine in learning, more then ever did  
Cambridge or Oxford, Englands goodly beames.<sup>36</sup>

<sup>34</sup> For Cambridge as a crown to the river, see above, comment on st. 28.

<sup>35</sup> An account of this controversy is given in J. Parker's *The Early History of Oxford*, pp. 20 ff. It began as early as 1566, or even earlier (cf. Polydore Vergil, *Historia*, Basel, 1555, p. 107), and was very lively when Spenser died.

<sup>36</sup> St. 35.

The material for this stanza is found in neither Camden or Holinshed. The prophecy that the Welland would drown that part of Norfolk called Holland I have not found in any earlier writer. Camden records the founding of a university at Stamford in the reign of Edward III (1333). Thither the northern students at Oxford migrated, but returned at the command of a royal proclamation, and so ended the University of Stamford (1590, Lincolnshire, pp. 423, 4; 1610, p. 533).<sup>37</sup> Upton cites Anthony a Wood's *Historia et Antiquitates Oxoniae*, p. 165:<sup>38</sup> 'Merlini nempe vaticinium, qui sic ante sæcula complura prædixerat:

Doctrinæ studium, quod nunc viget ad vada boum [i. e. Oxford],  
Tempore venturo celebrabitur ad vada Saxi [i. e. Stamford].'

Though Upton calls the subject 'trite,' he mentions no possible source of Spenser's information. It may have seemed trite because it figured in the long controversy for seniority. Spenser, who was not without interest in the dispute, may have read in John Caius' *De Antiquitate Cantabrigiæ Academiae*, London, 1568: 'Non excidit vestris animis (scio) diu fuisse in discrimine vestram Academiam, & longa persuasione atque metu partim vaticinii, quod fatidico quodam carmine Robertus Talbotus, antiquarius Oxoniensis, libro suo peramplio de versibus antiquis, cui inscriptionem fecit satis familiarem, *aurum ex stercore*, titulo de ænigmaticis & propheticis, sic expressit:

Hoc magnum studium, quod nunc est ad vada boum,  
Tempore venturo celebrabitur ad vada Saxi:

partim rei gestæ quoque exemplo, quod quidam ex Oxoniensibus, Oxonium deserentes, . . . multos secum Oxoniensis scholæ Stamfordiam abduxere, quibus eo loci prælegerunt. Hinc expectatum continuo est, ut, ex dissoluta vestra Academia, Stamfordiensis resurgeret.<sup>39</sup>

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<sup>37</sup> Cf. Stow, *Annales*, ed. 1615, p. 232; Drayton, *Polyolbion* 24. 1-9. Hardyng (*Chron.*, chap. xxv) and Grafton (*Chron.*, pt. 5, yr. 863) tell how King Bladud of Britain in his time founded a university at Stamford.

<sup>38</sup> *Spenser*, ed. Todd, 5. 448.

<sup>39</sup> Quoted here from Hearne's edition in his *Thomæ Cuii Vindiciæ*, 2 vols., 1730, I. 254. Talbot's work is still in manuscript, according to D. N. B. The prophecy seems to have been adapted from lines in

And next to him the Nene downe softly slid;  
 And bounteous Trent, that in him selfe enseames  
 Both thirty sorts of fish and thirty sundry streames.<sup>40</sup>

The well-known course of the Nene is described in detail in Holinshed from its source above Northampton to Peterborough, Wisbech, and its mouth in the Wash. Harrison speaks of its dissipation into many branches 'among the fennes and medowes, not possible almost to be numbred' (I. 172), thus sliding softly down, as Spenser has it.

In Holinshed the 'bounteous Trent' is 'one of the most excellent rivers in the land, not onlie for store of samon, sturgeon, and sundrie other kinds of delicate fish wherewith it dooth abound, but also for that it is increased with so manie waters, as for that onelie cause it may be compared either with the Ouze or Saverne' (I. 162).<sup>41</sup> Spenser's intimation of the meaning of

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Alexander Neckam's *De Naturis Rerum*, cap. 174 (ed. T. Wright, Rolls Series, no. 34): 'Juxta vaticinium etiam Merlini, viguit ad Vada Boum Sapientia tempore suo ad Hiberniæ partes transitura.' Cf. the *Aninadversiones* of Thomas Caius, who defends the seniority of Oxford (Hearne, *T. Caii Vindicæ*, 2. 337). Brian Twyne, in his *Antiquitatis Academiae Oxoniensis Apologia*, Oxford, 1608, reviews the 'trite' subject (Bk. 2, pp. 148-50). He cites Neckam's words, and then a sermon on the text Prov. 9. 1, doubtfully ascribed to Bonaventura ('in sermone scholastico Theologicae facultatis in studio Parisiensi'), which in turn cites Rabanus and a 'vita Dionysii Areopagitæ' to the effect that 'secundum vaticinium Merlini vigeabant studia in Anglia tempore suo ad partes Hybernæ transitura ad vada saxa' (italics mine). I do not find this in Rabanus or any *vita* of Dionysius, or among the *Sermones* of Bonaventura, authentic or doubtful. Whatever 'ad vada saxa' means, it is evident that under the influence of the migration to Stamford in Edward III's reign, the statement of Neckam is undergoing revision, since Twyne says (p. 150): 'Præter illud vero, est et aliud, Merlinii nomen præ se ferens existimatur, de translatione literarum Oxoniensium ab Oxonia Stanfordiam, usque vaticinium; quod sic habet:

Doctrinæ studium, quod nunc viget ad vada Boum  
 Tempore venturo (vel ut alii recitant)  
 Ante finem Sæcli, celebrabitur ad vada Saxi.'

But Twyne suspects that it is not a genuine prophecy of Merlin, as it is found in no ancient or trustworthy author. It is clear, however, that it could not have escaped Spenser in his antiquarian reading or conversation.

<sup>40</sup> St. 35.

<sup>41</sup> Quoted by Dr. Harper, p. 13.

the name is obvious, but may have been suggested to him by Camden: 'The river Trent, in the old English-Saxon tongue Treonta (which some Antiquaries of small note and account have called *Triginta* in *Latine*, for the affinity of the French word *Trent* that signifieth that number *Triginta*, that is, *Thirty*)' (Nottinghamshire, p. 547). He adds that 'pisces Trenta large suppeditat' (1590, p. 436), with an old verse—'*Limpida sylvā [Sherwood] focum, Triginta dat mihi piscem.*'

Next these came Tyne, along whose stony bancke  
That Romaine monarch built a brasen wall,  
Which mote the feebled Britons strongly flancke  
Against the Picts, that swarmed over all,  
Which yet thereof Gualsever they doe call.<sup>42</sup>

The Tyne in the old authors is called the South Tyne throughout its course. Camden says that, as it turns eastward from Bellister Castle, near Fetherston Haugh, it 'runneth directly forward with the *Wall*, which is in no place three miles distant' (Northumberland, p. 799, cf. 646). Camden, in discussing the origin of the wall, says that Severus is shown to have been the builder by its 'Britannicum nomen Gual Sever' (1590, Picts Wall, p. 643). Saxton's map shows the wall following the Tyne, and marks it 'Pictes wal' and 'Vallum Severi.' But Spenser's information may be drawn also from Holinshed: 'After his time [Hadrian's] Severus the emperour comming againe into this Ile (where he had served before in repression of the tumults here begun, after the death of Lucius) amongst other things he made another wall (but of stone) betweene eightie and a hundred miles from the first, & of thirtie two miles in length, reaching on both sides also to the sea, of whome the Britons called it S. Murseveri, or Gwall Severi, that is, The wall of Severus, or Severus dale, which later indureth untill these daies in fresh memorie, by reason of the ruines & square stones there oft found, whose inscriptions declare the authors of that worke' (I. 214). 'Brazen' in Spenser would not contradict Harrison's statement that the wall was of stone. It is a favorite word of the poet, often meaning little more than 'strong, impregnable.' A long list of illustrations may be found in the concordance.

<sup>42</sup> St. 36.

And Twede, the limit betwixt Logris land  
 And Albany: and Eden, though but small,  
 Yet often stainde with bloud of many a band  
 Of Scots and English both, that tyned on his strand.<sup>43</sup>

What Spenser says of the Tweed seems to reflect the words in Holinshed concerning the Humber (I. 157): 'This river in old time parted Lhoegres or England from Albania, which was the portion of Albanactus, the yongest sonne of Brute. But since that time the limits of Lhoegres have beene so enlarged, first by the prowesse of the Romans, then by the conquests of the English, that at this present daie the Twede on the one side, & the Solve on the other, be taken for the principall bounds betweene us and those of Scotland.'

The course of the Eden is followed in detail by Harrison. Camden says: 'For, *Eden*, that notable river, which wandereth through Westmoreland and the inner partes of this shire, powreth forth into it [the Solway] a mighty masse of water, having not yet forgotten, what a doe it had to passe away struggling and wrestling as it did, among the carcasses of freebutters, lying dead in it on heapes, in the yeere of salvation 1216, when it swallowed them up loden with booties out of England, and so buried that rable of robbers under his waves' (Cumberland, p. 776). He has more to say of the border troubles in connection with the Eden's neighbors, Esk, Leven, and Kirsop.

Then came those sixe sad brethren, like forlorne,  
 That whilome were (as antique fathers tell)  
 Sixe valiant knights, of one faire nymphe yborne,  
 Which did in noble deedes of armes excell,  
 And wonned there where now Yorke people dwell:  
 Still Ure, swift Werfe, and Oze the most of might,  
 High Swale, unquiet Nide, and troublous Skell;  
 All whom a Scythian king, that Humber hight,  
 Slew cruelly, and in the river drowned quight.<sup>44</sup>

Spenser here groups various tributaries of the Ouse in Yorkshire, which is thus properly 'the most of might.' They converge, flowing from the North and the West Riding and from the southwest. Beginning from the north they are the Swale, the Ure, which unite to form the Ouse, the Skell, which is a

<sup>43</sup> St. 36.

<sup>44</sup> St. 37.

tributary of the Ure, the Nidd, and the Wharf. The poet observes no order in naming them. As for 'still' Ure, Camden speaks of '*Ure*, which now [in its lower parts] is called *Ouse*, flowing with a gentle streame from the North part Southward' (p. 701). 'Swift Werfe' so appears in Camden, who calls it 'This *Wherf* or *Wharf*, in the English Saxons language *Guerf*. . . . If a man should thinke the name to be wrested from the word *Guer*, which in British signifieth *Swift and Violent*, verily, the nature of that river concurrerth with his opinion; For he runneth with a swift and speedy streame, making a great noise as hee goeth, as if he were froward, stubborne, and angry' (Yorkshire, pp. 696-7). Camden complains of its dangers, especially in summer, which he learned at his peril when his horse once nearly lost his footing in the swift current. 'High' Swale he describes as '*magno aquarum assultu influentem*' (1590, Richmondshire, p. 595), and says: 'Swale rusheth rather than runneth as I have said with foaming waters, meeting here and there with rockes, whereby his streame is interrupted and broken' (1610, Richmondshire, p. 730). The other epithets—of the Nidd and the Skell—may easily have been inferred by Spenser from the nature of the country through which the streams are described as flowing. Their courses are in each instance traced by Harrison.

In stanza 38 the poet continues the story about king Humber, to the effect that Locrinus, son of Brutus, avenged the death of the six knights, and drove him into the river, where he was drowned; whence its name, as well as its stormy character. A part of this story of the Humber is in Heliand (l. 156-7): 'Certes it is a noble arme of the sea, and although it be properlie to be called *Ouze* or *Ocellus*, . . . yet are we contented to call it *Humber* of *Humbrus* or *Umar*, a king of the Scythians, who invaded this Ile in the time of Locrinus, thinking to make himselfe monarch of the same. But as God hath from time to time singularie provided for the benefit of Britaine, so in this businesse it came to passe, that *Humber* was put to flight, his men slaine: and furthermore, whilst he attempted to save himselfe by hasting to his ships (such was the prease of his nobilitie that followed him into his owne vessell, and the rage of weather which hastened on his fatall daie) that both he and they were drowned together in that arme. And this is the onelie cause wherefore it

hath beene called Humber, as our writers saie; and whereof I find these verses:

Dum fugit obstat ei flumen submergitur illic,  
Deque suo tribuit nomine nomen aquæ.'

But the 'antique father' who tells the story of the six slain knights, children of a nymph, who gave their names to the six rivers, I have not found. The texture of that part of the story is true Spenserian, and the poet very likely invented it. His insistence upon the stormy character of the Humber, both here and in stanza 30, line 7, may not improbably arise from his recollection of Greek ἄμβρος, 'storm.'

These after, came the stony shallow Lone,  
That to old Loncaster his name doth lend;  
And following Dee, which Britons long ygone  
Did call divine, that doth by Chester tend;  
And Conway, which out of his streame doth send  
Plenty of pearles to decke his dames withall;  
And Lindus, that his pikes doth most commend,  
Of which the auncient Lincolne men doe call.<sup>45</sup>

Of the first of these Harrison says (I. 145): 'I came to a notable river called the Lune or Loine, . . . and giveth name to Lancaster, Loncaster, or Lunecaster.' Camden also writes: 'Lone having passed on some few miles from hence, commeth within sight of Lancaster, standing on his South banke, the cheife towne of this region [county]: which the inhabitants more truly call Loncaster, as the Scots also, who name it Loncastell of the River Lone' (Lancashire, p. 754). The stream descends from the hills of Westmoreland to its mouth just below Lancaster. Camden describes it as flowing southward in 'a channell now broad, now narrow with many a reach in and out hindring his streame' (Lancashire, p. 753). It abounds in salmon, 'which because they delight in cleere water and especially in shallow places that are sandy, come up thick together,' etc.

Spenser's lines on the Dee may well have been based upon his reading of Camden: 'The river *Dee*, called in Latin *Deva*, in British *Dyffyr-dwy*, that is, the water of the *Dwy*, . . . for *Dwy* in their tongue signifieth *Two*. Yet others, . . . interpret it *Black-water*, others againe, *Gods-water*, or *Divine water*'

<sup>45</sup> St. 39.

(Cheshire, p. 602). Camden combats the last explanation, though he admits the ancient British custom of regarding rivers as sacred. Spenser, however, accepts it, as being to him more easily explicable (as from Lat. *divus*) and interesting. Camden's account of the river brings it to Chester, of which city he gives a detailed description (pp. 604 ff.).

For the Conway in North Wales, Spenser depends upon Camden, who describes it as 'breeding certaine shelfishes, which being conceived of an heavenly deaw, bring forth pearles' (Carnarvonshire, p. 669).

The Lindus is the modern Witham of Lincolnshire, which flows generally north past Grantham, eastward past Lincoln, and southeast to Boston and the Wash. Spenser's description seems to echo Harrison's: 'Now come I to the course of the Witham, a famous river, whereof goeth the biword, frequented of old, and also of Ancolme, which I before described:

Ancolme ele, and Witham pike,  
Search all England and find not the like.

Leland calleth it Lindis, diverse the Rhe, and I have read all these names my selfe: and thereto that the Lincolnshire men were called in old time Coritani and their head citie Lindus, Lindon and Lindocollinum' (i. 169).<sup>46</sup> Again Holinshed makes Lindum and Lindodunum the old names of Lincoln (i. 320). Camden mentions but discredits the derivation of Lincoln from Lindus (p. 328).

Then came the bride, the lovely Medua came,  
Clad in a vesture of unknowen geare,  
And uncouth fashion, yet her well became;  
That seem'd like silver, sprinckled here and there  
With glittering spangs, that did like starres appeare,  
And wav'd upon, like water chamelot,  
To hide the metall, which yet every where  
Bewrayd it selfe, to let men plainly wot,  
It was no mortall worke, that seem'd and yet was not.<sup>47</sup>

Her hair fell loose over her shoulders to her waist, 'as a new spring,' and down upon it from her flowery chaplet ran drops of

<sup>46</sup> Quoted by Dr. Harper, p. 14.

<sup>47</sup> St. 45.

dew. Similarly appears the bride Thame in the old poem in Camden:

Utque fluit, crines madidos in terga repellit,  
 Reddit et undanti legem formamque capillo.  
 (Oxfordshire, p. 385)

Harrison writes: 'Next unto the Thames we have the Midwaie water, whereof I find two descriptions, the first beginneth thus. The Midwaie water is called in Latine Medevia (as some write) because the course thereof is midwaie in a manner between London and . . . Canturburie' (I. 90).

On her two pretty handmaidens did attend,  
 One cald the Theise, the other cald the Crane;  
 Which on her waited, things amisse to mend,  
 And both behind upheld her spredding traine;  
 Under the which her feet appeared plaine,  
 Her silver feet, faire washt against this day:  
 And her before there paced pages twaine,  
 Both clad in colours like, and like array,  
 The Doune and eke the Frith, both which prepard her way.<sup>48</sup>

The Medway, as appears on any map, rises in Surrey, but soon enters Kent, and flows in a direction a little north of east to Yalding. There it takes a more northerly course towards its estuary and the Thames. The 'Theise,' so spelled in Holinshed, is, of course, the Teise, which approaches the Medway from Goudhurst and the south, and meets it at Yalding. Almost at the same point it is joined by the river Beult, which comes from a southeasterly direction. Thus Holinshed: 'From thence also, and not farre from Yalling [Yalding] it receiveth the Theise (a pretie streame that ariseth about Theise Hirst [Ticehurst]) & afterward the Gran or Crane, which having his head not farre from Cranbrooke, and meeting with sundrie other rivelets by the waie,' etc. (I. 90). This identifies the Crane with the Beult up as far as Headcorn, about ten miles, and then with the branch now called Hammer Stream, coming northeast from Cranbrook. The name Beult now continues up the main stream towards the southeast to its source not far southwest of Ashford.<sup>49</sup>

The particular office of upholding the bride's train which fell

<sup>48</sup> St. 47.

<sup>49</sup> Further proof appears in Harrison's more detailed account of the Theise and the Crane, pp. 90-1.

to the Theise and the Crane may have been suggested to the poet while looking at a map. There the Medway seems to the fanciful eye to be curiously trailing that part of her course from her source to Yalding, where she stands more erect towards the north. These two handmaids attend her just at this point, and seem to help uphold her train.

The 'pages twaine,' the Doune and the Frith, give some difficulty. Harrison says of the Medway: 'It hasteth to Pensherst, and there carrieth withall the Eden, that commeth from Lingfield parke. After this it goeth to the southeast part of Kent, and taketh with it the Frith or Firth, on the northwest side, and an other little streame that commeth from the hilles betweene Pevenburie and Horsemon on the southeast' (1. 90). Spenser's words seem to imply that the streams are small, well paired, and that they reach the Medway above the Theise and the Crane. The Frith, by Harrison's brief account, might be one of several little streams coming in from the northwest in the neighborhood of Tonbridge. One of these rises in Frith Wood, at Dene Park, a mile or more west of the hamlet of North Frith. Spenser's Frith may, however, be the river Shode, a brook flowing south from Wrotham, with its mouth near East Peckham, just above Yalding. The stream from the hills between Pembury and Horsmonden to the southwest (there is no stream in this region from the southeast before we reach the Teise and the Beult) has no name on the modern maps, and I have been unable to discover whether it now has one; but in Harrison's description it corresponds most closely with what Spenser calls the Doune.

Penshurst, the home of the Sidneys, is on the Medway above Tonbridge, not more than five or six miles from its upper waters. Is it not likely that Spenser knew these tiny streamlets and 'dales of Kent' at first hand, either from his association with Penshurst, whatever that association was, or other occasion of acquaintance with the Kentish country?<sup>50</sup>

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<sup>50</sup> On Philip Symonson's map of Kent, probably first published in 1576, this stream is marked as coming from the southeast, as Harrison says. Symonson's map is highly praised by Lambarde and later writers, and well deserves praise for its comparative accuracy and fineness of detail. See *An Account of a Map of Kent*, dated 1596, by the Hon. Henry Hannen, in *Archæologia Cantiana* 30. 85-92, with a reproduction of Symonson's map on a reduced scale. On neither Symonson's map nor

Camden, in his account of the Medway, pauses in mentioning Penshurst to glorify at some length the memory of Sir Philip Sidney. Spenser is conspicuously silent. A line or two of allusion would not have disturbed the course of his pageant. Perhaps in the earlier *Epithalamion Thamesis* the Medway had been chosen as the bride, because of its association with Penshurst. Any allusions to Sidney in that poem may have seemed for some reason less appropriate at this later date.

So much at present for the English rivers that came to the wedding of the Thames and the Medway. Two other passages, however, that deal with English rivers may claim our attention.

The first is the lament of the ancient city Verulam, already cited from the *Ruins of Time*. Though Spenser, in the lines quoted above on page 70, plainly implies that the only memorialist of Verulam 'in true-seeming sort' is Camden, yet it appears by examination that he owes most of the passage to Holinshed:

I was that citie which the garland wore  
 'Of Britaines pride, delivered unto me  
 By Romane victors, which it wonne of yore;  
 Though nought at all but ruines now I bee,  
 And lye in mine owne ashes, as ye see:  
 Verlame I was; what bootes it that I was,  
 Sith now I am but weedes and wastfull gras?<sup>51</sup>

And again:

O Rome, thy ruine I lament and rue,  
 And in thy fall my fatall overthrowe,  
 That whilom was, whilst heavens with equall vewe  
 Deignd to behold me, and their gifts bestowe,  
 The picture of thy pride in pompous shew:  
 And of the whole world as thou wast the empresse,  
 So I of this small Northerne world was princesse.<sup>52</sup>

These passages unmistakably derive from the thirteenth chapter of the *Description in Holinshed*, entitled 'Of Cities and Townes in England.' He writes: 'The British Verolamians, therefore,

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Saxton's, the only maps of Kent in Spenser's time, are the streams named. Symonson locates and names North Frith. It would therefore seem that Spenser knew the region at first hand, and had personal associations with its streams.

<sup>51</sup> Ll. 36-42.

<sup>52</sup> Ll. 78-84.

having for their noble service in the warres deserved great commendations at the hands of the Romans, they gave unto them the whole freedome of Romans, whereby they were made Municipies, and became more free in truth than their Colonies could be' (p. 322). A little earlier he says: 'It would seeme when these ancient cities flourished that the same towne, which we now call saint Albons, did most of all excell: but cheefelie in the Romans time, and was not onelie nothing inferior to London it selfe, but rather preferred before it,<sup>53</sup> because it was newer, and made a Municipium of the Romans, whereas the other was old and ruinous' (p. 321). Holinshed speaks more than once of the ruins, which he says he had viewed with his own eyes (p. 323).

The genius of Verolam continues:

To tell the beawtie of my buildings fayre,  
Adorn'd with purest golde and precious stone,  
To tell my riches, and endowments rare,  
That by my foes are now all spent and gone,  
To tell my forces, matchable to none,  
Were but lost labour. . . .

High towers, faire temples, goodly theaters,  
Strong walls, rich porches, princelie pallaces,  
Large streetes, brave houses, sacred sepulchers,  
Sure gates, sweete gardens, stately galleries  
Wrought with faire pillours, and fine imageries,  
All those (O pitie!) now are turnd to dust.<sup>54</sup>

Says Harrison (p. 322): 'Of the beautie of the citie it selfe you shall partly understand by that which followeth at hand.' He then tells how, in King Edgar's time, the abbot Eldred dug in the ruins for material with which to embellish his abbey of St. Alban's. 'He had no sooner begun to dig among the rubbis, but he found an exceeding number of pillers, peeces of antike worke, thresholds, doore frames, and sundrie other peeces of fine masonrie for windowes and such like, verie convenient for his purpose. Of these also some were of porphyrite stone, some of diverse kinds of marble, touch, and alabaster, beside manie curious devises of hard mettall. . . . Besides these also he found sundrie pillers of brasse, and sockets of latton, alabaster

<sup>53</sup> Cf. *Ruins of Time* 99-103.

<sup>54</sup> Ll. 85-97.

and touch, all which he laid aside by great heaps.' Eldred's successor, Edmer, continued the work, and 'not onelie found infinite other peeces of excellent workemanship, but came at the last to certeine vaults under the ground, in which stood divers idols, and not a few altars, verie superstitiouslie and religiouslie adorned. . . . These images were of sundrie mettals, and some of pure gold, their altars likewise were richlie covered.' 'In proceeding further, he tooke up diverse pots of gold, silver, brasse, glasse, and earth, whereof some were filled with the ashes and bones of the gentils.' He found also two old books containing descriptions of pagan rites and the martyrdom of St. Alban. 'Thus much have I thought good to note of the former beautie of Verolamium, whereof infinite other tokens have beene found since that time, and diverse within the memorie of man, of passing workemanship, the like whereof hath no where else beene seene in anie ruines within the compasse of this Ile, either for cost or quantitie of stuffe.'

In the same connection Camden says: 'If I were disposed upon the report of the common people to reckon up what great store of Romane peeces of coine, how many cast images of gold and silver, how many vessels, what a sort of modules or Chapters of pillars, and how many wonderfull things of antique worke, have been digged up, my words would not carry credit. The thing is so incredible' (Hertfordshire, p. 411). He adds a briefer account than Harrison's of the discoveries of Eldred and Edmer.

Theretoo, for warlike power and peoples store,  
 In Britannie was none to match with mee,  
 That manie often did abie full sore:  
 Ne Troynovant, though elder sister shee,  
 With my great forces might compared bee;  
 That stout Pendragon to his perill felt,  
 Who in a siege seaven yeres about me dwelt.<sup>55</sup>

That London was both older and weaker than Verulam was asserted in the passage quoted from Holinshed above on page 93. Of the seven years' siege by Pendragon, Spenser doubtless learned in Camden, who quotes from Alexander Neckam, 'who 400. yeeres since was there borne':

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<sup>55</sup> Ll. 99-105.

Urbs insignis erat Verolamia, plus operosæ  
 Arti, naturæ debuit illa minus.  
 Pendragon Arturi patris hæc obsessa laborem  
 Septennem spreuit cive superba suo.<sup>56</sup>

But long ere this, Bunduca Britonnesse  
 Her mightie hoast against my bulwarkes brought,  
 Bunduca, that victorious conqueresse,  
 That, lifting up her brave heroick thought  
 Bove womens weaknes, with the Romanes fought,  
 Fought, and in field against them thrice prevailed:  
 Yet was she foyled, when as she me assailed.<sup>57</sup>

Both Holinshed and Camden may have lent matter to this passage. Holinshed describes two victories of Bonduca over the Romans (Bk. 4, chap. 12), one at Camelodunum, and mentions the fall of Verulam at the hands of the Britons. Camden says of her expressly: 'Camalodunum Coloniam, et Verolanium municipium excidit' (1590, p. 355). Perhaps Spenser has these three victories in mind when he says that Bonduca 'thrice prevailed.' Yet in the last line he speaks of her being foiled at Verulam. For this I find no authority. In *F. Q.* II. x. 44 she is said to have been finally defeated at the Severn. But for this statement, also, Dr. Harper finds no corroboration.<sup>58</sup> The phrase, 'lifting up her brave heroick thought Bove womens weaknes,' may owe something to the exalted plea to defend their freedom that Bonduca makes to her army in a 'gallant oration' which constitutes Holinshed's eleventh chapter.

In lines 113-9 Spenser speaks of the conquest of Verulam by the Saxons, bought with much bloodshed and the death of their general, whose monument, long a wonder, is now lost. Neither Camden nor Holinshed, nor any other I have seen, speaks of this. Holinshed, in his account of Eldred's excavations, says incidentally that Verulam had now been 'overthrowne by the furie of the Saxons and Danes.' Camden writes: 'Not long after [the year 429], the English-Saxons wonne it: but *Uther* the Britan, surnamed for his serpentine wisdom *Pendragon*, by a sore siege and a long [cf. above, p. 94], recovered it. After

<sup>56</sup> From Neckam's *De Laudibus Divinae Sapientia*, 5. 859-64, ed. T. Wright, Rolls Series, No. 34.

<sup>57</sup> Ll. 106-12.

<sup>58</sup> *Sources of the British Chronicle History*, etc., p. 119.

whose death, it fell againe into their hands' (Hertfordshire, p. 410).

In lines 125-6 Spenser describes the ruins of Verulam as now the haunt of

greislie shades, such as doo haunt in hell  
With fearfull fiends, that in deep darknes dwell.

The suggestion may well have come from the account of the Abbot Eldred's excavations, quoted by Camden from 'an old historiographer.' The abbot, having 'serched for the ancient vaults under ground at Verulam, overthrew all, . . . and stopped up all the waies with passages under ground, which were strongly and artificially arched over head: For they were the lurking hooles of whores and theeves. He levelled with the ground the ditches of the Citie and certaine dennes, into which malefactors fled as unto places of refuge' (1610, p. 411; 1590, p. 317).

And where the christall Thamis wont to slide  
In silver channell, . . .  
There now no rivers course is to be seene,  
But moorish fennes, and marshes ever greene.<sup>59</sup>

The Thames, says Verulam, has fled far away to escape the sight of her miseries. She continues:

There also where the winged ships were seene  
In liquid waves to cut their fomie waie,  
And thousand fishers numbred to have been,  
In that wide lake looking for plenteous praie  
Of fish, which they with baits usde to betraie,  
Is now no lake, nor anie fishers store,  
Nor ever ship shall saile there anie more.<sup>60</sup>

Camden discredits the tradition that the Thames once flowed by Verulam. In speaking of the 'wide lake,' he says that the monks filled it up. 'Ubi nostra memoria cum anchoræ fuerint effossæ, crediderunt nonnulli, corrupto Gildæ loco inducti, Tamisim aliquando hac alveum egisse' (1590, p. 326). But Holinshed appears to be Spenser's chief informant: 'Furthermore, whereas manie are not afraid to saie that the Thames came sometimes by this citie, indeed it is nothing so; but that the Verlume . . . did

<sup>59</sup> Ll. 134-40.

<sup>60</sup> Ll. 148-54.

and doothi so still (whatsoever Gildas talketh hereof, whose books may be corrupted in that behalfe) there is yet evident prooffe to be confirmed by experience. For albeit that the river be now growne to be verie small by reason of the ground about it, which is higher than it was in old time; yet it keepeth in maner the old course, and runneth betweene the old citie that was, and the new towne that is standing on Holmehirst crag, as I beheld of late. Those places also which now are meadow beneath the abbaie, were sometimes a great lake, mere, or poole ["now I am but weedes and wastfull gras," 42], through which the said river ran, and (as I read) with a verie swift and violent course, wheras at this present it is verie slow, and of no such deapth as of ancient times it hath beene. But heare what mine author saith further of the same. As those aforsaid workemen digged in these ruines, they happened oftentimes upon Lempet shels, peeces of rustie anchors, and keeles of great vessels, whereupon some by and by gathered that either the Thames or some arme of the sea did beat upon that towne, not understanding that these things might aswell happen in great lakes and meres, wherof there was one adjoining to the north side of the citie' (p. 323). Spenser seems not only lightly to accept the belief that Thames once passed by Verulam, but contradicts himself by saying, in lines 146-7, that it does so no longer, while in the opening of the poem he appears walking along the Thames,

Nigh where the goodly Verlame stood of yore.

Holinshed continues: 'This mere (which the Latin copie of the description of Britaine, written of late by Humprey Lhoid our countrie man calleth corruptlie "stagnum exanimum" for "stagnum maximum") at the first belonged to the king, and thereby Offa in his time did reape no small commoditie. It continued also untill the time of Alfrijc the seventh abbat of that house, who bought it outright of the king then living, and by excessive charges drained it so narrowlie, that within a while he left it drie, . . . because there was alwaies contention betweene the moonks and the kings servants, which fished on that water unto the kings behoofe.'

It thus appears that while Spenser is praising Camden as the only worthy commemorator of Verulam, he is really much more indebted to Harrison and Holinshed for what he says of her.

What is more, the very words by which he introduces his eulogy of Camden bear a noticeable resemblance to those of Harrison:

But me no man bewaileth, but in game,  
 Ne sheddeth teares from lamentable eie:  
 Nor anie lives that mentioneth my name  
 To be remembred of posteritie,  
 Save one,

namely Camden. Says Harrison: 'Good notice hereof also is to be taken by Matthew Paris, and others before him, out of whose writings I have thought to note a few things, whereby the majestie of this ancient citie may appeare unto posteritie, and the former estate of Verlamcester not lie altogether (as it hath doone hitherto) raked up in forgetfulnes, through the negligence of such as might have deserved better of their successours, by leaving the description thereof in a booke by it selfe, sith manie particulars thereof were written to their hands, that now are lost and perished' (pp. 321-2).

A passage in the third canto of the Third Book, stanzas 7-14, unrelated to the one just considered, but concerned with two rivers in Wales, may not inconveniently be dealt with at this point. It tells of the visit of old Glauce and the love-lorn Britomart to Merlin in quest of his counsel:

To Maridunum, that is now by change  
 Of name Cayr-Merdin cald, they tooke their way:  
 There the wise Merlin whylome wont (they say)  
 To make his wonne, low underneath the ground,  
 In a deepe delve, farre from the vew of day,  
 That of no living wight he mote be found,  
 When so he counseld with his sprights encompast round.

And if thou ever happen that same way  
 To traveill, go to see that dreadfull place:  
 It is an hideous hollow cave (they say)  
 Under a rock, that lyes a litle space  
 From the swift Barry, tumbling downe apace  
 Emongst the woody hilles of Dynevowre:  
 But dare thou not, I charge, in any cace,  
 To enter into that same balefull bowre,  
 For feare the cruell feendes should thee unwares devowre.

But standing high aloft, low lay thine eare,  
 And there such ghasly noyse of yron chaines  
 And brasen caudrons thou shalt rombling heare,

Which thousand sprights with long enduring paines  
 Doe tosse, that it will stonn thy feeble braines;  
 And oftentimes great grones, and grievous stownds,  
 When too huge toile and labour them constraines,  
 And oftentimes loud strokes, and ringing sowndes,  
 From under that deepe rock most horribly rebowndes.<sup>61</sup>

The poet then tells how Merlin, ere he died, planned to encircle Cairmardin with a brazen wall, and enjoined his sprites to accomplish this work. But, lured from this task by the Lady of the Lake, he first bound his sprites to labor at the wall until it should be done, and then followed the lady away in hopeless love, never to return. For she, by false and magic practice, subdued him, and buried him for ever 'under beare.' The noise in the cavern of Cairmardin is the sound of the sprites still fashioning the brazen wall.

As for the geography of this passage, which now concerns us, Spenser locates the cave of Merlin at Maridunum, that is, Cayr-Merdin, now Carmarthen,

a litle space  
 From the swift Barry, tombling downe apace  
 Emongst the woody hilles of Dynevowre.

In point of fact, Spenser is here confusing two localities. Carmarthen and the hills of Dynevor are not 'a litle space' from the cave and the Barry, but more than fifty miles in a straight line further west and a little north. Both places lie along the southern coast of Wales. Carmarthen is near the mouth of the Towy, and some fourteen miles up the river, near Llandilo, is the ancient Dynevor Castle amid the hills. On the other hand, the Barry is a little stream, perhaps ten miles long, now known as the Cadoxton river, which reaches the sea about six miles southwest of Cardiff, opposite a tiny island or promontory called Barry.

Warton, in his note on this passage,<sup>62</sup> refers to the *Itinerary* of Giraldus Cambrensis i. 6. Here we find a part of the material for Spenser's description. Giraldus is speaking of the island of Barry, whence his family came: 'Est autem hic notabile, quod in ipso insulae introitu, in rupe marina apparet rima permodica, ad quam, si aurem apponas, audies operae strepitum quasi fab-

<sup>61</sup> Stanzas 7-9.

<sup>62</sup> Todd's *Spenser* 4. 336.

rilis; nunc follium flatus, nunc martellorum ictus, nunc cotis et ferri sonora fricamina,

Stridentesque cavernis  
Stricturas Chalybum, et anhelum fornacibus ignem.<sup>63</sup>

This phenomenon Giraldus explains by the entrance and exit of the sea.

How Spenser came to confuse the little Barry with the big Towy, which really does tumble down among the hills of Dynevor, is not clear. Possibly the explanation is found in Holinshed. Harrison, in describing the rivers of Great Britain, follows the coast-line westward, discussing each stream and its tributaries as he passes its mouth. In following the south coast of Wales he has passed the Barry and proceeded westward, taking each stream in order. He has just described the Gwendraeth Tawr and the Gwendraeth Fach, the last before you come to the Towy, and is on the point of proceeding with this stream, when, without clear warning, he suddenly returns to resume his account of the Barry. Perhaps Spenser, expecting next to read of the Towy, with characteristic inadvertence may have taken Barry for an alternative name of that river.<sup>64</sup>

The passage about the Barry, quoted above from Giraldus, Spenser could as well have read in Camden, who quotes it in his account of Glamorganshire (1590, p. 516). He also mentions 'Caer-Mardin, which the Britans themselves call Caer Firdhin, Ptolomee, Maridunum' (Carmardenshire, p. 649). On the same page he describes the Towy flowing 'by Dinevor, a princely castle, standing aloft upon the top of a hill, . . . and last of all, by Caer-Marden.' And further: 'In this Citie was borne the *Tages* of the Britans, I meane *Merlin*: For like as *Tages* being the sonne of an evill Angell taught his Countrimen the *Tuscans* the art of Sooth saying, so this *Merlin* the sonne of an *Incubus* Spirit, devised for our Britans prophesies.' Hence it is unnecessary to suppose that Spenser drew any of the material for the passage before us directly from Giraldus.

To return to one or two considerations concerning the *Protha-*

<sup>63</sup> Verg. *Aen.* 8. 420.

<sup>64</sup> Giraldus, *Itin.* I. 10; *Description of Wales*, I. 5; and Camden, Carmardenshire, p. 649, as well as the old maps, are all perfectly clear on this point.

*lamion*, the lost *Epithalamion Thamesis*, and canto xi of the Fourth Book. These works should be regarded not as isolated works, but as specimens of a type not uncommon in their time. Of these I may mention three.

(1) In 1897 there appeared in the *Athenæum*<sup>65</sup> a number of communications, notably from the hands of Wickham Flower, John W. Hales, and Robert Case, on the relation of Vallans' poem, *The Two Swans*, first published in 1590, to Spenser's *Prothalamion*. The discussion, unnecessarily prolonged, leaves it probable that Spenser knew Vallans' poem, and that he echoes it in at least one line of the *Prothalamion* (121). Viewed somewhat more inclusively, it becomes clear that such passages as the eleventh canto of the Fourth Book and the *Prothalamion* are but examples—preëminent of course—of certain types of poems not uncommon in their time. I here give brief resumé of several which could not have been unknown to Spenser.

Vallans' *Tale of Two Swans*, not now found in its first edition, may be read in Thomas Hearne's edition of Leland's *Itinerary*, Oxford, 1769, vol. 5, pp. v-xx. A full antiquarian commentary is included. The poem is written in English blank verse, and contains 266 lines.

It opens with a description of the spring. Venus in Hertfordshire sends Cupid to bring two choice cygnets from Cayster. These she releases, and wins from Jove a promise that they shall increase and prosper. At length as king and queen of a large progeny, they begin their progress through their realm, with a train of forty swans. They visit the course of the River Lea, and traverse its tributaries—the Beane, the Rib, the Ash, the Stort, and others. Then they turn their course down stream, and pass various famous places, such as Theobalds, Ware, Stratford-at-Bowe. At length they reach the mouth of the Lea, where they are received by flocks of swans:

After a noyse in signe of passing joy,  
A Swanne of Thames invites the King and Queene  
Upon a day prefixt, to see and celebrate  
The marriage of two Rivers of great name.  
Which granted, everie one departes his way,  
The King and Queene againe into their Lee.

<sup>65</sup> Vol. of Jan. to June, pp. 378-80; 415-16; 446-7; 480-1; 510; 544; 577-8.

(2) Another poem of this class, published in 1545, forty-five years earlier than the *Two Swans*, is the so-called *Cygnæa Cantio*, in Latin hendecasyllabics, by Leland. It is confessedly an antiquarian work, of 699 lines, with a full commentary by the author, all reprinted in Hearne's *Leland*, vol. 9, pp. 1-108.

In his dedicatory address to Henry VIII, Leland explains that this is his swan-song to the Muses before turning to more serious antiquarian studies. He then cites a multitude of Latin authors in verse and prose to support the tradition of the swan-song. The swan whose song constitutes the poem lives in the island of the divided Isis at Oxford. It tells how it was seized with a desire of roving, and, summoning other swans, chose twelve companions, made a farewell speech, and proceeded on its way, reviewing the beauties and antiquities of various sites down along the Thames—Reading, Windsor, Eton, Richmond, Kew, London, Greenwich, and Deptford. Then, from speaking of England's ships and prowess by sea, it begins a eulogy of Henry VIII, and a review of his works and exploits, which occupy the rest of the poem. At the end, the swan bids its mates farewell, in preparation for its journey to heaven.

(3) The third poem of the group, already mentioned on p. 71, is incomplete, but available in sufficient length for the present purpose. It is written in Latin hexameters, of which some 93 verses survive in Camden's *Britannia*, quoted in fragments at various points.<sup>66</sup> Camden calls it *De Connubio Tamis et Isis*, and is himself probably the author of it.<sup>67</sup> It describes the wedding of the bride, Thame, to the groom, Isis.

<sup>66</sup> 1610, Oxfordshire, p. 373, 6½ lines; pp. 384-5, 61 lines; Middlesex, p. 419, 7 lines; Surrey, p. 298, two passages of 9½ and 9 lines. I give these in what appears to have been their order in the complete poem.

<sup>67</sup> Upton, in his note on *F. Q.* IV. iii. 3 (quoted in Todd's *Spenser* 5. 431), says confidently: 'When Camden was a young man he wrote *The Bridale of the Isis and Tame*'. This is but a guess of Upton's, though probably a correct one. Camden frequently quotes verses, and is usually explicit concerning the author. In this case he mentions no author, but says: 'Poeticam vero fontis descriptionem, ex Tamei et Isis Conubio subjunxi, quam sive admittas, sive omittas, minimi refert' (1590, Oxfordshire, p. 282). On page 285 he again mentions the marriage, 'de quo quidam non ita pridem cecinit'. This probably amounts to a pleasant acknowledgment of authorship. The *Life* prefixed to Gough's edition of the *Britannia*, 1806, and based on Smith's account, enumerates Camden's

The fragments tell first how Isis, on his way to his wedding, passes Radcot Bridge, where Sir K. Vere, Earl of Oxford, was defeated in Richard II's time. As he proceeds, he is arrayed for his wedding by Zephyr and Flora. Meanwhile Thame, hurrying from her hills to meet him, passes Tame and Dorchester. Their union is attended by rejoicing nymphs, satyrs, birds, Echo, and cupids, while Britona sings of how she became an island, and was visited by Hercules, Ulysses, Brutus, and Cæsar. Then, united as Thamesis, they hasten to the sea, passing historic Runnimeade, and later old Sheen, new named Richmond by Henry VII, where died Edward III of noble memory. Here Thames meets the tide, and boasts that all rivers 'vail to him.' No other river so regularly renews its waters except Scheldt and Elbe.

From these fragments and the context it is clear that the poem as a whole was primarily antiquarian, and, like Leland's *Cygnæ Cantio*, was a product of the new antiquarian enthusiasms of the sixteenth century.

In the three poems just described, three motives or themes are distinguishable: A, the journey of the swans; B, the marriage, either in prothalamion or epithalamion, of the rivers; and C, the topographic and antiquarian review of their shores. In most cases A or B is a mere vehicle for C. In the oldest—Leland's poem—A supports C; in Camden, B supports C; and in Vallans, A supports C, with a clear intimation of B at the close. In the case of Spenser's *Prothalamion* A is exquisitely blended with B by transferring the wedding theme from rivers to swans, with a passing intimation of C in stanza viii, especially lines 132-6:

There when they came, whereas those bricky towres,  
The which on Themmes brode aged backe doe ryde,  
Where now the studious lawyers have their bowers,  
There whylome went the Templer Knights to byde,  
Till they decayd through pride.

attempts in verse, and mentions 'The marriage of the Tame and Isis, of which he more than half confesses himself the author' (vol. I, p. xxviii). In a note it quotes Nathanael Salmon's *Hertfordshire*, 1728 (p. 3): 'This poem seems to be of his own composition. He was so delighted with the thought of the name of Tamesis being revived [derived?] from the names and union of the two rivers Tame and Isis: his modest introduction of the verses giving ground for such a conjecture'.

In canto xi B is combined with C, though C is subordinate and incidental to B.<sup>68</sup>

B indeed here becomes elaborate pageantry, and the two elements represent two favorite and dominating interests of the poet.

His love of all that is old is readily apparent to every observant reader. The words 'ancient,' 'antique,' 'old,' 'eld,' and their kind, are always on his lips, often without designation of a particular period, or distinction between myth and history. For his masterpiece he dared revive setting, legend, and apparatus which were long out of fashion and covered with dust. His dialect is everywhere, in varying degree, archaic. He is keenly susceptible to the charm which age and long association with the life of men add to everything—so keenly that this charm sometimes becomes an illusion that deceives him. At the beginning of this pageant of the rivers, he invokes for new inspiration the Muse

To whom those rolles, layd up in heaven above,  
And records of antiquitie appeare.

As in his love of pageantry, so in his love of topographical antiquities, Spenser was of his time. It was the century of Leland, Hall, Stow, Speed, Harrison, Holinshed, and Camden. His friend Sir Walter Raleigh was a member of Archbishop Parker's Society of Antiquaries, and in such works as these men produced, Spenser, from early manhood, found both a stimulus for his poetic powers and material to work on.

That Spenser knew the poems by Vallans and Camden is well-nigh certain. He was never so given as his great Puritan successor to verbal echo and refinement upon the details of his original; therefore one is not surprised to find little evidence that his verses about rivers owed few if any details to similar poems.<sup>69</sup>

Much as two of the nymphs crowned the two swans, when they set out, with garlands of freshest flowers, and sang a song

<sup>68</sup> Cf. stanzas 15, 16, 19, 26, 28, 31-9, 41-3.

<sup>69</sup> The resemblance between *Proth.* 119-21 and a passage in *The Two Swans*, remarked in *Athenaeum* 1897. I. 379, can hardly have been a coincidence.

of gratulation, so in Leland's *Cyanea Cantio* (52-6), when the swan begins his journey, his attendants crowd about:

Aptantes capiti meo coronam,  
Baccatam nitidis et hinc et illinc  
Gemmis, ac niveum aureæ catenæ  
Collum multiplici orbe circinantes  
Postremoque vale vale canentes.

In the same poem, as the swan approaches London—from the west, however—he views the splendid palaces along the Thames,

Quid magnas referam ædium nitelas  
Multarum, radiant suo emicanti  
Quæ nunc lumine, clivus adjacet qua  
Ripæ excelsior, aspicitque lymphas  
Nymphae cæruleas sibi faventis?

He enumerates two or three palaces, but omits Leicester, later Essex, House:

Hinc templi veteris ruina sensim  
Frontem attollere cœpit excitata.

In the *Prothalamion* the swans, ascending the stream, see first the 'bricky towres' of the Temple, and after it the stately Essex House, their journey's end.

Any detailed use of Camden's poem which Spenser may have made has already been noted. But whether these slight resemblances signify or not, it is clear that the *Prothalamion* and canto xi are glorifications of motives not unfamiliar in academic verse.

That Spenser had long meditated such themes appears from his lost earlier work, the *Epithalamion Thamesis*. Critics and editors of Spenser have long been accustomed to say that this lost work is essentially preserved in canto xi, in which it is embodied. So said Upton,<sup>70</sup> and so Miss Helen E. Sandison in the most recent study of the 'lost works.'<sup>71</sup> But evidence has

<sup>70</sup> Todd's *Spenser* 5. 431.

<sup>71</sup> *P. L. M. A.* 25. 148-9. 'If the poem *Ep. Tham.* was actually written, and not merely projected, at that date [1580], as seems very probable, we can reasonably believe that we have in the *Faerie Queene* the actual poem which Spenser described revised only to meet the exigencies of the epic stanza' (p. 149). Some, however, are in doubt whether the *Ep. Tham.* was ever written. See C. A. Harper, *Sources of the British*

for some time been at hand which shows that the *Epithalamion Thamesis* was first written in Latin, and that Spenser projected an English version in quantitative verse, which, even if he completed it, he was never willing to circulate. In his 'Preface to the Reader' Vallans sets forth his reasons for publishing *The Two Swans*.<sup>72</sup> His first object was to illustrate his native Hertfordshire. 'Another reason was, that albeit neither my writing, nor other indeavour whatsoever, be able to perfourm any thing that might either beautifie or adorne the places I speake of: Yet hereby I would animate, or encourage those worthy Poets, who have written Epithalamion Thamesis, to publish the same. I have seen it in Latine verse (in my judgment) wel done, but the Author, I know not for what reason, doth suppress it. That which is written in English, though long since it was promised, yet is it not perfourmed. So as it seemeth some unhappy Star envieth the sight of so good a work: which once set abroad, such trifles as these would vanish, and be overshadowed, much like the Moon and other Starres, which after the appearing of the Sunne are not to be seen at all.' The mention of 'Poets' might prompt the conjecture that at least the Latin version was by another hand than Spenser's, perhaps was the very poem quoted in Camden; but in the letter to Harvey, cited at the beginning of this article, Spenser clearly describes his own labor in composing the poem. In the same letter he says that the English version was to be a specimen of the new quantitative verse. His unwillingness to complete and publish it may well have been the result of his diminishing confidence in this medium. In any case, Vallans' words surely support the conjecture that Spenser never finished, perhaps never began, the English version, but that he went as far as to collect and arrange his material in a Latin poem.

The opinion that canto xi is made of the material of the lost *Epithalamion*, in revised metre, must also be modified. The whole pageant properly occupies stanzas 11 to 53, that is, forty-three stanzas in all. Of these, nine (11-19) enumerate the sea-

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*Chronicle History*, etc., p. 11; R. E. N. Dodge, Cambridge ed. of *Spenser*, p. xiv.

<sup>72</sup> Leland's *Itinerary*, ed. Hearne, vol. 5, pp. vi, vii.

gods, three (20-2) the famous rivers of the world, twenty (23-39; 45-47) the English rivers, and six (48-53) the sea-nymphs. In his letter to Harvey, Spenser has nothing to say about sea-gods, nymphs, or famous rivers other than English; presumably the *Epithalamion Thamesis* did not employ them. Neither could it have contained the review of the Irish rivers, since the matter for that passage, being partly from Camden,<sup>73</sup> but in far the greatest part from Spenser's personal acquaintance with Ireland, was not available till later years. Hence the *Epithalamion Thamesis* could be represented in canto xi only in the part dealing with the English rivers.

But at least half of this matter, as already shown, p. 70, was drawn from Camden's *Britannia*, which did not appear till 1586, not less than six years after the composition of the lost poem. And in his use of Holinshed, Spenser consulted the fuller second edition of 1587 rather than the first of 1577.<sup>74</sup> Then, too, in the letter to Harvey, Spenser had said that he would show in his *Epithalamion Thamesis* not only the Thames' 'first beginning, and offspring,' which he has actually done in canto xi, but 'all the Countrey, that he passeth thorough,' which he has *not* done, though he may have done this in the lost poem.<sup>75</sup> Lastly, the bride at the earlier wedding may not have been the Medway, which is Thames' younger brother at *S. C.* Jul. 83.

Obviously, then, canto xi owes but a small portion of its material to the *Epithalamion Thamesis*, and whatever has been retained from the earlier poem has been so unraveled and rewoven in the new fabric that it could be recognized only in shreds here and there, and, so far as any surviving semblance of the old poem may be sought in the *Faery Queen*, it is lost indeed.

Spenser admits that even by 1580 he had already found that his treatment of this subject involved much labor. It was an

<sup>73</sup> Harper, p. 17.

<sup>74</sup> Harper, pp. 12-15. I cannot find in Spenser's language of 1580 anything to support Dr. Harper's inference, on page 22 of her book, that Spenser was planning to supplement what he got from the first edition of Holinshed with material from other sources.

<sup>75</sup> Such promises, however, Spenser did not keep literally, as in the case of the prefatory letter to Raleigh about the *Faery Queen*, in comparison with the poem itself.

'endlesse worke,' harder than 'to tell the sands, or count the starres,' incapable of perfection, though the poet had 'an hundred tongues, . . . And hundred mouthes and voice of brasse, . . . and endlesse memorie';<sup>76</sup> and as the reader, with an eye to the poet's originals, watches him in the process of selection, arrangement, and adaptation, he cannot doubt the pains which Spenser bestowed upon this episode.

Yet the final effect is anything but laborious. The entire canto is full of life and measured freedom, crowded but well ordered, moving to the finest cadence of Spenser's music. Nor is it composed of mere spectacle and pageantry. Beneath it all one catches the vastly varied sounds of water, its murmur, its tinkle, its rush, its roar. The whole picture is permeated with the spirit of water, and expresses its variableness, power, and beauty as subtly and surely as these are to be felt in *Undine*.

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<sup>76</sup> xi. 9, 53; xii. 1, 2.

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Fossils from Western  
Tennessee

BY  
CARL O. DUNBAR



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## INTRODUCTION

The Devonian is represented along the Western Valley of Tennessee by highly fossiliferous formations of Helderbergian, Oriskanian, and Onondagan age. Unconformably overlying these strata is the widespread but nearly unfossiliferous Chattanooga shale, which is referred with some question to the late Devonian, but which may be of early Mississippian age. The stratigraphy and correlation of these Devonian formations have recently been discussed by the writer elsewhere.<sup>1</sup> During the study of the faunas it was found that a number of characteristic indigenous forms are new to science, and these it is the purpose of the present paper to describe. There are thirty-seven new species, and three new genera.

The accompanying synoptic table (page 114) will indicate the sequence and something of the character of the several Devonian formations. The Linden or Helderbergian group is here well developed, consisting mostly of limestone and calcareous shale, with a thickness of about 250 feet. Three breaks in this sequence separate the Helderbergian of Tennessee into four formations, but one finds it difficult to correlate these divisions in detail with the four divisions of the same group in the Appalachian trough. The reason for this is to be found in the fact that the Devonian of western Tennessee belongs to a southern or Gulf embayment. This epeiric sea was for the most part isolated and measurably independent of the Appalachian trough. In general, the Helderbergian seas were rather restricted in their spread except during the New Scotland epoch, when in many countries there was an expansion of the seas. At this time only, during the Helderbergian, is there clear evidence of direct communication between the Appalachian trough and the southern embayment which was covering western Tennessee; and the Birdsong shale fauna is then so nearly identical with that of the New Scotland of New York as to show not only exact equivalence in age, but also direct faunal inter-dispersions. Even at

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<sup>1</sup> Stratigraphy and correlation of the Devonian of western Tennessee. *Amer. Jour. Sci.* (4), vol. 46, 1918, pp. 732-756. Published in more extended form as Bulletin 21 of the Tennessee Geological Survey, 1919.

## GENERALIZED DEVONIAN SECTION OF WESTERN TENNESSEE

SERIES	GROUP	FORMATION	THICK- NESS	CHARACTER	
Neodevonian	Chautauquan	Chattanooga shale Hardin sandstone member	20'±	Black fissile carbonaceous shale Thin basal sandstone	
	Senecan	<i>Break</i>			
Mesodevonian	Erian				
	Ulsterian	Pegram limestone	10'±	Heavy-bedded white limestone	
		<i>Break</i>			
	Oriskanian	Camden chert	0—200'±	Thin-bedded buff colored novaculite	
		<i>Break</i>			
	Oriskanian	Harriman chert	30—55'	Heavier bedded white and buff novaculite	
<i>Break</i>					
Paleodevonian	Oriskanian	Quall limestone	10'±	Heavy-bedded cherty gray limestone	
		<i>Break</i>			
	Oriskanian	Decaturville chert	6'±	Porous gray chert	
		<i>Break</i>			
	Helderbergian or Linden	Birdsong shale	35—65'	Bluish shaly limestone and shale	
		<i>Break</i>			
		Olive Hill form.	Flat Gap	0—53'	Massive pure limestone
			Bear Branch—Pyburn	0—45'	Massive limestone and oolitic hematite in north — impure cherty limestone in south
Ross		0—60'±	Impure thin-bedded cherty limestone		
<i>Break</i>					
Rockhouse shale	0—26'	Bluish green calcareous shale			

this time, however, the Tennessee faunas retained something of their provincial aspect, for certain highly characteristic forms, such as the Scyphocrini and Camarocrini among the crinoids and *Rensselerina medioplicata*, *Eatonia tennesseensis*, *Gypidula multicostrata* and *Meristella atoka* among the brachiopods, did not spread into the Appalachian trough. Devonian formations having the same faunal facies as that of the Birdsong shale also occur along the Mississippi River in southwestern Illinois and adjacent parts of Missouri and again further to the west in the Arbuckle uplift of Oklahoma. These occurrences of Helderbergian strata serve to indicate something of the extent of this southern embayment, whose eastern shore flanked on the western side of the Nashville Dome and lay not far east of the present Western Valley, and whose northern limit extended some distance beyond Cairo, Illinois.

The equivalence of the Birdsong shale and the New Scotland being evident, it would seem from the stratigraphic relations that the Rockhouse shale has its time equivalent in some part of the Keyser, and that the thick Olive Hill formation is of the age of the Coeymans, if not also of a part of the Keyser. As for the faunal evidence, the fauna of the Rockhouse shale is certainly of very early Devonian age, a fact that is indicated both by Silurian holdovers, as *Dictyonella subgibbosa*, and by the primitive aspect of such Devonian forms as *Pleurodictyum trifoliatum*. No faunal relations with the Keyser can be seen, however, for there was at this time no connection with the Appalachian basin. This small fauna has yielded eleven of the new species here described.

The fauna of the Olive Hill formation is remarkable for the dominance of the Scyphocrini and their associated root-bulbs, the Camarocrini. These crinoids had previously appeared in Tennessee in the Decatur limestone of late Middle Silurian age. They recur in abundance in the Rockhouse shale, are at their climax in the Ross limestone member of the Olive Hill formation, and persist with a few stragglers through the Birdsong shale. They are also extremely abundant in the Helderbergian of Oklahoma. They are particularly characteristic of this southern embayment, where they must have been sequestered from Middle Silurian well into early Devonian time. During

this period they appeared only sporadically in the Appalachian trough, several specimens of *Camarocrinus* having been found in the Manlius of New York, while these anchoring bulbs are common at one thin horizon in the Keyser of Maryland. In other respects, the fauna of the Olive Hill formation is largely made up of species which continue into the succeeding Birdsong formation, and the chief difference in these faunas is the sudden appearance in the Birdsong shale of many new species, the typical New Scotland facies, which now come to mingle with those already present in the Ross limestone.

The Oriskany faunas of the Quall and Harriman formations again show an advent of the Appalachian faunas almost unchanged.

The Camden chert, on the other hand, has a fauna distinctive of the southern embayment, which occupied practically the same position as that of Helderbergian time. It was only during the deposition of the almost immediately succeeding Pegram limestone that communication with the Appalachian seas was again established, and the Onondagan coral faunas attained western Tennessee. The evidence for the Onondagan age of the Camden chert is fully presented in the larger paper mentioned above.

The study of these Devonian faunas was made in the paleontological laboratories at Yale University, and the types of the new species here described are the property of the Peabody Museum. The writer wishes to acknowledge his indebtedness to Professor Charles Schuchert for helpful criticism in the preparation of the paper.

## DESCRIPTION OF SPECIES

CLASS ANTHOZOA

SUBCLASS TETRACORALLA

FAMILY ZAPHRENTIDÆ

### **Zaphrentis parsonsensis**, n. sp.

Plate I, figs. 1, 2

*Description:* Corallite very large, simple, conical, straight, expanding uniformly and rapidly. Apical angle about  $60^\circ$ , so that the diameter of the calyx equals its height. Septa about 120 in number where the diameter of the calyx is 70 mm., alternating long and short. The type specimen is a natural cast which does not show the tabulæ, and they were probably not strongly developed. The length of the septa in the upper part of the cup is not shown, but in its basal portion the longer septa reach the center, where they are twisted into a pseudocolumella.

*Dimensions:* Length, 90 mm.; diameter of calyx, 90 mm.

*Occurrence:* A single specimen, the type, was found in the Harriman chert on Harriman Creek, near Parsons.

SUBCLASS TABULATA

FAMILY FAVOSITIDÆ

### **Favosites foerstei**, n. sp.

Plate I, figs. 3, 4

*Description:* Corallum subhemispherical, the convex base covered with a thick and concentrically wrinkled epitheca which covers all but the youngest corallites. Upper surface, in the fossil condition, flat or concave. At the center of the base is a small point of attachment about which the corallum is symmetrically developed. The prismatic corallites arise from an undefined central axis and quickly bend outward into a horizontal position, which they maintain to the periphery. The corallites vary in diameter from 1.5 mm. to 3.2 mm. at the surface, but the majority measure about 2.3 mm. Each side of a corallite bears two vertical rows of round mural pores, of which a row of ten

pores occupies a distance of 7 mm. to 7.4 mm. Tabulæ somewhat irregularly arranged, eight to twelve in a distance of 10 mm.

*Dimensions:* An average specimen measures 50 mm. in diameter and 25 mm. in height, but there is much variation in size, the largest specimen being 85 mm. in diameter.

*Discussion:* The convex base and horizontal corallites of this species contrast strongly with the flat base and ascending corallites of *F. conicus*, with which it is associated. It most closely resembles the mid-Devonian *F. hemisphericus*, but that species is much larger, has a more pointed and decidedly excentric apex to its base.

*Occurrence:* Common in the Birdsong shale and Ross limestone at localities on Birdsong and Lick creeks, at Perryville, Grandview, Pyburns, etc.

*Name:* The form is named after Doctor August F. Foerste, who recognized it as a distinct species but did not describe or name it.<sup>1</sup>

### **Pleurodictyum trifoliatum, n. sp.**

Plate I, figs. 5-7

*Description:* Small trifoliate corallum, composed of three shallow cup-shaped corallites. The corallites are subcircular on their free sides but are flattened slightly where they are contiguous. Externally they are covered by a wrinkled epitheca. Internally the wall of each corallite is marked by about thirty strongly granulose longitudinal ridges, and the bottom of each cup is irregularly granulose. The common wall between contiguous corallites is irregularly perforated by communicating mural pores. The colony almost invariably consists of three corallites, though a few have been found with only two, and one specimen has but one; there is also a single instance of a colony with five corallites.

*Dimensions:* Diameter of a corallite, 5-6 mm.; height, 3-5 mm.

*Discussion:* The development of this simple colony is readily made out, and it agrees exactly with that determined by Beecher<sup>2</sup>

<sup>1</sup>The Silurian and Devonian limestones of western Tennessee. Jour. Geology, vol. 11, 1903, p. 714.

<sup>2</sup>Beecher, C. E., The development of a Paleozoic poriferous coral. Trans. Conn. Acad. Arts Sci., vol. 8, 1891, pp. 207-212.

for *P. lenticulare*, excepting that the earlier and ancestral species, *P. trifoliatum*, attains maturity at the three-celled stage and usually does not proceed further. The specimen with the initial zooid only is especially instructive, since it was not attached to any solid support and the basal side is therefore free to observation. The corallite appears to be mature, though the lateral buds failed to develop. It is at least suggestive that the lack of the usual solid support for the colony was the reason for this. The places where the buds should have developed are indicated by nodes on the outside of the corallite, and by corresponding pits within. As is to be expected, one of them appeared earlier than the other. Figure 5 of Plate I is also interesting, since the lateral corallites have not covered the prostrate initial portion of the primary corallite. The development of the typical trifoliate corallum took place in the following manner: The initial cell was at first procumbent, spreading rapidly and secreting an attached base. When this base had been completed, the upward growth of the walls began. At this point a lateral cell budded off from one side of the initial corallite, and soon thereafter a second one budded off from the opposite side. These secondary cells spread their procumbent bases, often covering the prostrate apex of the parent cell, and then as they grew upright, developed, with the initial cell, into the regular three-zooid stage as shown in Figure 7, Plate I.

This is the earliest and simplest known species of *Pleurodictyum*. In the succeeding formations of the Linden group, the typical Helderbergian species, *P. lenticulare*, is quite common.

*Occurrence:* Common in the Rockhouse shale at the sulphur spring, 5 miles southeast of Savannah, and at Rockhouse, both on Horse Creek, Hardin County.

CLASS BLASTOIDEA

FAMILY CODASTERIDÆ

*Codaster loræ*, n. sp.

Plate II, figs. 1, 2

*Description:* This rare little blastoid resembles *C. attenuatus* and *C. canadensis* of the Middle Devonian. The calyx is an inverted pentagonal pyramid with an obtusely pyramidal summit.

Basal angle about  $52^\circ$ . Angle between sides and summit slopes about  $120^\circ$ . Ambulacra lanceolate-petaloid. The lancet plate bears two rows of side plates separated by a central food groove and bordered on the outer side by narrow grooves separating them from adjacent radials. The margins of the latter are nearly vertical and the hydrospire slits are practically hidden until the side plates are removed. These slits are only three in number on each side of each ambulacrum. The surface of the calyx plates appears smooth in the specimens studied.

*Dimensions:* Height of calyx, 10 mm.; maximum width, 7 mm.

*Discussion:* The new species may be distinguished from the nearest forms, *C. attenuatus* and *C. canadensis*, by the fact that it is shorter and more robust, its ambulacra narrower and more elongate, and its hydrospire slits fewer in number and less well exposed.

*Occurrence:* Found near the middle of the Birdsong shale,  $1\frac{1}{2}$  miles south of the old Allen's mill on Birdsong Creek, and  $2\frac{1}{2}$  miles northeast of Parsons on the J. P. Rains place.

#### CLASS CRINOIDEA

##### FAMILY AGASSIZOCRINIDÆ

#### *Edriocrinus adnascens*, n. sp.

Plate II, fig. 3

This little crinoid is known only from its base, which was invariably cemented to some foreign object. Although it was rather common, especially in the Birdsong shale, none of the specimens yet found retain the radials and brachials. The depressions for the insertion of the former on the basal cup are, however, clearly shown. The upper side of the basal cup compares closely with that of a much larger but unattached species occurring only in the highest layers of the Birdsong shale. The latter Doctor Frank Springer proposes to describe as *E. pyramidalis*, and of this species, fortunately, he has a complete specimen.

*Description:* Base flat and cemented to some foreign object, usually a brachiopod shell. The central portion is occupied by a broad and very shallow depression, bounded by a low rim, out-

side of which the surface is concave as it slopes away to the margin. The rim of the shallow basal cup is scalloped by six slight, concave depressions for the insertion of the five radials and the anal plate. Since these are all of the same size, the anal was doubtless of about the same width as the radials. These scallops continue to the center of the visceral cup as shallow, concave, radial depressions. Radials and brachials unknown.

There is considerable variation in the size and thickness of these crinoid bases, the height of the rim, and the proportionate size of the cup. Frequently the base is very thin, appearing as a mere circular ring, while in other cases, as in the specimen shown in Figure 3, it is thickened and spreads beyond the margin of the visceral depression.

*Dimensions:* Width of the base of the type specimen, 13 mm.; width of cup, 8 mm.; height of rim of base, 3 mm. Of another specimen: base, 14 mm.; cup, 12 mm.; height, 2.8 mm.

*Discussion:* It is known that *E. sacculus* of the Oriskany was sessile in youth and later became free-living, and it is thought that *E. pocilliformis* may have undergone a similar development. The new species, however, evidently remained attached throughout life. That these are not the bases of young specimens of *E. pocilliformis* is quite evident from their size, their extreme flatness, and especially the fact that *E. pocilliformis* is exceedingly rare in the formations where this species is abundant.

*Occurrence:* Rockhouse shale, at Rockhouse and the sulphur spring. Birdsong shale, at Perryville and numerous localities along Big Lick and Birdsong creeks in Benton and Decatur counties.

#### CLASS BRACHIOPODA

##### FAMILY ORTHIDÆ

### *Dalmanella pygmæa*, n. sp.

Plate II, figs. 4, 5

*Description:* Shell very small, subcircular to subquadrate in outline, and nearly equally biconvex. Hinge-line one-fourth shorter than the greatest width of the shell, cardinal extremities rather sharply rounded. Area narrow and not extending to the extremities of the hinge-line. Surface covered with very fine

striae of which ten to twelve occupy a space of 2 mm. at the anterior margin of the shell. The striae increase by both intercalation and bifurcation, and there is considerable variation from subequal striae in some specimens to distinctly fasciculate striae in others. Pedicle valve strongly convex, with a slight undefined median fold. Beak small and incurved over the cardinal area. Dorsal valve also strongly convex and but little shallower than the pedicle. A distinct but narrow median sinus extends entirely to the beak. Interior characters closely resembling those of *D. subcarinata*.

*Dimensions of a mature individual:* Length, 7 mm.; width, 7.5 mm.; depth, 4 mm.

*Discussion:* This beautiful little species closely resembles the young of *D. subcarinata*, with which it is associated. It is slightly more finely striated and distinctly more gibbous, however, than the young of that species. It has a matured and dwarfish appearance. The subequal convexity of its valves will distinguish it from other described species of this small size.

*Occurrence:* Birdsong shale member of the Linden. At the Swayne's mill locality, at exposures on Big Lick and Birdsong creeks, and at other localities in Benton and Decatur counties.

#### *Dalmanella rockhousensis*, n. sp.

Plate II, figs. 6-8

*Description:* Shell small, subcircular in outline, width equal to or very slightly greater than the length. Hinge-line shorter than the greatest width of the shell, cardinal extremities rounded, cardinal area shorter than half the width of the shell and strongly curved. Ventral valve rather strongly convex, prominent in the umbonal portion, but curving evenly to the front and sides without any fold. Beak small and incurved over the cardinal area. Dorsal valve gently convex, marked by a sinus which is very narrow but distinct at the beak and widens toward the anterior margin, where it is shallow and not sharply defined. Surface covered with very fine radiating striae, which increase rapidly by intercalation and frequently show a distinctly fasciculate arrangement, coarser striae being separated by three or four finer ones. About ten striae in a space of 2 mm. along the margin.

In the ventral valve the hinge-teeth are strong, supported by dental plates which continue forward on the floor of the valve as very slightly diverging ridges reaching to the center of the valve and bounding the small, slender, deeply impressed muscle-scars. The muscle-scar is deeply bilobed in front, each half tapering out to a sharp point alongside the ridges just described. In the dorsal valve the cardinal process is exceedingly minute, the dental sockets well developed, the brachial lamellæ strong and produced forward as a distinct ridge bounding the narrow elongate muscle-scars which reach the middle of the valve.

*Dimensions:* The average specimen has a length of 9 mm.; width, 10 mm.; depth, 4 mm. A large specimen: length, 12 mm.; width, 11 mm.; depth, 6 mm.

*Discussion:* This species resembles *D. postelegantula* of the Decker Ferry of New Jersey, but in comparison with that species it is smaller, more nearly circular in outline, less carinate on the ventral valve, its dorsal sinus extends to the beak, and it is more finely lined. Compared with *D. concinna* of the Keyser formation, this shell is much smaller, more finely lined, lacks the carination of the ventral valve, and has a relatively small cardinal area. It is perhaps closest to *D. elegantula* of the Niagaran, but that species is proportionately longer and its dorsal valve is flat or concave.

*Occurrence:* Common in the Rockhouse shale at the sulphur spring and at Rockhouse, both on Horse Creek, Hardin County.

### *Dalmanella macra*, n. sp.

Plate II, figs. 9, 10

*Description:* Shell transversely subelliptical in outline, hinge-line a little shorter than the greatest width of the shell, cardinal extremities sharply rounded. The ventral valve is subcarinate along the median line, but the lateral slopes are gently concave, giving the shell an emacerate appearance. The dorsal valve is slightly convex in the umbonal region, but concave in the anterior portion. The valve bears a median sinus which is narrow at the beak but widens rapidly anteriorly and loses its distinctness in the general concavity of the valve. Ventral muscle-scars extremely small, almost embraced between the hinge-teeth.

Dorsal muscle-scars similar to those of *D. subcarinata*, but more slender. Surface covered by coarse fasciculated striæ, of which about thirteen occupy a space of 5 mm. at the margin.

*Dimensions:* Length, 15 mm.; width, 17 mm.; depth, 6 mm.

*Discussion:* In outline and carination this shell closely resembles *D. subcarinata*, but in comparison with that species it is more coarsely striated, has a more emacrated appearance, the dorsal valve being concave in the anterior portion, and, internally, the ventral muscle-scars are proportionately less than half as large as in *D. subcarinata*.

*Occurrence:* Rockhouse shale at Rockhouse and the sulphur spring, both on Horse Creek, Hardin County.

FAMILY EICHWALDIIDÆ

*Dictyonella subgibbosa*, n. sp.

Plate II, figs. 11-13

*Description:* Shell of medium to large size, subtriangular in outline. Ventral valve strongly convex in the posterior half, its beak prominent and large and strongly curved over that of the dorsal valve. The sides of the beak form less than a right angle, usually about 80°. The anterior part of this valve is occupied by a broad shallow sinus slightly exceeding one third the width of the shell. The sinus is generally distinctly marked at the front of the valve, but it becomes shallower and indistinct posteriorly, continuing as a mesial flattening entirely to the denuded spot on the beak. The dorsal valve is more gibbous and more nearly oval in outline, its beak strongly incurved beneath that of the opposite valve. At the anterior margin it bears a distinct but broad low fold which becomes lower posteriorly and is lost in the general convexity of the valve near its middle. The surface reticulations are very fine and of nearly uniform size over various parts of the shell. The pits are about as long as wide, and where well preserved appear nearly round or sometimes hexagonal. They are about one-half larger than those of *D. gibbosa* and about one-half as large as the average of those in *D. reticulata*. Counting along a row, twenty-eight to thirty of the pits occupy a space of 5 mm.

*Discussion:* Only fragmentary specimens of this species were

found in the Rockhouse shale in Tennessee, and the description is based upon specimens from the equivalent faunal horizon in the Arbuckle Mountains of Oklahoma. Collections at Yale made by Doctor C. A. Reeds show that the Rockhouse faunal zone is present in Oklahoma between the Henryhouse and Haragan formations.

The shell rather closely resembles *D. gibbosa*, but upon comparison with the type of Hall's species, it was seen to be a distinct form. The distinguishing features may be summed up as follows: The ventral beak in *D. gibbosa* is smaller and more neatly pointed than in the new species. Its ventral sinus is more obscure and is confined entirely to the anterior portion of the valve, the central part of the umbonal region being evenly ventricose, while in the new species the sinus is more sharply defined and extends as a distinct flattening entirely to the beak, as in *D. reticulata*. The coarseness of the surface reticulations is also distinctive, six pits in the new species occupying the space of nine in *D. gibbosa*.

*Occurrence*: Rare in the Rockhouse shale at Rockhouse, Hardin County, but common in an equivalent zone in the Arbuckle Mountains of Oklahoma.

## FAMILY STROPHOMENIDÆ

*Leptæna ingens*, n. sp.

Plate II, fig. 24

*Description*: Shell very large, semi-elliptical, and gently concavo-convex but not geniculate. Hinge-line straight, making the greatest width of the shell; lateral margins usually very slightly contracted below the hinge, curving evenly into the regularly rounded anterior margin. Ventral valve varying from slightly to moderately convex; curvature stronger near the beak and near the anterior margin than over the middle portion of the valve. Muscle-scars strongly impressed, similar to those in *L. rhomboidalis*. Surface marked by fine radial striations as in that species, and the posterior portion, only, bearing rather fine and subdued concentric undulations.

*Dimensions*: Length, 49 mm.; width, 60 mm. Convexity varying from 6 to 12 mm.

*Discussion:* This ponderous *Leptaena* is nearest to *L. ventricosa*, a contemporaneous form in the Appalachian trough, but is larger and readily distinguished by its contour and the subdued character of its corrugations. Externally it resembles some of the large *Leptostrophias* rather than a *Leptaena*, but the deep ventral muscle-scar is distinctly that of the latter genus.

*Occurrence:* Harriman novaculite, near Camden, Parsons, Perryville, etc.

### **Pholidostrophia lindenensis, n. sp.**

Plate II, figs. 15, 16

*Description:* Shell small, semi-elliptical in outline, hinge-line a little longer than the shell in front of it. Ventral valve strongly and evenly arched, almost hemispherical, with the curvature slightly flattened only near the cardinal extremities. Contour of the dorsal valve closely conforming to that of the ventral. Hinge-line denticulate. Surface entirely smooth. Inner layers of the shell coarsely punctate.

*Dimensions:* Length, 9 mm.; width, 12 mm.; depth of convexity, 4.5 mm.

*Discussion:* In its size and contour this little shell resembles *P. (?) niagarensis* of the mid-Silurian, but that species shows distinct striations and has a more gibbous umbonal region. From *P. iowaensis* of the Middle Devonian it differs in being more strongly arched, proportionately longer and narrower, and in the absence of lamellose growth varices.

*Occurrence:* A rare shell in the Birdsong shale, found at Perryville and at the old Swayne's mill site near the mouth of Big Sandy River.

### **Brachyprion purduei, n. sp.**

Plate II, figs. 22, 23

*Description:* Shell semi-elliptical, length generally about three-fourths the width but in some cases equalling the latter. Ventral valve evenly and rather strongly convex, the greatest elevation being near the center, from which point there is an equal curvature to the anterior, posterior, and lateral margins. Hinge-line straight and equalling or slightly exceeding the width of the

shell below. Dorsal valve conforming in contour to the ventral. Surface marked by fine striæ, about twelve of which occupy a width of 5 mm. The striæ are low and rounded and separated by rounded interspaces. They increase rapidly by bifurcation on the dorsal valve, while both bifurcation and intercalation were observed on the ventral valves, the latter predominating. The striæ are crossed by very fine concentric lines. When slightly exfoliated, the shell appears almost smooth, only darker translucent lines marking the former position of the striæ. Shell substance finely punctate. Cardinal area narrow and mostly confined to the ventral valve. Denticulations extending only about half way from the beak to the cardinal extremities, about twenty denticulations in a distance of 5 mm. On the ventral valve the muscle-scars are very lightly impressed, consisting of narrow flabelliform diductors, embracing the narrow adductors, which are close up under the beak.

*Dimensions:* Length, 32 mm.; width, 40 mm.; depth of convexity, 10 mm.

*Occurrence:* Abundant in the Birdsong shale at the "steel bridge" on Big Sandy River, at numerous localities on Birdsong and Big Lick creeks, and at Perryville. Also occurs in the Olive Hill formation at Olive Hill, Grandview, and elsewhere.

*Name:* Species name given in honor of Doctor A. H. Purdue, late state geologist of Tennessee.

### ***Strophonella punctulifera holladayi*, n. var.**

Plate II, figs. 18, 19

*Description:* Shell having the general shape and contour of *S. punctulifera*. Surface marked by a few fine and widely spaced striations, between which are nearly flat interspaces covered with much finer, subdued striæ. The larger striations are sharp and threadlike, less than 0.5 mm. across, and equally as high. They increase by intercalation, in the umbonal region only, so that the interspaces increase in width to an average of 3 mm. at the anterior margin. About thirty of these strong striæ may be counted around the edge of the shell. The obscure secondary striæ, of which ten to twelve occupy a space of 2 mm., are barely visible to the eye. The whole surface is covered by

exceedingly fine concentric lines, of which twenty-five to thirty occupy a space of 2 mm. Occasionally one of the major striæ disappears before reaching the edge of the shell, in which case one of the nearby secondary striæ at once becomes stronger to take its place.

*Dimensions of an imperfect specimen:* Length, about 40 mm.; width, about 50 mm.

*Discussion:* In the Linden formation of Tennessee, *S. punctulifera* has a tendency to fail to normally increase its striæ with growth. For this reason the specimen described is retained as a variety of that highly variable species. In the rather extensive collection made by the writer, however, no closely connecting forms were found to link this new variety to that species. The shell most closely resembles *S. williamsi* of the Niagaran, which is a much smaller species with more distinct secondary striæ.

*Occurrence:* Birdsong shale, on Sycamore Creek, near Holladay.

*Name:* The variety is named for Mr. John Holladay, to whom the writer is indebted for information and fossils from the Sycamore Creek localities.

### ***Strophonella lineolata*, n. sp.**

Plate II, figs. 20, 21

*Description:* Outline semi-elliptical, the length varying between three-fourths and four-fifths the width, the hinge-line usually a little less than the greatest width below. Ventral valve slightly convex in the umbonal region, and evenly concave over the lateral and anterior portions; the dorsal valve conforming in contour, slightly concave near the umbo, and gently convex to the margin but not geniculate. The depth of curvature of the shell equals about one-fourth of its lateral width.

The surface is covered with narrow, sharp striations, separated by concave interspaces that are about twice as wide as the striæ. The striæ increase by intercalation and average about seven in a space of 5 mm. on the middle portion, but usually become finer and more numerous near the anterior margin, where about ten occupy a space of 5 mm.

*Dimensions:* Width, 44 mm.; length, 35 mm.

*Discussion:* This species belongs to the group of *S. punctulifera*, but is distinguished from that form by the fineness of its striations and by being less strongly arcuate.

The fine striations make it closely resemble *S. keyserensis* of the Keyser formation, but that older species is smaller, more elongate, and has the hinge-line more extended.

*Occurrence:* Common in the Birdsong and Olive Hill formations at many localities in Benton and Decatur counties.

***Leptostrophia beckii tennesseensis*, n. var.**

Plate III, fig. 18

*Description:* This fine large *Leptostrophia* is distinguished from *L. beckii* only by the character of the corrugations which ornament its surface. Instead of the fairly regular and even-crested concentric corrugations of *L. beckii*, this variety is marked by concentric ridges that are not only crooked but also undulate in height. The result is the characteristic wavy or "dimpled" surface shown in the figure.

*Occurrence:* This variety is confined to the Birdsong shale, and was found at Perryville and at other localities along Big Lick and Birdsong creeks.

FAMILY PRODUCTIDÆ

***Chonetes wadei*, n. sp.**

Plate II, fig. 14

*Description:* Shell very minute, semi-circular, moderately convex, more strongly arched toward the anterior margin than in the umbonal region. Hinge-line straight and slightly longer than the shell below. A cardinal spine about 1 mm. long and directed slightly outward is located 1 mm. from the beak. Another probably existed near the cardinal extremity. Surface covered by exceedingly fine rounded striations, of which about eleven occupy a space of 2 mm. About sixty may be counted along the margin of the valve. Dorsal valve and interior unknown.

*Dimensions:* Length, 3.5 mm.; width, 6 mm.; convexity, about 1.2 mm.

*Discussion:* This little shell seems to be closest to *C. subacutiradiatus* from the New Scotland of Maryland, from which it differs in being less arcuate, proportionately wider, and in having about twice as many striations and these correspondingly finer.

*Occurrence:* A single well preserved specimen was found near the center of the Bear Branch member of the Olive Hill formation at Olive Hill.

*Name:* Named after the writer's friend, Doctor Bruce Wade, who directed him to many localities in the southern part of the Tennessee valley.

### **Chonetes fornacula, n. sp.**

Plate II, fig. 25

*Description:* Shell minute, very strongly convex, longitudinally semi-elliptical in outline. Greatest width at the hinge-line, below which the sides are very slightly constricted, converging gently to the more sharply rounded anterior margin. Umbo of the ventral valve very gibbous, overarching the hinge-line. Curvature about uniform from beak to anterior margin along the median line, but sharper from the middle of the valve toward the lateral margins and then flattening out near the slightly extended cardinal extremities. Surface covered by relatively coarse angular striæ which increase by intercalation. About fourteen striæ may be counted around the margin of a specimen 4 mm. wide. Cardinal spines not known.

*Dimensions:* Length, 4 mm.; width, 4 mm.; height, 2 mm.

*Discussion:* This minute *Chonetes* belongs to a group of small, arcuate, coarsely striated forms which includes *C. billingsi*, *C. mucronatus*, *C. laticosta* and *C. highlandensis*. The Camden chert species is smaller, proportionately longer, and more strongly arched than any of these forms. It most closely resembles *C. laticosta* of the Corniferous, but in addition to the differences noted above, that species is less constricted in front of the hinge-line.

*Occurrence:* Rare in the Camden chert, in the vicinity of Camden.

**Chonetes hudsonicus camdenensis**, n. mut.

Plate II, fig. 17

*Description:* Shell of medium size, almost semi-circular in outline. Greatest width at the hinge-line, beneath which the lateral margins are very slightly contracted and then round evenly into the nearly transverse anterior margin. Pedicle valve varying from nearly flat to gently and evenly convex, except where slightly flattened toward the cardinal extremities. Its cardinal margin commonly shows one short spine near the cardinal extremity, directed outward at an angle of 50° or 60° from the beak. There are indications of two pairs of smaller spines nearer the beak. Surface covered by very fine radiating striæ of which about twenty occupy a space of 5 mm. Striæ increasing by both intercalation and bifurcation.

*Dimensions of an average specimen:* Length, 12 mm.; width, 19 mm.; convexity, 2.5 mm.

*Discussion:* This shell closely resembles *C. hudsonicus* of the Oriskany. It averages fully one-half larger, however, and does not show any sign of a ventral sinus such as the New York form possesses.

*Occurrence:* Rare in the Harriman novaculite and common in the Camden chert at many localities in Benton County.

## FAMILY PENTAMERIDÆ

**Gypidula multicostata**, n. sp.

Plate III, figs. 12, 13

*Description:* Shell subtrigonal in outline. Ventral valve strongly convex and much larger than the dorsal. Its beak narrow and strongly arched, but not incurved over that of the opposite valve. The sides diverge regularly to their greatest width at about three-fourths to four-fifths the distance to the front of the shell, then round abruptly into the broad and very slightly emarginate anterior margin, so that the outline is almost an isosceles triangle. Dorsal valve transversely elliptical and gently convex. A broad but low flat fold occupies the median half of the ventral valve, becoming obsolete before reaching the beak, and a corresponding sinus is present on the dorsal valve. The fold and sinus bear each ten to twelve slender, sharp, angu-

lar plications separated by angular grooves of equal width, while the inner part of each lateral slope is marked by four or five obscure plications; of which the outer is the most indistinct. Beyond these, the lateral slopes are smooth. The spondylium in the ventral valve is similar to that of *G. coeymanensis*, but considerable variation may be noted in the development of the median septum which supports it. In some specimens the septum is strong and in a few entirely absent.

*Dimensions:* Length, 40 mm.; width, 40 mm.; thickness, about 25 mm.

*Discussion:* The species is readily distinguished from all other described ones by the large number and slenderness of its plications. It is most closely related to *G. coeymanensis*, but that species has fewer and much coarser plications and reaches its greatest width nearer its mid-length.

*Occurrence:* Birdsong shale, at numerous localities in Benton and Decatur counties, especially along Birdsong Creek, at Perryville, etc.

#### FAMILY RHYNCHONELLIDÆ

### *Rhynchotreta insinuata*, n. sp.

Plate III, figs. 1, 2

*Description:* Shell small, subtriangular, width and length equal. Posterolateral sides angulated and vertical, slightly concave, meeting at the beak with an angle of less than  $90^\circ$ . Beak pointed and erect. Valves subequally convex, without either fold or sinus, flattened in the central portion, angulated at the posterolateral edge and abruptly truncated around the anterior margin. Thickness of the shell about equal from umbo to lateral or front margin. The dorsal valve bears nine and the ventral ten small rounded plications, separated by wider, concave interspaces. Plications mostly simple, reaching to the beak, but two are added by bifurcation on the dorsal valve and one by intercalation on the ventral.

*Dimensions:* Length, 10 mm.; width, 10 mm.; depth, 5 mm.

*Discussion:* The interior of this little shell is unknown, but its vertical posterior sides and erect pointed beak suggest its reference to *Rhynchotreta*. It most closely resembles *R. transversa* of the Coeymans formation of New Jersey, but is larger

and differs distinctly in its truncated anterior margin and in the absence of a fold and sinus.

*Occurrence:* Birdsong shale, the single known specimen being found at the Swayne's mill locality near the mouth of Big Sandy River.

***Wilsonia wadei*, n. sp.**

Plate III, figs. 3, 4

*Description:* Shell small, subglobular or subpentahedral in form; deepest and strongly truncate at the front margin; length, breadth, and height about equal. Ventral valve depressed convex, but sharply deflected, almost angulated along the margins; beak short and small, neatly incurved. A mesial sinus begins about the middle of the valve and is produced anteriorly into a narrow linguiform extension that is sharply deflected at right angles to the plane of the valve. Dorsal valve about as deep as the ventral, also gently convex and steeply angulated at the margins. A fold on the anterior portion corresponds to the sinus of the opposite valve. The surface bears low rounded plications, of which one occupies the sinus, two the fold, and three each lateral slope. Rarely in large specimens there are two plications on the sinus and three on the fold. The plications become obsolescent near the beak.

Internally the hinge-plate in the dorsal valve bears a crural cavity as in *Camarotachia*, and the cardinal process is wanting.

*Dimensions:* Length, 9 mm.; width, 9 mm.; height, 8.5 mm. Of a large specimen: 11 mm., 10.5 mm., and 9.2 mm. respectively.

*Occurrence:* Common in the Birdsong shale and less abundant in the Ross limestone at Grandview, Perryville, Big Lick Creek, Birdsong Creek, etc.

***Uncinulus lindenensis*, n. sp.**

Plate III, figs. 5, 6

*Description:* Shell of medium size, subpentahedral in form, subtriangular to subpentagonal in outline, as wide as or wider than long. Ventral valve almost flat, shallow and steeply angulated at the margins. A flat shallow sinus is visible only near the anterior margin, where it is produced into a very long

linguiform extension, sharply deflected at right angles to the valve. Dorsal valve very deep, sharply deflected at the margins into the deep, nearly vertical sides, highest in front, and sloping with depressed convexity to the beak. Beaks small, and postero-lateral sides often concave. Surface marked by rounded plications, of which three or four occupy the sinus, four or five the fold, and five or six each lateral slope. Anteriorly the plications are marked with a fine median line.

*Dimensions:* Length, 15 mm.; width, 14 mm.; height, 15.5 mm. A broad specimen measures: Length, 15 mm.; width, 16.8 mm.; height, 16.5 mm.

*Discussion:* This species resembles *U. abruptus* and *U. nucleolatus*, but differs from either in the flatness of its ventral valve (especially the umbonal region); in the slightness of its fold and sinus, and the smaller number of plications on the fold and sinus.

*Occurrence:* Common at most exposures of the Birdsong shale and the Ross limestone.

#### ***Eatonia tennesseensis*, n. sp.**

Plate III, figs. 9-11

*Description:* Shell ovate to subtriangular. Ventral valve depressed convex in the middle near the beak, but gently concave between this point and the deflected margins; below the middle extended into a broad deep sinus which bends upward in front, in the more gibbous forms coming to lie almost at right angles to the plane of the valve. A sharp angular inflection of the posterior and lateral margins makes a distinct false cardinal area which extends to the anterolateral corners. Beak small and perforate, tightly incurved over that of the opposite valve so as to hide the deltidial plates which cover the delthyrium. The pedicle foramen is resorbed through the apex of the valve. Dorsal valve gibbous, elevated anteriorly into a fold which corresponds to the sinus of the opposite valve. The posterolateral margins are gently inflected so as to form with the inflected margin of the opposite valve a concave space extending from the beak along each side of the shell.

In the interior the ventral muscular impression is large, elongate oval, sharply defined by an elevated border, and divided by a very low rounded septum. Just posterior to its middle are

the very small, elongate, and more deeply impressed adductor scars. The diductor scars are marked by less distinct radiating lines. Teeth small, supported by dental lamellæ which are adnascent to the thickened sides of the shell. In the dorsal valve the cardinal process is very large, consisting of a thickened trunk which ends anteriorly in a short low median septum, and posteriorly it is cleft into two apophyses which are directed posteriorly and downward into the opposite valve. These apophyses converge and unite into one at the beak on the posterior side. The surfaces of attachment are medially grooved. From the sides of the trunk of the cardinal process arise the stout short crura.

Surface marked by rather coarse striations crossed by exceedingly fine concentric growth-lines. There is also an incipient development of plications which appear only near the front margins, being quite distinct in some specimens and scarcely defined in others. They are low and rounded and separated by rounded interspaces. There is a tendency to be four on the fold and three on the sinus, with three fainter ones on each lateral slope, but on some specimens the latter are very indistinct or absent, while one large specimen shows only three plications on the fold. There is a very slight median depression on the posterior half of the dorsal valve.

*Dimensions of an average specimen:* Length, 23 mm.; width, 21 mm.; depth, 15 mm.

*Discussion:* This species is nearest *E. singularis*, but compared with that shell it is much larger, proportionately narrower, its fold and sinus are not so sharply defined, its striations are much coarser, and it is distinctly characterized by its rounded plications. Compared with *E. peculiaris*, it is much larger and broader in the anterior portion, it shows a distinct median depression over the dorsal umbo which that species does not have, its striations are coarser, and there are internal differences in the muscle-scars, the diductors being relatively larger and more quadrate and the adductors in the ventral valve being relatively nearer the beak. The new species is readily distinguished from this and all other described species by its rounded hemiplications.

*Occurrence:* Common in the Birdsong shale at Perryville, various localities on Big Lick and Birdsong creeks, and especially

in the upper layers of the shale on the lower course of Big Sandy River.

**Eatonia fissicosta, n. sp.**

Plate III, figs. 7, 8

*Description:* Shell planoconvex, transversely ovate in outline. Ventral valve varying from slightly concave to gently convex as a whole, with a sharper convexity for a short distance below the beak. A narrow sinus begins near the middle of the valve, widening gradually and becoming deep at the front, where it forms a linguiform extension. The sinus is bounded by sharp ridges on either side, which correspond to depressions on each side of the fold of the opposite valve. Hinge-line slightly declining from the beak, which is small and neatly incurved, hiding the deltidium. The beak is perforate as in *E. tennesseensis*. A well developed false cardinal area is present on each side of the beak. Dorsal valve gibbous. The high and narrow fold does not reach to the beak. Ventral muscular impression essentially similar to that of *E. tennesseensis*. Surface with many rather fine angular plications which rapidly increase by bifurcation. A stronger one usually occupies the center of the sinus. The rate of bifurcation is irregular, and the number of plications increases with size, but an average specimen has eight on the fold and twelve on each lateral slope. This character of bifurcating plications, to which the name alludes, is sufficient to distinguish the species from any other known *Eatonia*.

*Dimensions of a medium specimen:* Length, 16 mm.; width, 18 mm.; depth, 12 mm. One very large specimen almost doubles these measurements.

*Occurrence:* Common in the Rockhouse shale at the Rockhouse locality on Horse Creek.

FAMILY CENTRONELLIDÆ

**Oriskania condoni (McChesney)**

Plate III, figs. 16, 17

*Rensselaeria condoni* McChesney, New Pal. Fossils, 1861, p. 85; Trans. Chicago Acad. Sci., 1868, p. 36, pl. 7, fig. 2.—Meek and Worthen, Geol. Surv. Illinois, vol. III, 1868, p. 401, pl. 8, fig. 4.

*Newberria ? condoni* Hall, Tenth Ann. Rept. New York State Geologist, 1891, p. 95 (p. 7 of extract).

*Megalanteris condoni* Hall and Clarke, Pal. New York, vol. 8, pt. II, 1893, p. 280.—Savage, Am. Jour. Sci. (4), vol. XXV, 1908, p. 437.

*Remarks:* Although the exterior of this shell is well known, its interior characters have not heretofore been described. The sharp molds and casts of the species in the Camden chert clearly show the characters of muscle-scars and cardinal process, and one specimen preserves the loop entire. The cardinal process is large and elevated, its posterior face forming an angle of about  $45^{\circ}$  with the plane of the valve.

This surface bears a high, thin, vertical median ridge bounded by deep, narrow muscular grooves. The cardinal process thus closely resembles that of *O. lucerna* (Maryland Geol. Surv., Lower Devonian volume, pl. 67, fig. 24). Because of this character, the species is here referred to the genus *Oriskania*.

The loop closely resembles that of *Beachia suessana*. The descending lamellæ join to form a flat triangular plate which makes the anterior part of the loop. This plate is broader and shorter than in a similar specimen of *B. suessana* before the writer, and the descending lamellæ are more evenly arched so that the outline of the loop is subcordate. The slender projection from the posterior edge of the triangular plate extends almost to the ends of the crura.

*Occurrence:* A very common shell in the Camden chert of Tennessee and in the Clear Creek chert of southern Illinois.

***Megalanteris* (?) *saffordi*, n. sp.**

Plate III, figs. 14, 15

*Description:* Externally resembling closely *M. (?) ovalis* both as to size and contour, this species could scarcely be distinguished from the latter except by interior characters. The sharp external molds of the new species show distinct though low striations over its surface which would help to distinguish it, the surface of *M. (?) ovalis* being practically smooth.

Internally the cardinal process is a little more highly specialized than that of *M. (?) ovalis*, the median ridge upon its summit arising as a high vertical plate, more elevated than that

of the latter species, though not so narrow as the same plate in *Oriskania*.

The shape of the loop, which is preserved in two of the writer's specimens, is the character which definitely convinced him that this is really a distinct species. The descending lamellæ diverge rapidly at first, and then by an almost even curvature arch forward and then inward to where they meet anteriorly. The loop thus formed is about as broad as long and subcircular in shape. A slender process projects backward and upward from the front center of the loop and a similar narrow process extends straight forward from the center of the loop. The triangular plate-like expansion of the loop seen in *M. (?) ovalis* and *Beachia suessana* is here lacking. The loop in both specimens has a drusy coating of tiny quartz crystals, and it can not be demonstrated that the front margin of it was not broken off before fossilization. Still, it is scarcely likely that both were broken and both in the same shape, and it seems highly probable that the loop is practically perfect, and as drawn in Figure 15. Regardless of the front portion, the back part of the loop is broader and more evenly curved and rounded than in *M. (?) ovalis*.

The genus *Megalanteris* is in doubtful standing. If Suess' determination of the nature of the loop in the genotype be correct, then neither this shell nor *M. (?) ovalis* has any relation to that genus. There seems to be doubt on this point, and the writer therefore has followed the New York Geological Survey in referring these species doubtfully to *Megalanteris*.

*Occurrence:* A common shell in the Harriman novaculite, near Camden, Parsons, and Grandview.

FAMILY SPIRIFERIDÆ

*Delthyris cyrtinoides*, n. sp.

Plate IV, figs. 1-3

*Description:* External aspect identical with the less alate forms of *D. perlamellosa*. Hinge-line varying from slightly less to a little greater than the width of the shell below. Cardinal angles varying from sharp to slightly rounded. Area one-fourth to one-third as high as long. Deltidium very narrow.

Surface marked by three or four strong narrow plications on each side of the prominent fold and sinus, which are crossed by strong concentric imbricating lamellæ as in *D. perlamellosa*. The distinctive features are internal: the strong dental lamellæ of the ventral valve converging below, uniting with the sides of the strong median septum just before reaching the bottom of the shell; the septum continuing upward into the V-shaped structure thus formed by the dental lamellæ.

*Dimensions of an average specimen:* Length, 18 mm.; width, 23 mm.; depth, 13 mm.

*Discussion:* The *Cyrtina*-like structure formed by the dental lamellæ is a case of parallelism and does not indicate a relation to *Cyrtina*. The new species is closely related to *D. perlamellosa*, but on the average it is much smaller and less alate, while the convergence of the dental lamellæ and their fusion with the strong median septum are distinctive features.

*Occurrence:* Rockhouse shale, at the sulphur spring and at Rockhouse, both on Horse Creek, Hardin County.

#### ***Delthyris octocostata tennesseensis*, n. mut.**

Plate IV, figs. 8, 9

*Description:* This common *Spirifer* of the Linden group in western Tennessee very closely resembles the earlier *D. octocostata* of the Keyser formation of Maryland. It differs from the latter in being proportionately shorter and more transverse, the ratio of length to breadth being 3 to 5 as compared with 4 to 5 in the Maryland form. There is also a tendency to have more plications which diverge less rapidly, the mutation frequently developing eight and occasionally ten, whereas the species usually has six and rarely eight. The ventral beak is more erect, the cardinal area is proportionately larger, more clearly defined, less curved, and more nearly in the plane of the valve. The deltidium is wider. The dorsal valve is proportionately smaller and its beak less prominent.

*Dimensions:* Length, 16 mm.; width, 25 mm.; depth, 16 mm.

*Occurrence:* Common in the Birdsong shale and rare in the Ross limestone at Grandview, Perryville, Big Lick Creek, Birdsong Creek, etc.

**Trematospira bella**, n. sp.

Plate IV, figs. 4, 5

*Description:* Shell small, gibbous. Hinge-line shorter than the width of the shell, cardinal extremities rounded. Surface very strongly plicate. Valves subequally convex. The ventral valve has a deep sinus bordered by a very high, narrowly rounded plication on either side. Two smaller slender plications occupy the sinus, and there is an additional sharp plication on each lateral slope. The sinus is continued into a linguiform extension that is strongly arched up almost at right angles to the plane of the valve. The ventral beak is perforated by a small rounded foramen but is tightly incurved over that of the opposite valve. The dorsal valve has a high median fold occupied by three narrow plications, and each lateral slope is occupied by two high, sharply rounded plications. A few lamellose lines of growth are prominent near the anterior margin of the shell.

*Dimensions:* Length, 10 mm.; width, 13.5 mm.; thickness, 10 mm.

*Discussion:* This little shell very closely resembles *T. gibbosa* of the Hamilton, from which it differs in being smaller and in having only two plications on each lateral slope, while that species has three or four. The ventral beak is also more tightly incurved. These shells are so much alike that we can not avoid the conclusion that the new species is the ancestor of the Middle Devonian one.

The little form figured in Volume 8, Part II, of the Paleontology of New York (Pl. 83, figs. 21-23) and named *T. tennesseensis*, is of the same size as our species, but it has a different aspect. It has but one plication in the sinus and two on the fold, while the lateral plications are broader and blunter. Hall and Clarke's species has, in fact, no conspicuous fold and sinus, and in the profile view does not present the truncated appearance of the anterior margin which characterizes the new species. Its hinge-line is also not so straight and the ventral beak is more erect, exposing the deltidium.

*Occurrence:* The holotype was found in the Birdsong shale at the old Swayne's mill locality near the mouth of Big Sandy River, Henry County.

**Trematospira costata angusta**, n. var.

Plate IV, figs. 6, 7

This variety of *T. costata* which occurs in the Birdsong shale of Tennessee differs from the New York form chiefly in proportion of length to breadth. In New York, the shells are less than half as long as wide, and each lateral slope bears five or commonly six plications; in Tennessee, the length is about three-fourths the width, and the lateral slopes have only five plications. This narrower and elongate form is therefore a clearly distinguished variety, though in all its other characters it agrees fully with Hall's species.

*Dimensions:* Length, 17 mm.; width, 22 mm.; thickness, 11 mm.

*Occurrence:* Rather rare in the Birdsong shale at the old Swayne's mill locality on Big Sandy River, Henry County.

## CLASS GASTROPODA

## FAMILY PLEUROTOMARIIDÆ

**Saffordella**, n. gen.

*Diagnosis:* Shell depressed subconical, consisting of a few rapidly expanding whorls that are rounded subangular at the periphery. Base convex, umbilicus small or lacking. Aperture oblique, subquadrate, and deeply notched. Depth of slit unknown. Slit-band distinctly defined by a sharply depressed line along its upper and lower margins. Band broad, gently convex, and situated entirely upon the upper slope of the whorl, its lower margin not reaching quite to the periphery. The growth-lines on the upper slope swing strongly backward to the slit-band with a sigmoidal curvature, being convex forward near the suture and concave forward near the band. On the lower side they first run strongly forward and then recurve near the base, but finally bend forward again upon entering the umbilical depression. The lines of growth crossing the slit-band are notable because their curvature is convex forward.

In general appearance this genus most closely resembles *Eotomaria*, from which it may have been derived. It is readily distinguished from the latter, however, by the characters of the slit-band. In *Eotomaria* the band is concave, it is proportion-

ately narrow, its lines of growth are concave forward, and its lower margin is at the periphery. In the new genus, the band is convex, broad, its lines of growth arch forward, and it is located above the periphery of the whorl.

The genus is erected to receive the new species *S. tennesseensis*, which is the genotype.

*Etymology:* The genus is named in honor of Tennessee's great geologist, Professor James Safford.

***Saffordella tennesseensis*, n. sp.**

Plate IV, fig. 17

*Description:* Shell depressed subconical, consisting of about three and a half rapidly enlarging whorls. Apical angle about  $90^{\circ}$ . Base ventricose and practically imperforate. The last whorl much larger than all the preceding ones. In the two earliest volutions the whorls are well rounded and the sutures rather deep, but with growth the later whorls become more quadrangular in section, the lower and upper slopes becoming flattened and the periphery bluntly rounded angular. The suture at the same time becomes shallower. The aperture is subquadrate, as deep as wide, broadly and deeply notched at the periphery, and also marked by a rounded sinus next to the columella. The slit-band is 4.5 mm. wide and located on the upper slope of the whorl, its lower margin being about 1 mm. above the ambitus. The band is clearly delimited by shallow depressed margins. It is gently convex and its growth-lines arch forward to an extent about half as great as the width of the band, indicating that its apertural margin must have been a short rounded crest either at the base of the notch or within the slit, if indeed the shell possessed a slit. Surface of the shell marked only by fine lines of growth. On the upper slope, these lines, taking a sigmoidal course, bend strongly backward to the band, while on the under slope they first run strongly forward, then curve backward in crossing the ventricose center of the base, and finally forward again as they reach the inner lip.

*Dimensions:* Height, 40 mm.; width, 39 mm.; height of aperture, 24 mm.; width of same, 24 mm.

*Occurrence:* A single specimen was found in the Rockhouse shale at Rockhouse on Horse Creek, Hardin County.

**Distemnostoma**, n. gen.

*Diagnosis:* Shell low to moderately high spired, consisting of three to five or six volutions. Whorls deeper than wide, and either rounded above or flattened to form a nearly horizontal shoulder. Aperture higher than wide, with a broad notch and a short slit at its top and a deep channel at its base. Slit-band broad and situated entirely upon the upper side of the whorl. The inner margin of the band lies along the median line of the top of the whorl, and its outer margin is at least the width of the band above the ambitus. Inner lip entire, thin. Umbilicus narrow or lacking.

*Genotype:* *D. princeps*, n. sp.

The type of this genus resembles that of *Omospira* in its flattened shoulder and in the high position of the band. It appears to represent an entirely independent development, however, since its aperture was deeply channeled at the base, while that of *Omospira* was rounded, and it had a slit and a true slit-band, whereas Ulrich states that his genus had no slit. These characters show important differences in the soft parts of the animals' bodies. The above mentioned characters suffice to distinguish the genera, but in addition the band in the new genus is even higher up on the upper surface of the whorl than in *Omospira*. Indeed, in this respect it is distinguished from all other genera of its family. In most of the Pleurotomariidae the band is on the side of the whorls and intimately related to some peripheral angulation. In *Omospira*, it is seen to have moved to the upper side of the shoulder, but here it reaches an extreme of migration to the top of the whorl, when in *D. princeps* the inner margin of the band is actually hid in the suture.

*Etymology:* δῖς, double, + τέμνω, to cut, + στόμα, mouth.

**Distemnostoma princeps**, n. sp.

Plate IV, figs. 18, 19

*Description:* Shell high-spired, consisting of four or five gradually expanding volutions; apical angle about 65°. Whorls subtriangular in cross-section, the upper surface flattened and nearly horizontal, meeting the outer and inner sides in narrowly rounded shoulders; sides depressed convex and converging

equally to the narrowly rounded base. Each whorl rises nearly its entire height above the succeeding one, covering only the inner half of the flattened upper side of the latter. Umbilicus very narrow or lacking. The early whorls more rounded than the later ones.

Aperture subtriangular, a little higher than wide, notched above by a broad, short slit, and deeply channelled at the base. Outer lip thin and extending forward as a lateral crest. Inner lip entire and thin.

A broad slit-band occupies the horizontally flattened shoulder of the whorl, its inner margin lying in the suture and the outer margin being just above (within) the line where the shoulder begins to curve into the outer side of the whorl. The band is delimited by a sharply depressed line along each edge. It varies from depressed convex to more strongly convex along its median line and concave near the outer margin. The lunulæ show an unusual irregularity in their curvature in the most perfectly preserved specimen, though this may be a pathological condition. The normal direction seems to be obliquely backward and outward for over halfway across the band, and then forward again with a sharper curvature, as in *O. laticincta*. On the last half whorl of the best preserved specimen, the lunulæ are doubly bent, arching strongly backward near either margin and forward near the center of the band. This irregularity is suggestive of an injury to the exhalent siphon.

Surface marked by fine uneven lines of growth. On that portion of the upper surface covered by the preceding whorl, these lines curve strongly backward to the slit-band, becoming tangential with its inner margin. From the outer margin of the band they first run sharply forward, but having crossed the periphery, they descend nearly vertically and with a gentle curvature across the outer side. They arch strongly backward in crossing the narrowly rounded base, conforming to the margin of the deep channel. Certain of the stronger varices of growth can be followed across the band, and they seem to indicate that the slit was only 5 to 7 mm. deep.

*Dimensions:* Height, 34 mm.; width, 24 mm.; height of aperture, 17 mm.; width of same, 12 mm.; width of band, about 4.5 mm.

*Occurrence:* Rockhouse shale, at Rockhouse, on Horse Creek, Hardin County.

***Distemnostoma curtum*, n. sp.**

Plate IV, figs. 10-12

*Description:* Shell small, consisting of two and a half or three rapidly expanding whorls; spire depressed, the inner volutions rising only a little above the outer one. Suture deep. Whorls subovate in cross-section, almost twice as high as wide, the greatest width being about one-fourth the distance below the top. Aperture ovate, with a broad notch and short slit at the top, and deeply channeled at the bottom. Inner lip entire, straight, and thin. Base with a moderately narrow umbilicus.

Slit-band of medium width, situated upon the outer half of the rounded upper side of the whorl. Its inner margin follows the central and highest line of the whorl, and its outer one is about the center of the rounded shoulder but well above the ambitus.

Surface marked by fine, uneven lines of growth that curve strongly backward from the suture to the band, and on the outside of the band first run strongly forward and then descend over the outer side with a gentle curve to near the base, where they arch strongly backward and then forward again on entering the umbilicus, thus conforming to the deeply channeled margin of the aperture.

*Dimensions:* Height, 14 mm.; width, 16 mm.; height of aperture, 12 mm.

*Occurrence:* Rockhouse shale, at Rockhouse, on Horse Creek, Hardin County.

(?) FAMILY STROPHOSTYLIDÆ

***Aulopea*, n. gen.**

*Diagnosis:* Shell low-spired, of few gradually but rapidly expanding whorls that are laterally compressed and much higher than wide. Aperture elliptical, nearly vertical, deeply channeled at the base. Inner lip thin and somewhat wrinkled, bounding a deep, narrow umbilicus. Surface marked by lines of growth only.

*Genotype: A. nelsoni*, n. sp.

The general form of this type of shell resembles on the one hand *Holopea*, and on the other *Diaphorostoma* and *Platyceras*, but from these associated genera it is readily distinguished by its laterally compressed whorls, and especially the deeply channeled aperture.

*Etymology: αὐλός*, channel, + *ὄπη*, aperture.

### ***Aulopea nelsoni*, n. sp.**

Plate IV, figs. 14-16

*Description:* Shell low-spined, of about three gradually expanding volutions. Whorls laterally compressed, almost twice as high as wide, rather narrowly rounded below and above, widest a little above the middle. The outer side of the whorl is marked by a broad, slightly concave zone that is more clearly defined above than below. The inner whorls rise only a short distance above the outer. Suture rather deep. Base with a deep but moderately narrow umbilicus. Aperture narrowly ovate, rounded above, and having a deep, rounded channel at the base. Inner lip thin and somewhat wrinkled where it bounds the umbilicus, and very thin but entire where in contact with the preceding whorl. Surface marked by fine lines of growth, and more distant, uneven, and coarser growth varices. The growth-lines are curved so as to be gently concave forward on the upper side of the whorl and broadly convex forward on the outer side. A distinct grooved line running along the outer edge of the base marks the outer side of the anterior channel. At this line the growth-lines are sharply deflected backward and then cross the base with an even curvature, swinging forward again as they enter the umbilicus. These lines indicate that the channel in the aperture was about 5 mm. deep.

*Dimensions:* Height, 30 mm.; width, 27 mm.; height of aperture, 22 mm.; width of same, 13 mm.

*Occurrence:* Rockhouse shale at Rockhouse on Horse Creek, Hardin County.

*Name:* This gastropod is named after the state geologist of Tennessee, Mr. Wilbur A. Nelson.

**Holopea planidorsata**, n. sp.

Plate IV, fig. 13

*Description:* Shell small, of three or four whorls wound in a moderate spire; apical angle about  $90^\circ$ . Base hemispherical, with a very tiny umbilicus or none. Whorls flat and horizontal on top, with the shoulder rather sharply rounded. The ambitus is just below the shoulder, and from here to the axis of the base the whorl is strongly and evenly convex. Each whorl rises about three-fourths its height above the succeeding, and the sutures are deep. The younger whorls are more evenly rounded than the last one. Aperture entire and vertical. Inner lip thin and recurving so as to enclose a very narrow hollow axis, or to form a columella. Surface marked by very fine and even lines of growth that have a strong retral arch on the upper side of the whorl, but are nearly straight and vertical from the ambitus to the umbilicus.

*Dimensions:* Height, 15 mm.; width, 15 mm.; height of aperture, 8 mm.; width of same, 9 mm.

The flattened shoulder and deep suture of this species are distinctive.

*Occurrence:* Rockhouse shale, at Rockhouse, on Horse Creek, Hardin County.

**Diaphorostoma quadrangulare**, n. sp.

Plate IV, figs. 20, 21

*Description:* Shell low-spined, consisting of between three and four gradually but rapidly expanding volutions. In cross-section the whorls are rounded subquadrangular. The upper side is very gently convex and horizontal, the outer side is almost vertical and is marked by an undefined median slightly concave zone. The base is as broad as the top and almost horizontal, but a little more strongly convex than the top side of the whorl. The four angles of the whorl are rather broadly rounded. The aperture entire, subquadrangular, and slanting somewhat obliquely backward below. Inner lip smooth. Base perforated by a narrow umbilicus. Surface marked by fine lines of growth and uneven coarser varices of growth which cross the whorl with a gently sinuous course, being gently convex forward at the center of the upper and outer sides, concave forward over the

rounded shoulder, and broadly concave forward across the base of the whorl.

*Dimensions:* Height, 37 mm.; width, 33 mm.; height of aperture, 27 mm.; width of same, 20 mm.

*Occurrence:* Rockhouse shale, at Rockhouse, on Horse Creek, Hardin County.

CLASS CRUSTACEA

SUBCLASS TRILOBITA

FAMILY PHACOPIDÆ

**Dalmanites purduei**, n. sp.

Plate V, figs. 1, 2

*Description:* Species of very large size. Cephalon semi-elliptical, with moderately long sharp genal spines and with a slight prolongation of the anterior margin in front of the glabella. Glabella large, depressed convex, most elevated between the palpebral lobes, and descending with even curvature to the front. Front lobe transversely elliptical, a trifle over three-fifths as long as wide, and marked by three shallow subcircular pits. The deeper of these is in the median line and just back of the center of the lobe, while the others are so shallow as to be scarcely visible, and one is near the center of each lateral half of the lobe. The first glabellar furrow deep and extending nearly three quarters of the distance to the axis. The second, third, and fourth glabellar lobes are well fused at their extremities, the second and third lateral furrows being reduced to mere oblong pits upon the glabella. Cheeks with rather strongly arched slopes and with a gentle concave zone bordering the margin. Occipital furrows deep and wide. Eyes large and elevated. Lateral facial sutures lying in a distinct groove. Surface in all the specimens exfoliated, but the cast of the free cheeks roughened by shallow dimples.

Pygidium subtriangular in outline, and ending in a blunt spine. Number of segments in the axial lobe varying from seventeen in a small specimen to twenty-two in the largest one.

*Dimensions:* A mature cephalon measures 81 mm. from occipital ring to front margin; 130 mm. across the head at the eye lobes, 60 mm. between the eyes. The largest pygidium has a

length of about 100 mm. and a width of 105 mm. A smaller entire individual has a length over all of about 120 mm.

*Discussion:* This giant trilobite may be readily distinguished from the associated specimens of *D. pleuroptyx* by the facts that the second, third, and fourth glabellar lobes are confluent at their extremities, and that the facial sutures lie in distinct grooves.

The fusion of the glabellar lobes indicates that this species belongs to the group of *D. anchiops*, *D. stemmatus*, and *D. dolbeli*, whose characters have been discussed by Clarke. The new species is remarkable not only for its great size, but also for the degree of fusion of the glabellar lobes at this early horizon.

*Occurrence:* Ross limestone, at Olive Hill, Pyburns Bluff, and other localities in Hardin County.

### *Dalmanites retusus*, n. sp.

Plate V, fig. 3

*Description:* Species known only from the pygidium, which is semi-elliptical in outline, broader than long, and evenly rounded behind without any spinous extension. Axis low, only slightly arched, rapidly tapering, marked by fourteen or fifteen annulations, the last of which are very indistinct as the axis becomes obsolete posteriorly. Pleura gently arched, marked by ten or eleven broad ribs separated by narrower grooves, all of which become obsolete before reaching the edge, leaving a smooth margin about 4 mm. wide.

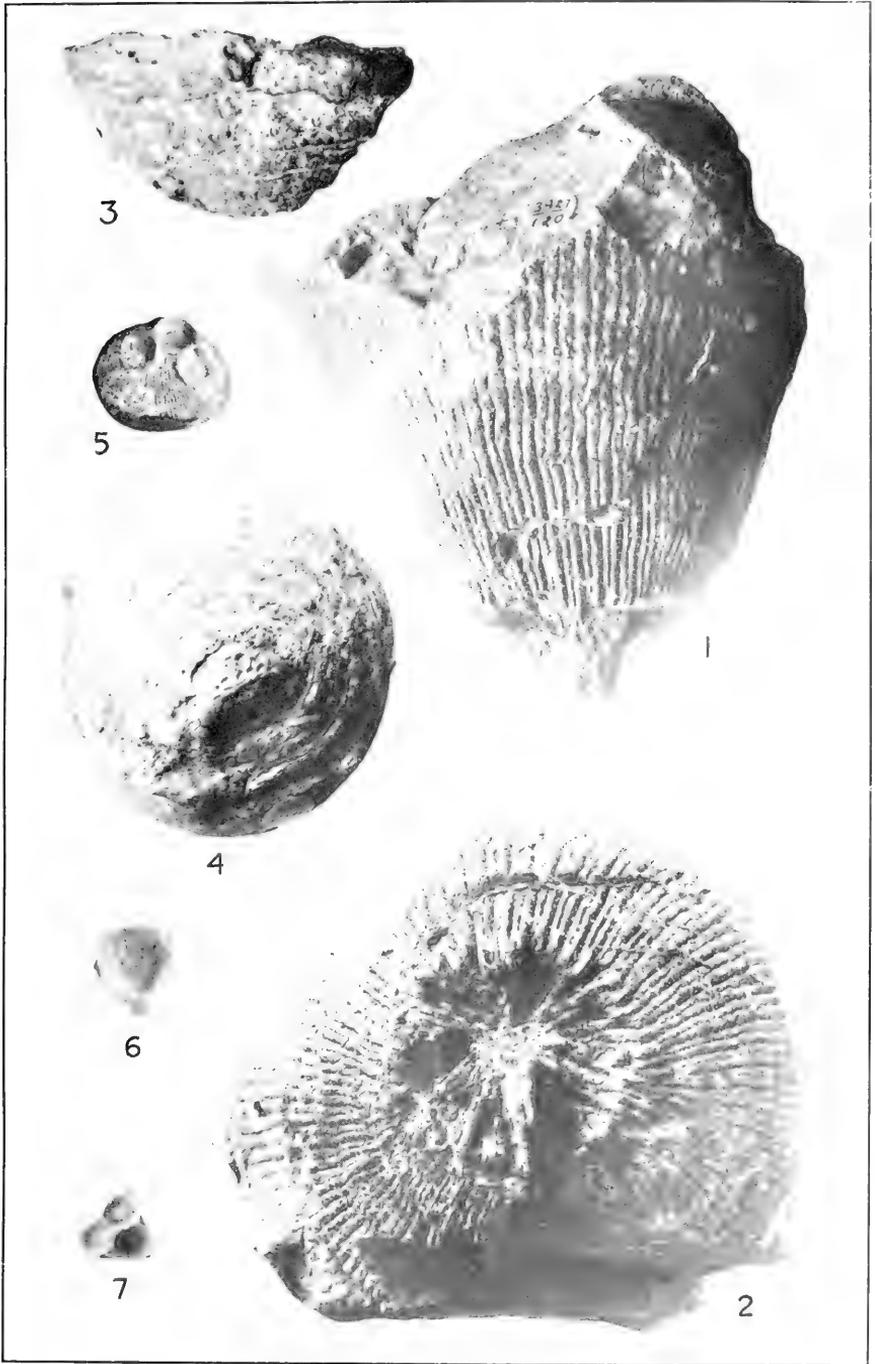
*Dimensions:* Length, 27 mm.; width, 41 mm.; convexity, 5 mm.

*Discussion:* The absence of a spinous extension of this rounded pygidium is sufficient to distinguish it from all other species of *Dalmanites* except *D. aspinosus* of the Decker Ferry of New Jersey. Compared with this much earlier form, the pygidium of the new species is proportionately wider and more broadly rounded behind, its axis tapers more rapidly, and it possesses a smooth marginal border.

*Occurrence:* Occurs sparingly in the Birdsong shale at Perryville, Big Lick Creek, Birdsong Creek, the old Swayne's mill locality, etc.

## Plate I

- Fig. 1.—*Zaphrentis parsonsensis*, n. sp. Lateral view of a natural cast of the interior of the corallum.
- Fig. 2.—Apical view of the same.
- Fig. 3.—*Favosites foerstei*, n. sp. Lateral view, showing the subhemispheric base of the corallum.
- Fig. 4.—Basal view of the same, showing the subcentral point of attachment and the wrinkled epitheca which covers the base.
- Fig. 5.—*Pleurodictyum trifoliatum*, n. sp. A mature colony attached to one valve of *Rhipidomella oblata*. The apex of the initial corallite is visible between the lateral corallites.
- Fig. 6.—*Pleurodictyum trifoliatum*, n. sp. An abnormal one-celled individual which was not cemented to any solid object,  $\times 2$ . The lateral nodes, one on either side, are the aborted lateral corallites.
- Fig. 7.—Another colony of the same species, with the three corallites mutually contiguous.



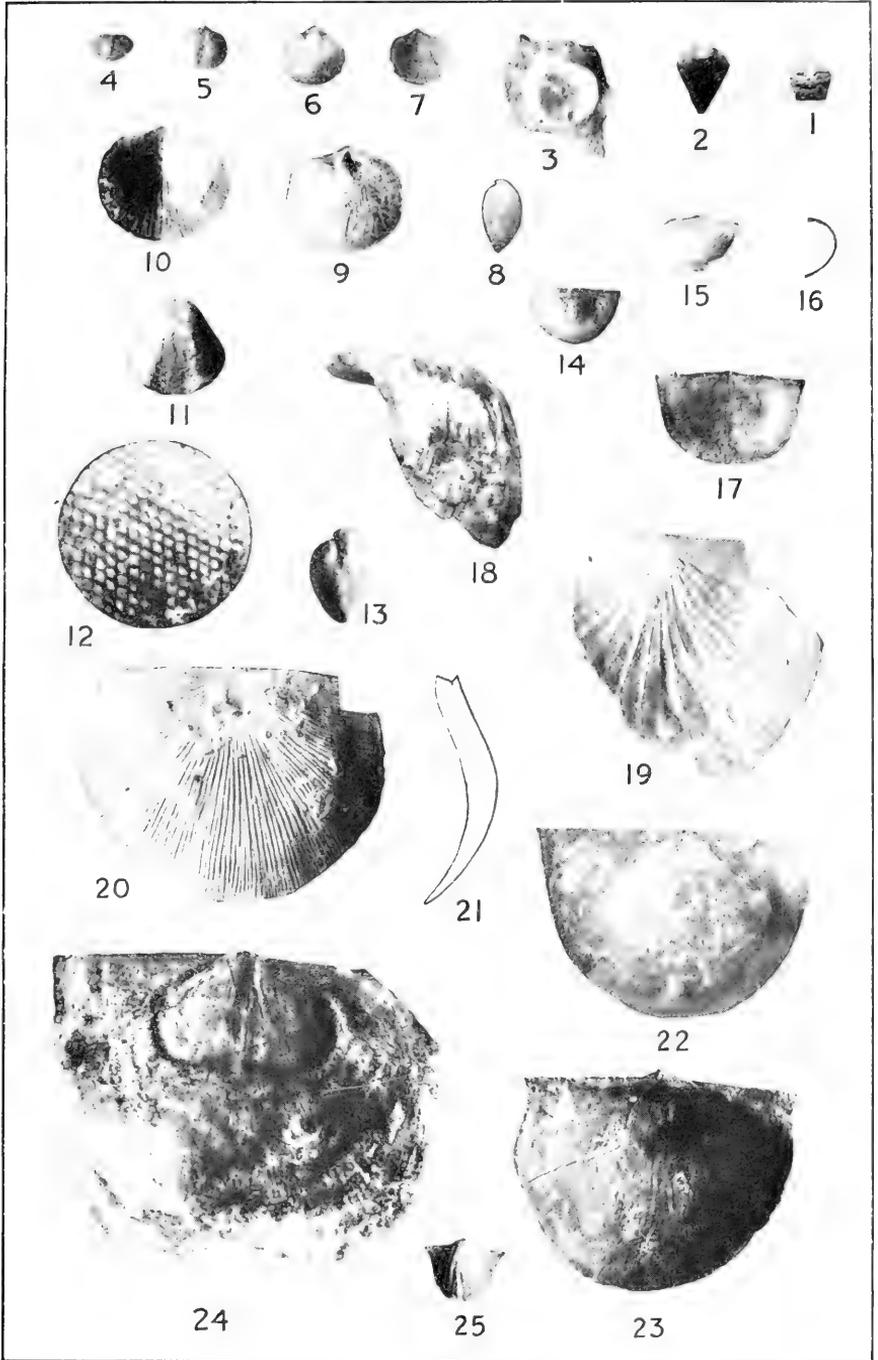




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Plate II

- Fig. 1.—*Codaster loræ*, n. sp. Summit view.  
Fig. 2.—Lateral view of another specimen of the same species.  
Fig. 3.—*Edriocrinus adnascens*, n. sp.  
Fig. 4.—*Dalmanella pygmæa*, n. sp. Posterior view, showing the sinus and fold.  
Fig. 5.—*Dalmanella pygmæa*, n. sp. Dorsal view of a typical specimen.  
Fig. 6.—*Dalmanella rockhousensis*, n. sp. Interior view of a ventral valve, showing the characteristic diductor muscle-scars.  
Fig. 7.—*Dalmanella rockhousensis*, n. sp. Ventral view.  
Fig. 8.—*Dalmanella rockhousensis*, n. sp. Lateral view, to show the distinct convexity of the dorsal valve.  
Fig. 9.—*Dalmanella macra*, n. sp. Interior of a ventral valve, showing the very minute diductor muscle-scars.  
Fig. 10.—*Dalmanella macra*, n. sp. Ventral view of a typical specimen.  
Fig. 11.—*Dictyonella subgibbosa*, n. sp. Ventral view.  
Fig. 12.—*Dictyonella subgibbosa*, n. sp. Enlargement of the surface pits,  $\times 10$ .  
Fig. 13.—*Dictyonella subgibbosa*, n. sp. Lateral view, to show the thick umbonal region and the strongly incurved ventral beak.  
Fig. 14.—*Chonetes wadei*, n. sp. Ventral view of the holotype,  $\times 2$ .  
Fig. 15.—*Pholidostrophia lindenensis*, n. sp. Dorsal view of a nearly complete specimen.  
Fig. 16.—Profile of the same.  
Fig. 17.—*Chonetes hudsonicus camdenensis*, n. mut. Ventral view of a natural cast.  
Fig. 18.—*Strophonella punctulifera holladayi*, n. var. Profile view.  
Fig. 19.—*Strophonella punctulifera holladayi*, n. var. Ventral view of the imperfect holotype, showing the characteristic surface ornamentation.  
Fig. 20.—*Strophonella lineolata*, n. sp. Dorsal view.  
Fig. 21.—Profile of the same species.  
Fig. 22.—*Brachyprion purduei*, n. sp. Ventral view.  
Fig. 23.—*Brachyprion purduei*, n. sp. Interior view of the ventral valve.  
Fig. 24.—*Leptæna ingens*, n. sp. Ventral view of a natural mold of the interior, showing the characteristic muscle-scars.  
Fig. 25.—*Chonetes fornacula*, n. sp. Ventral view,  $\times 2$ .

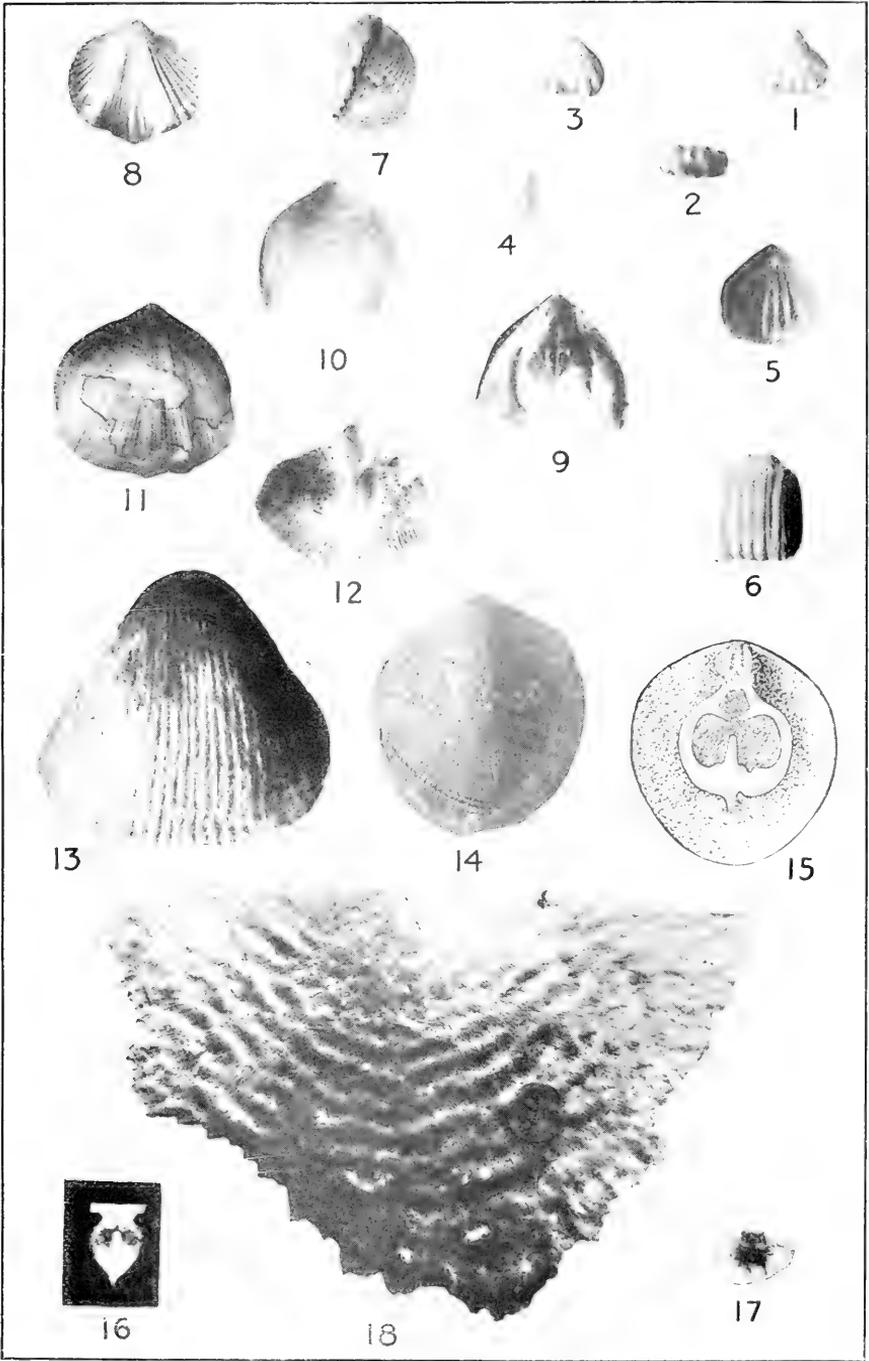




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## Plate III

- Fig. 1.—*Rhynchotreta insinuata*, n. sp. Ventral view of the holotype.  
 Fig. 2.—Anterior view of the same.  
 Fig. 3.—*Wilsonia wadci*, n. sp. Ventral view.  
 Fig. 4.—Anterior view of the same.  
 Fig. 5.—*Uncinulus lindencensis*, n. sp. Dorsal view.  
 Fig. 6.—*Uncinulus lindencensis*, n. sp. Anterior view.  
 Fig. 7.—*Eatonia fissicosta*, n. sp. La'eral view.  
 Fig. 8.—*Eatonia fissicosta*, n. sp. Ventral view.  
 Fig. 9.—*Eatonia tennesseensis*, n. sp. Interior of the ventral valve.  
 Fig. 10.—*Eatonia tennesseensis*, n. sp. Ventral view of a typical specimen, faintly showing the low plications at the anterior margin.  
 Fig. 11.—*Eatouia tennesseensis*, n. sp. Dorsal view of a very large specimen, with unusually coarse striations.  
 Fig. 12.—*Gypidula multicostata*, n. sp. Interior view of the umbonal portion of a ventral valve, showing the small spondylium.  
 Fig. 13.—*Gypidula multicostata*, n. sp. Ventral view, to show the numerous narrow plications.  
 Fig. 14.—*Mcgalanteris* (?) *saffordi*, n. sp. Ventral view of a wax cast from a natural mold. The margin is incomplete.  
 Fig. 15.—The loop of the same species. The anterior margin is possibly incomplete because of breakage before fossilization. This seems improbable, however, since two specimens preserving the loop agree in shape.  
 Fig. 16.—*Oriskania condoni* (McChesney). The loop of this species.  
 Fig. 17.—The cardinal process of the same species, to show the median vertical ridge.  
 Fig. 18.—*Leptostrophia beckii tennesseensis*, n. var. View of an incomplete ventral valve, showing the characteristic wavy or dimpled surface.

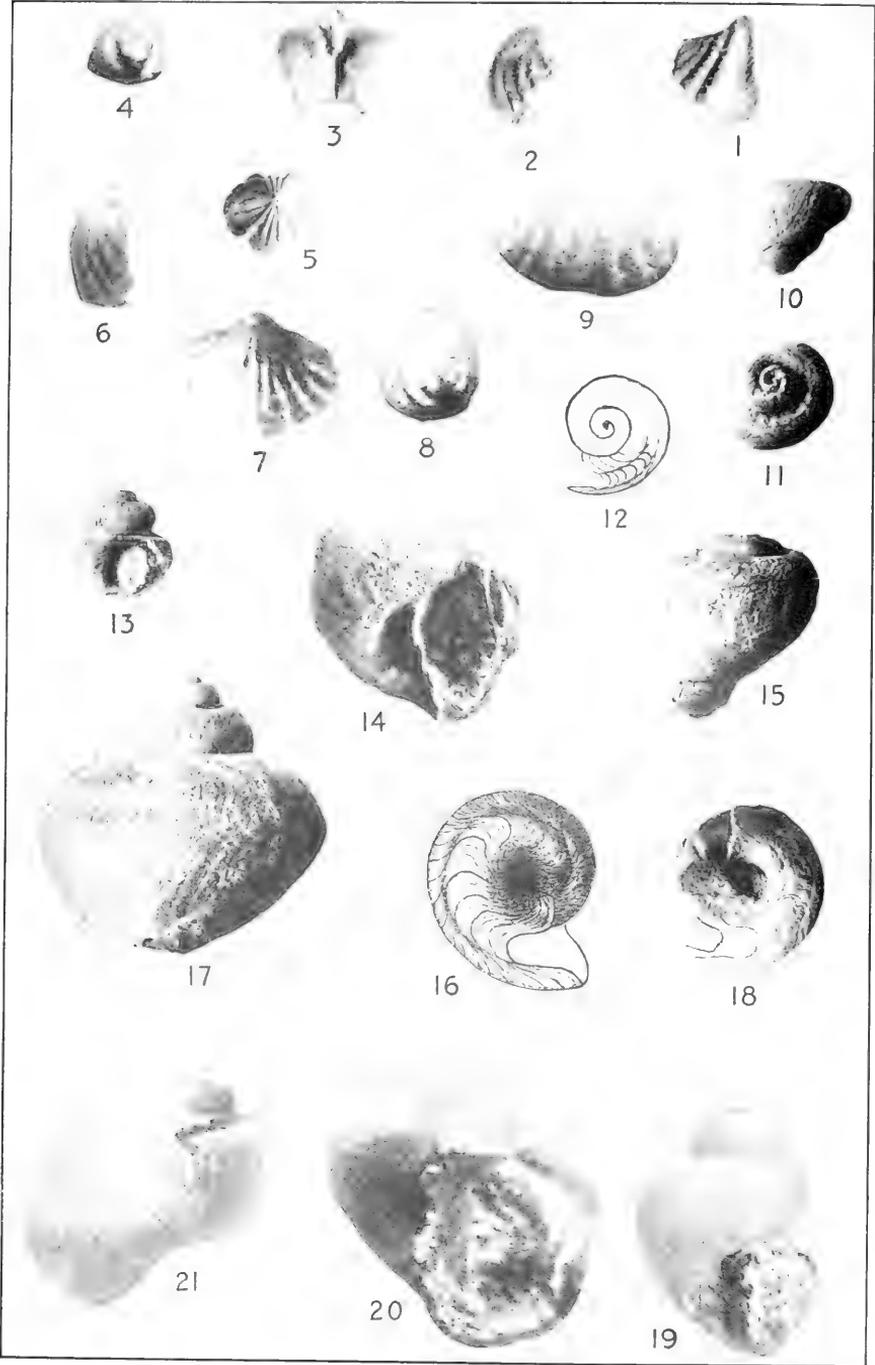




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Plate IV

- Fig. 1.—*Delthyris cyrtinoides*, n. sp. Ventral view of a typical specimen.  
Fig. 2.—Lateral view of the same.  
Fig. 3.—Inside view of the ventral beak of the same species, showing the convergence of the dental lamellæ and their union with the median septum.  
Fig. 4.—*Trematospira bella*, n. sp. Lateral view of the holotype.  
Fig. 5.—Cardinal view of the same.  
Fig. 6.—*Trematospira costata angusta*, n. var. Lateral view.  
Fig. 7.—*Trematospira costata angusta*, n. var. Dorsal view.  
Fig. 8.—*Delthyris octocostata tennesseensis*, n. mut. Lateral view.  
Fig. 9.—*Delthyris octocostata tennesseensis*, n. mut. Ventral view.  
Fig. 10.—*Distemnostoma curtum*, n. gen., n. sp. Lateral view of the holotype. The line bounding the basal channel may be seen near the base.  
Fig. 11.—Apical view of the same specimen.  
Fig. 12.—Sketch of the preceding view, to show the course of the growth-line and the slit-band.  
Fig. 13.—*Holopea planidorsata*, n. sp.  
Fig. 14.—*Aulopea nelsoni*, n. gen., n. sp. Lateral view, from the apertural side,  $\times 8/7$ .  
Fig. 15.—*Aulopea nelsoni*, n. gen., n. sp. View from the opposite side, showing the deep compressed form of the whorls.  
Fig. 16.—Sketch of the basal view of the same specimen, showing the channel at the base of the aperture.  
Fig. 17.—*Saffordella tennesseensis*, n. gen., n. sp. Side view, to show the growth-lines and the broad slit-band.  
Fig. 18.—*Distemnostoma princeps*, n. gen., n. sp. View of the upper surface of a broken whorl, showing the character of the slit-band.  
Fig. 19.—*Distemnostoma princeps*, n. gen., n. sp. Lateral view of one of the types.  
Fig. 20.—*Diaphorostoma quadrangulare*, n. sp. View from the apertural side,  $\times 10/9$ .  
Fig. 21.—*Diaphorostoma quadrangulare*, n. sp. View from the opposite side.

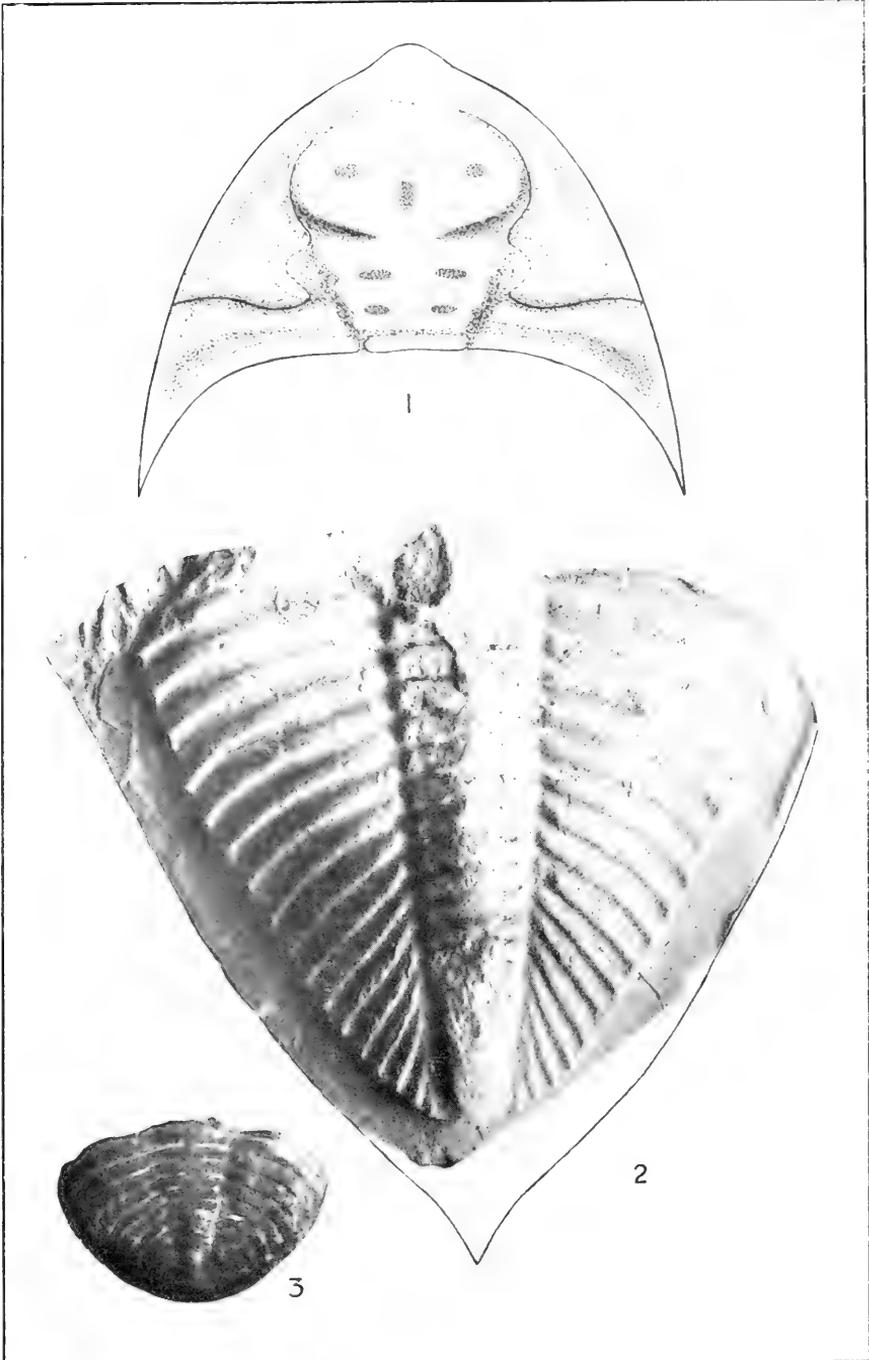




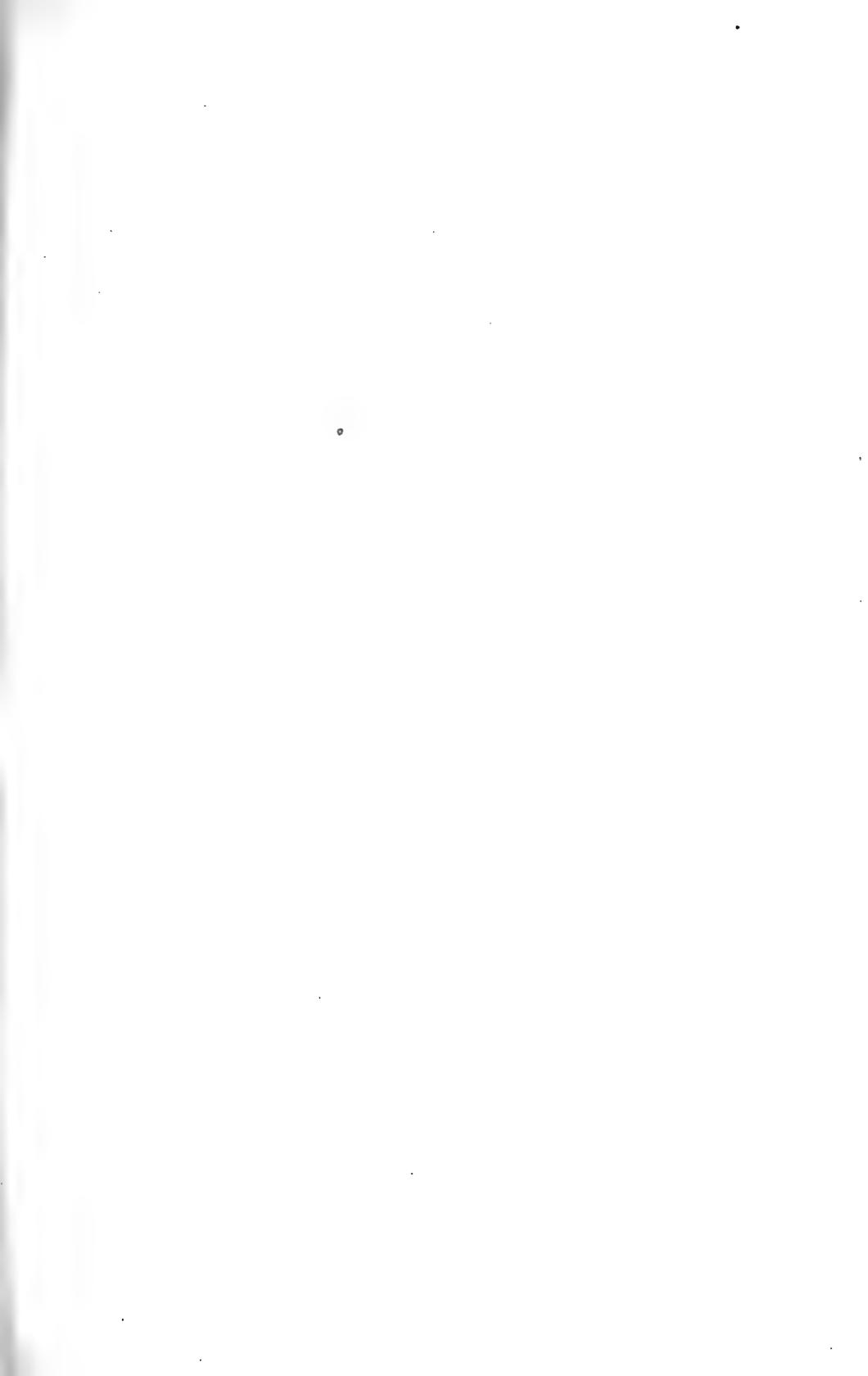


## Plate V

- Fig. 1.—*Dalmanites purduci*, n. sp. Drawing of the cephalon,  $\times \frac{1}{2}$ .  
Fig. 2.—*Dalmanites purduci*, n. sp. Pygidium of a somewhat smaller individual.  
Fig. 3.—*Dalmanites retusus*, n. sp. Pygidium.









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Early History of American  
Auctions--A Chapter in  
Commercial History

BY

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## INTRODUCTORY.

The genius of the American business man is respected the world over. It is the natural product of American conditions: great natural resources, a wide expanse of country, an aggressive people, a democratic government, a great personal freedom, and a high social approval of competitive success, are conditions which foster big business achievement. It is probably natural that a people thus successful should be so impressed with its wonderful industrial and commercial organization that it forgets or does not inquire about the origin and development of that organization.

But America has been a great business laboratory; its industrial and commercial history shows a rapid turn-over of inventions and improved processes and devices. These have had a tremendous effect on our social and political life. Adequate studies have never been made of our mercantile system. This monograph is an inquiry into the early history of one business device that was not only basic in an economic way but also vitally affected national policy and politics. Auctions are a very common device for selling goods. They, like other middleman devices, are so commonplace that one may wonder with what warrant can an historical study be made of them. But these commonplace methods and devices of business have exercised an influence too little known and too little realized, upon our economic, social and political history.

## RISE OF THE AUCTION PROBLEM.

The method of selling at auction is ancient and quite universal.<sup>1</sup> It was used in America by the Colonists from very early date<sup>2</sup> as a means of disposing of property under judicial process, and of closing out stocks of merchandise (on account of commercial failures, on account of underwriters, or of unsalable goods remaining in importers' hands at end of the season), second-hand household furnishings, farm utensils and animals. But this "business was inconsiderable. It was then considered a discreditable mode of selling goods, and various methods were practiced for concealing the owner's name."<sup>3</sup>

During the Embargo and the War of 1812 the English manufacturers resorted to auctions to sell their products both in London and America. This innovation hurt the London and provincial tradesmen, and it was bewailed that "a commercial nation should have fallen into the mistake of suffering the sale of manufactured goods" through the "numerous and increasing progeny of auction marts . . . academies of trick and chicanery," causing bankruptcies by underselling and by rapid selling of goods bought on credit.<sup>4</sup>

The American ports being closed to direct importations from Europe, the volume of imports declined, and only through neutral ports or Canada did goods enter to stem the rising prices and in this trade "several houses were often jointly interested in the same importation. For this reason quick sales were desirable; and consequently package-sales at auction were introduced as the most expeditious, as well as the most profitable, mode of dis-

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<sup>1</sup> For a general survey see Hunt's Merchants Magazine, II, 72.

<sup>2</sup> In New York City, for instance, mention of auction sales in 1676 is found; in that year "Matthias Nicoll was appointed vendee master, and gave 2000£ security, which is an indication of the importance and responsibility of the office at that time." Goodrich, Picture, 453. A long train of fiscal and regulatory legislation *re* auctions exists in the archives of nearly every colony.

<sup>3</sup> Bolles, Financial History, I, 387.

<sup>4</sup> "The ruinous tendency of auctioneering and the necessity of restraining it for the benefit of trade, etc.," New York, 1813; second ed. London, 1848, with copious explanatory notes added, p. 3.

posal.”<sup>5</sup> Boston, during the War, had been practically free from blockade by the British and so this city and its hinterland had continued to receive relatively plenty of British products in the old way. But New York, Philadelphia, Baltimore and other ports depended upon blockade runners and indirect importations. “During the war the British merchants established extensive depots of goods in Halifax, Bermuda and other British possessions, that they might be ready to supply the American market on the declaration of peace. Immediately after the close of the war these goods were sent” into the more destitute ports, but chiefly New York.<sup>6</sup> For a time the competition among buyers was very keen and the British found auctions the most profitable and quickest method. Fresh goods from Europe began to pour into the country. Since the practice at this time was for the auctioneer to advance the cash for the sales immediately, the importer enjoyed a very high rate of turn-over. “Merchants, finding that they could sell their goods at auction with such facility, and be ready for another venture so soon, ordered twice as many as they would have done had they continued to sell all their goods in the old way.”<sup>7</sup> Auctions, therefore, soon glutted the market; its extraordinary demand was satiated by the autumn of 1816, and prices started to decline that winter. Prices fell till they scarcely covered the duties. A severe crisis broke upon the importers and jobbers, almost all failed or were seriously crippled.

During this period of distress American importers ceased ordering from Europe. British manufacturers determined to rid themselves of their accumulating stocks. They dispatched agents to America, who found auctions the readiest means of sale.<sup>8</sup> The prices prevailing in England were very low, lower than in America. It was alleged at the time that the prices in both places were below the cost of production. However that may be, the low prices in England appeared on the invoices which were genuine; and the fact that the tendency was for prices to decline further gave excuse for fictitiously invoicing shipments at less than the prevailing English prices; and the low invoice prices greatly

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<sup>5</sup> Bolles, I, 387.

<sup>6</sup> Hunt's, 10: 156.

<sup>7</sup> Bolles, I, 388.

<sup>8</sup> Bolles, I, 388-9.

reduced the ad valorem tariff duties in the United States, to the advantage of the British manufacturer and the American auctioneer.<sup>9</sup> As a consequence auctioneers increased in number, wealth and influence in all the commercial cities. A course of trade which had thus been begun partly from temporary causes was found by experience to insure the British a very decided advantage in the competition with the American importer.

#### THE MENACE OF PEACE.

The Embargo of 1807, the Non-Intercourse Act of 1809, the higher tariff duties, and the restrictions on trade during the War of 1812 had caused a mushroom growth of manufactures of cottons, woolens, iron, glass, pottery, and other articles. The continuance of these war-born industries after 1815 depended largely upon the maintenance and extension of protection.<sup>10</sup> A very distinct feeling had arisen in favor of manufactures and Congress made clear concessions in the tariff act of 1816 to protect textiles and other needy lines; this was in addition to the high level of duties for strictly fiscal purposes. Despite this measure the importations of British manufactures during 1816 and 1817 were excessively large. Exporting speculators and manufacturers found good markets in the United States until the fall of 1817 and thereafter found this the least costly mart in which to sacrifice their glut of wares. Not only did the sales net them more but sacrifices in America tended also to work an ultimate benefit; for, as Lord Brougham said, "it is well worth while to incur a loss upon the first exportation in order, by the glut, to stifle in the cradle those rising manufactures in the United States which had forced into existence, contrary to the natural course of things."<sup>11</sup> It was the common talk of the day that the British manufacturers were making a concerted, open and studied effort to defeat our rising manufactures by buying out and suppressing inventions and makers of machinery, by buying up our sheep, by dumping their manufactures on our market

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<sup>9</sup> Annals of Congress, 15th Congress, 1st session, p. 50.

<sup>10</sup> Taussig, *Tariff History of the U. S.*, 16-8.

<sup>11</sup> Hansard, *Parliamentary Debates*, 1st Series, XXXIII, 1099.

regardless of cost and pooling their losses which amounted to "several hundred thousand pounds sterling."<sup>12</sup>

The machinery used to dump their wares was an arrangement by which agents of foreign manufacturers and merchant exporters (1) received consignments on more or less fictitious invoices and therefore largely evaded import duties, (2) paid the duties by signing customs bonds indorsed by fellow agents or auctioneers and (3) sold the goods by private treaty or more usually at auctions, for cash advanced by the purchaser or the auctioneer or on long credits of six, nine, or twelve months.<sup>13</sup>

The result of this natural and forced glut of our market was a serious industrial distress which reached its worst in the panic of 1819. The inflated state of the currency contributed mightily to this crisis. "Many of our manufacturers fell easy prey to their mighty rivals. First of all the newly erected manufactories of earthenware. . . . In the same way went most of the glass-factories, and the manufactures of white and red lead. The manufacture of iron continued longer, but in a feeble way, dwindling every year. . . . During the four years between 1817 and 1821, the holders of property in the United States were supposed to have suffered a depreciation of nearly \$800,000,000."<sup>14</sup> Sheep-raising declined rapidly as domestic factories closed and the wool produced was more largely exported.<sup>15</sup> The one sustaining force was pronounced to be the protective tariff and the high sterling exchange rates, which together amounted to from 40 to 50% of the foreign cost of production.<sup>16</sup> The iron interests were temporarily revived by a duty of \$15 per ton imposed in 1818. The balance of trade went decidedly against the States; the premium on London exchange ranged in 1821-2 from 8 to 15%, and the country lost much of

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<sup>12</sup> Niles, 10: 322; 21: 4. The names of some of the alleged conspirators were Earl Grosvenor, Lord Folkstone, Mr. Brougham and Sir Robert Peele. Niles, 18: 151.

<sup>13</sup> Niles, 18: 419; Bolles, I, 366, 488; Dewey, *Financial History of U. S.*, 190.

<sup>14</sup> Bolles, I, 370-371.

<sup>15</sup> Bolles, I, 367.

<sup>16</sup> Memorial of New York Chamber of Commerce, 1824, quoted in Bolles, I, 372.

its gold and silver by export.<sup>17</sup> The commercial disadvantage of high exchange premium was, however, partly compensated for by the rapid turn-over made possible by more regular and speedy packet service.<sup>18</sup>

By 1823 dumping had done its worst and those manufactures which remained were thought to be on a sound economic footing or at least sufficiently protected by existing tariffs.<sup>19</sup> The cotton manufactures were in prosperous condition<sup>20</sup>; even protectionists ascribed the prosperity to the extensive use of labor-saving machinery rather than the tariff.<sup>21</sup> It is probable that the exhausted purchasing power and low state of credit and high exchange rates were strong factors in reducing foreign importations and in giving our manufactures a second wind. The winter of 1823-4 witnessed a reaction and Niles published a "view of the calamitous situation of the United States."<sup>22</sup> This time the British woolen manufacturers in particular flooded our markets through the auction method at prices alleged to be below cost, and our woolen manufacturers called for government help lest they be swamped as quickly as the first set had been in 1817.<sup>23</sup> The third period of dumping was 1827-8 and was occasioned by over-production of woolens, and of cottons to a less degree, in England and an unprecedented stagnation in trade and fall in prices. Large quantities of surplus woolens, some not suited to the home-market or made of inferior materials, were sacrificed on the American market at prices dictated by the desperate state of trade.<sup>24</sup> The next period when auction dumping hurt again was when the tariff was reduced between 1833 and 1842.<sup>25</sup> Thereafter auctions declined.

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<sup>17</sup> Niles, 22: 17; 23, 132; 23: 147.

<sup>18</sup> Niles, 19: 424.

<sup>19</sup> Niles, 24: 67, gives extensive list of manufactures exported, made from both domestic and foreign materials, in 1822.

<sup>20</sup> Niles, 24: 103, 117; 21: 4, 39, 148, 163; 18: 266; Gallatin, Memorial of The Free Trade Convention, 1831; Tudor, Letters on the Eastern States (1819), 253-266; Holmes, An Account of the United States of America (1823), 201-8.

<sup>21</sup> Niles, 21: 4, 199.

<sup>22</sup> Niles, 25: 179.

<sup>23</sup> Bolles, I, 367.

<sup>24</sup> Bolles, I, 384-5; N. Hale, American System, 41-2.

<sup>25</sup> Bolles, I, 427.

The auction system tended to defeat the protective tariff. Before 1816 auctions had played such an unimportant rôle that their evils were not mentioned in the memorials of manufacturers and chambers of commerce praying for protection to domestic producers.<sup>26</sup> The first petitions listed in the *Annals of Congress* complaining of auctions and pleading for protection were two presented in February, 1817, one from "sundry inhabitants of the city of New York on behalf of domestic manufacturers" and a similar petition from the merchants of that city, and recommending a 10% tax on auction sales.<sup>27</sup> This movement started naturally in New York where the abuses were most extensive and severe and spread rapidly to all commercial cities, even towns far inland.<sup>28</sup> The manufacturers asked Congress for further protection in three ways: (1) to abolish customs credits on imports, (2) to alter and increase the duties on imported goods, and (3) to impose a restrictive, if not prohibitory, tax on sales at auction. The auction system was opposed with great fury for many years.<sup>29</sup> The distress wrought by dumping after 1816 was a chief factor in inspiring the demand for a secure and stable "home market."<sup>30</sup> The anti-auction movement was affiliated with the "American System" movement.<sup>31</sup>

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<sup>26</sup> For instance, the memorial of the mechanics and manufacturers in New York City for protection to manufacturers in 1800 (*Annals of Congress*, 6th Congress, 2d session, 1291); petition of the Philadelphia artisans and manufacturers in 1803 (*Annals of Congress*, 8th Congress, 2d session, 1467); petitions for protection in 1811-2 (*Annals of Congress*, 12th Congress, 1st and 2d session); Tench Coxe's report on manufactures in 1813 (*Annals of Congress*, 13th Congress, Vol. II, 2570-2642); petitions of the cotton manufacturers, in December, 1815, and February, 1816 (*Annals of Congress*, 14th Congress, 1st session, 1645-1656) gives a long list of difficulties under which cotton manufacturers were working but does not mention auctions.

<sup>27</sup> *Annals of Congress*, 14th Congress, 2d session, 848-51, contains the text of these petitions.

<sup>28</sup> For example read the petition of the Berkshire County (Mass.) merchants assembled at Pittsfield and see how it appeals on the basis of protection. Given in Niles, 38: 94.

<sup>29</sup> Bolles, I, 390; Niles, 37: 298.

<sup>30</sup> Niles, 21: 147.

<sup>31</sup> At a "Great meeting at New York" in 1828 of citizens supporting the "American System" and "friendly to national industry" adopted the resolution: "That we deprecate, as injurious to domestic industry,

Through the rise of auctions the native American importing merchants were placed in a most peculiar position relative to the tariff. Normally they would oppose the tariff since it was to their interest to have large importations, and the higher the duties the stronger would be their opposition.<sup>32</sup> The rise of domestic industry would shift trade from the importing merchants to the jobbers. Some persuasion was needed to ally the merchants with the protectionists.<sup>33</sup> But this alliance was effected because the system of foreign agents selling through auctioneers diverted a considerable trade to new groups of middlemen and gave them competitive advantages which tended to rob the merchants of their business. The merchants were therefore in the dilemma of losing business either to domestic jobbers by the stoppage of foreign trade as effected by the tariff and the abolition of auctions, or to British agents and auctioneers by the consignment and auction sales system. The diversion of trade to the British agents and auctioneers was more obvious, direct, sudden and offensive, and the merchants therefore supported the tariff program and its counterpart, the abolition of auctions.

#### VOLUME OF AUCTION SALES.

Except for the City and State of New York the statistics of sales at auction are wanting. The petitioners from other cities often made rough estimates of the total auction sales or of the proportion of the total sales of merchandise that were done by auction.<sup>34</sup> Such estimates are questionable and probably exaggerate the importance of auctions. In New York, where auction

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the existing system of auctions; and that we will use all honorable exertions to suppress it." Niles, 35: 131. The same year a report of a citizens' committee in New York said: "The abolition of auctions is their best remedy. It would be worth ten tariffs. . . . The existing duties would be more than a sufficient protection, in the absence of auctions, which, alone, are fatal to native industry." Niles, 34: 258.

<sup>32</sup> Niles, 20: 245, 298, 342; 18: 422.

<sup>33</sup> Niles, 20: 66.

<sup>34</sup> For the year 1818, when auctions were at about their best, it was estimated from auctioneers' reports that auction sales in New York City amounted to \$14,000,000, and the total auction sales in the United States were at least \$30,000,000. See petition from New York City, Dec. 20, 1819, in *Annals of Congress*, 16th Congress, 1st session, 2291.

duties were imposed, certain relatively authentic statistics exist. It was common to assert in petitions (1) that the proportion of auction sales to private sales was increasing; (2) that the proportion of sales done on foreign account, i. e., by British agents on consignment, to sales done on domestic account, i. e., by domestic importing merchants, was increasing; and (3) that the auction business tended to become concentrated in relatively few houses, thus creating an idle mercantile class and making possible monopolistic abuses.<sup>35</sup> The following table<sup>36</sup> will indicate the growth of auction sales in New York State:

<sup>35</sup> "It has already (1820) become alarming to all the commercial cities." Niles, 18: 419; 35: 39.

<sup>36</sup> Based on Williams Annual Register, 1836: 196. Revenue figures, slightly varying from these and probably more authentic, from 1784 to 1844 are found in New York Assembly Document 208 (1845), Vol. 6, and from 1845 to 1862 similar data are found in New York Senate Document 80 (1863), Vol. 5.

An auction duty is a tax assessed upon auctioneers in proportion to the volume of sales made by them. The auction duties' system of New York State is described in pages 197-9. This table of duties and dutiable goods should be interpreted in the light of the changes of rates imposed by the following laws respectively:

Act of April 6, 1804:

On East India goods, in original package .....	1½%
On West India " " " " .....	2%
On wines and ardent spirits, " " .....	2%

Act of April 6, 1813:

On East India goods, in original packages .....	1½%
On domestic goods .....	1½%
On West India goods, in original packages .....	2%
On wines and ardent spirits .....	2%
On all other goods,	
if sold in New York City .....	3%
if sold in other places .....	2%

Act of April 13, 1814:

On all goods .....	1½%
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Act of April 15, 1817:

On East India goods, in original package .....	1%
On wines and ardent spirits .....	2%
On all other goods .....	1½%

Two or three other States derived revenue from duties on sales at auction or by licensing auctioneers, but these were small compared with New York. Niles, 27: 290. Pennsylvania in 1845 received \$71,248.03, and Maryland got from Baltimore auctions \$27,263.27 (Niles 69: 336), whereas New York got that year \$176,198.62.

Year	Amount of duties (000)	Amount of dutiable sales (000,000)	Amount of non-dutiable sales (000,000)	Total sales (000,000)
1810	\$126	\$ 5.6	\$ 0.5	\$ 6.1
1811	110	4.3	0.3	4.7
1812	124	5.2	0.4	5.6
1813	156	6.0	1.0	7.0
1814	86	3.5	0.4	3.9
1815	182	12.1	1.0	13.2
1816	171	11.3	0.8	12.1
1817	199	12.5	0.7	13.2
1818	176	11.9	1.6	13.5
1819	141	9.5	1.7	11.3
1820	154	10.2	1.8	12.0
1821	154	10.5	1.8	12.3
1822	181	12.3	1.8	14.1
1823	208	13.8	3.1	16.9
1824	226	15.7	3.6	19.3
1825	285	19.7	4.5	24.2
1826	243	16.3	4.7	21.0
1827	248	16.4	3.1	19.5
1828	257	17.4	8.6	26.0
1829	243	16.5	8.7	25.2
1830	219	15.5	10.3	25.8
1831	256	17.4	10.2	27.7
1832	216	14.1	11.7	25.9
1833	239	22.0	12.4	34.4
1834	193	14.4	13.3	27.7
1835	273	19.6	14.7	34.3
Total	5070	334.1	123.0	457.1

These figures understate the auction sales in as much as various devices existed for evading duties and not reporting sales correctly.<sup>37</sup> Practically all auction sales in the State occurred in New York City.<sup>38</sup> Taking the year 1817 for illustration, the auction

<sup>37</sup> See treatment below, page 198.

<sup>38</sup> Albany ranked next to New York City. The duties paid were as follows (New York Assembly Journal, 1823: 737):

Year	Paid by New York City and County (000)	Paid by Albany and Albany County (000)
1813	\$156.1	\$2.2
1814	100.0	1.7
1815	180.1	1.8
1816	174.7	2.1
1817	122.0	2.2

duties amounted to 1.6% of dutiable sales; and in 1828 to 1.5%. The largest auction revenue producers were English and French dry goods, and the next largest were teas and silks from China, and then sugars, groceries, and ardent spirits.<sup>39</sup> Added to this were the customs duties paid to the federal government.<sup>40</sup>

THE AUCTION SYSTEM.

An auctioneer is a person who is authorized to sell at public auction, for a commission. He differs from a broker who may buy as well as sell, whereas an auctioneer, generally speaking, may only sell; and a broker may sell at private sale, but an auctioneer only at public vendue.<sup>41</sup> The auctioneers in New York City had very early settled along what is now Water Street and their buildings, opposite the old Coffee House, were known (about 1780) as the "Merchants' Promenade or Auctioneers' Row."<sup>42</sup>

The system was for the British manufacturer or exporter to consign his goods to an agent or an auctioneer, who would bond

Year	Paid by New York City and County (000)	Paid by Albany and Albany County (000)
1818	176.3	2.8
1819	142.0	1.7
1820	154.6	1.6
1821	151.8	0.6
1822	79.6	1.8

For comparative figures for 1831 see Annual Report of the State Comptroller, 1831-2: 56; for 1848 see his Report, 1848: 166; and for 1860-1878 see N. Y. Assembly Document 64 (1875). The concentration in New York City grew apace.

<sup>39</sup> Goodrich, *Picture*, 455.

<sup>40</sup> The import duties paid by New York City were as follows:—  
(Hardie, *Description*, 309.)

Year	(000,000) Duties	Year	(000,000) Duties
1815	\$14.6	1821	\$ 7.2
1816	10.8	1822	9.9
1817	6.3	1823	9.0
1818	8.3	1824	11.2
1819	6.5	1825	15.8
1820	5.5	1826	11.5

<sup>41</sup> Hunt's, II, 72.

<sup>42</sup> J. G. Wilson, *Memorial History of the City of New York*, 536.

the goods, have them landed and sold at auction for promissory notes which were discounted at the banks, and, having deducted the commission, remitted the proceeds to the British principal; the proceeds thus included the duties for which the government allowed a credit of 8, 10, and 12 months without interest, and until maturity of the customs credits the collected duties formed additional capital in the Britisher's hands.<sup>43</sup> The following very detailed description of the system is contained in a defensive memorial of the auctioneers to Congress in 1821<sup>44</sup>:

"Sales of dry goods are made at auction by package or by piece; and this is the only important distinction to be observed in all the varieties of the trade. Package sales, being more important in amount, more attractive, by the assortments of merchandise they combine, excite most interest, and are attended with greatest competition. When the sale is of magnitude, it is generally advertised in the principal commercial cities, with an enumeration of the articles to be sold.<sup>45</sup> Printed catalogues are prepared, specifying the term of credit, with other conditions of

<sup>43</sup> Niles, 18: 419.

<sup>44</sup> Annals of Congress, 16th Congress, 2d session, 1526-9.

<sup>45</sup> Some characteristics of auctioneers' advertisements as they appeared in the New York "Commercial Advertiser" 1816-20 may be noted. There were special columns for "public sales"; the auctioneer's name headed the advertisements; the advertisement covered several distinct sales, on different days, at different places, and of different things; the same auctioneer sold such widely different things as imported goods, real estate, stocks in trade, bankrupt stocks, court sales, ship-damaged goods, shops, paintings, household furniture, sheep, etc.; the advertisements were wholly informative, with little, if any, boasting of goods, except patent medicines; in the same advertisement would be goods offered at "private sale" much detailed; sometimes the sales were designated "package sale (of hardware, etc.)"; side by side with auctioneers' advertisements were advertisements for sales by private brokers and merchants; the sales were to take place at certain auction rooms, in front of certain auction rooms, at the wharf, at the Coffee House, etc.; it was stated that "the goods will be ready for examination on" a certain day and "the catalogues ready" on an earlier day; there were regular weekly sales in books and stationery; it was cited that the goods "will be sold on a liberal credit" or "sold without reserve on liberal terms." During the period 1816 to 1820 as many as twenty different auction firms advertised in the "Commercial Advertiser."

sale, and detailing the contents of each package, the number of pieces, the varieties of quality, by number or otherwise, and the lengths; all of which is guaranteed to the purchaser. The widths are also in some instances specified, but always with a reservation expressed in the conditions of the sale, on the printed catalogues, or published by verbal explanation, that there is on that point no warranty, except that the goods not exhibited shall correspond in this as well as in every other respect with the samples shown; . . .

“The packages are arranged in lots corresponding with their numbers on the catalogue, and are exhibited sometimes two entire days before the sale, sometimes but one; the length of the exhibition being regulated by the magnitude of the sale. When the goods are prepared for inspection, the purchasers are invited by public notice in the papers to examine them. Where it is necessary for an advantageous examination, whole packages are displayed; where it can be made with more convenience from samples, one or more pieces of each quality are exhibited; and where there are many packages exactly corresponding one only is shown.

“Pattern cards are exhibited displaying the assortment of colors, etc. The purchaser receives every information and facility that can contribute to his convenience and protect him from mistake. The goods are arranged with so much attention to the accommodation of the purchasers, that three or four hundred packages may be examined with care and accuracy in one day.

“On the day of sale the purchasers assemble, each prepared with a catalogue marked with his estimate of the value of the articles wanted; a practice that not only guards the buyer against any disadvantageous excitement which competition naturally produces, and refers him to the deliberate opinion formed upon careful examination before the sale, but also promotes a general knowledge of merchandise in every variety, and creates a useful register of the fluctuations of the market, as these catalogues are generally preserved, with notes in the margin of the prices at which every article has been sold.

“At the commencement of the sale the conditions are recapitulated by the auctioneer, among which is a provision that no allowance will be made for damage or deficiency after the goods

have left the city (a regulation at once equitable and necessary), as otherwise there would be no protection for the auctioneer in the settlement of his accounts, or for the seller against the fraudulent claims of strangers. This being however, a declared condition at all times, the publicity of the rule insures the prompt examination of the goods.

“Package sales are resorted to when entire cargoes are to be sold, or where the quantity of goods is too great to be disposed of in detail. Large assortments of merchandise are daily offered at the piece sales, where packages are opened, and the goods sold in small or large lots, as may most tend to the interest of the seller and the convenience of the purchaser. These sales are regular and systematic, being held by each auctioneer of extensive business on two or more specified days in each week, and are principally depended upon by the retailers as well as the larger dealers for their uniform supplies; they are held under the same implied regulations which govern sales by package. Every article is opened and exhibited on shelves on the morning of the sale; a sample piece of every package, as it is offered by the auctioneer, is displayed upon the counter for examination, and several others distributed among the company in original folds; the rest of the packages, if of similar quality, is sold in order; but the same process takes place whenever any difference in value exists, or where the accommodation of the purchasers makes it necessary. Ample time is given during the sale to examine accurately every article as it is offered.

“A credit of three, four, or six months, is usually given on sales by the piece, where the amount purchased exceeds \$100, and approved security is always required by the auctioneer. Legal interest is allowed for cash payment; and men of limited means, by a combination of their purchases, secure the credit which is at all times convenient, and frequently necessary—their united responsibility being admitted for amounts for which either individual would not be accepted. When it is considered that these transactions take place daily, and that the supplies so obtained are essential to the support of numerous inferior establishments, the importance and value of the accommodation will be evident.”

As the auctioneers grew in number and wealth they became

a powerful influence in the money market. They were directors in nearly every bank in New York and obtained almost indefinite lines of credit.<sup>46</sup> A report by a Citizens Committee in 1828 put it this way: "As auctioneers, in many cases give their own notes in payment for goods sold by them while at the same time they have the use of the very large amounts which they receive from those who buy from them, an incredible capital is thus accumulated in the hands of a few persons, who form a moneyed aristocracy, influencing the banks, controlling by the fear of their displeasure, the free expression of public opinion, and hostile to the genius of republican government."<sup>47</sup> Since they took such precautions to have good names on the notes which they accepted for merchandise, their paper was accepted by the banks as prime; when a buyer became insolvent he commonly assigned his whole effects to protect his indorser and the auctioneers thus virtually absorbed the whole estate, to the detriment of his other debts by private sale. "Relying on this preference, they are proverbial, as a body, for trusting many dealers who, among merchants, are not considered trustworthy," . . . and "give ruinous facilities to rash young men to begin business without experience, character, or capital, and multiply failures to an extent that could not otherwise happen."<sup>48</sup>

The rate of commission was determined by private bargain but tended to uniformity as among the auctioneers; the rates differed with the kind of goods and services performed. In a calculation for eleven New York auctioneers in 1829 a writer used  $3\frac{1}{2}\%$  as the normal rate on foreign goods sold.<sup>49</sup> In a schedule of rates recommended for adoption and allowed by the New York Chamber of Commerce when no agreement subsisted to the contrary about 1820-5 the rate for sale of merchandise for foreign business was 5% and for inland business  $2\frac{1}{2}\%$ .<sup>50</sup> The profits of some auction firms were considered very large, the net to one firm exceeding \$100,000 a year.<sup>51</sup>

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<sup>46</sup> Bolles, I, 389.

<sup>47</sup> Niles, 34: 260.

<sup>48</sup> *Ibid.*

<sup>49</sup> Niles, 35: 403.

<sup>50</sup> Hardie, Description, 316. Many other rates are also given.

<sup>51</sup> Niles, 18: 421.

An examination of the auction duties paid by the auctioneers of New York, Philadelphia, and Baltimore confirms the justice of persistent criticism that the auction markets were dominated by relatively few and powerful auctioneers; but the further charge that they were monopolistic seems questionable for the number of auctioneers was large and a comparison of the lists of auctioneers paying the largest amounts of auction duties shows not only radical changes in rank but also the appearance of new names in very short interims.<sup>52</sup> These facts would indicate that competition was at work.

<sup>52</sup> The duties paid by the big auctioneers in the fiscal year 1815-6 in New York City were:

	(000)
Chas. Town	\$143.
P. Hone	15. (One quarter)
M. Hoffman	54.
D. Dunham	33.
A. G. Thompson	21.
S. Hicks	20.
T. Franklin	19.
T. Tripler	8.
W. C. Holly	7.
C. S. Barstow	5. (Three quarters)
P. McCarty	5. (Three quarters)
Jas. Bleecker	4.
I. Purdy	2.
W. T. Cook	2.
R. M'Mennomy	2.
Total	348.

There were this year 45 auctioneers and the total duties paid were \$355,000, of which the above 15 paid \$348,000. Data from New York Assembly Journal, 1816: 410.

In 1823 in New York City the ranking auctioneers were

Van Schaick	\$45,000.
J. D. Wallace	34,000.
J. Shotwell	32,000.

There were three others who paid between \$10,000 and \$20,000 each, five between \$5,000 and \$10,000, six between \$1,000 and \$5,000, and eighteen less than \$1,000, and several less than \$100. The total duties this year were \$207,000. Niles 25: 387.

In 1828 the ranking list was:

Increasingly after 1816 auction sales of imported goods were done for foreign account. British manufacturers and exporters consigned their goods directly to auctioneers or more commonly to agents sent to our ports. These "foreign agents of manufacturing and mercantile establishments of Europe" were "most of them—single men, and aliens,—in the habit of living at boarding houses, neither hiring houses, stores, or employing clerks."<sup>53</sup>

	(000)
Haggerty & Austen	\$72.
J. Hone & Sons	61.
T. Pearsall	45.
R. Lawrence	31.
A. G. Thompson	16.
W. Timpson	12.
Mills & Minton	10.
M. Hoffman	8.
A. S. Glass	7.
Total	262.

Thirty seven others paid a total amount of \$37,000. Goodrich, Picture, 453.

In 1835 the ranking sales were as follows:

Auctioneer	Amount of sales non-dutiable (000)	Amount of sales dutiable (000)	Total sales (000)
Jas. Bleecker	\$6,786.	6.	\$6,792.
D. Austen	292.	4,061.	4,353.
S. Phillips	573.	3,263.	3,836.
A. W. Bleecker	261.	3,276.	3,538.
W. Timpson	693.	1,325.	2,019.
R. Lawrence	972.	659.	1,632.
J. W. Corlies	852.	612.	1,465.
J. M. Muller	1,178.	31.	1,210.
H. L. Paterson	82.	1,099.	1,181.
T. M. Hooper	81.	836.	917.

It is noteworthy that certain auctioneers specialized in non-dutiable goods, notably James Bleecker and J. M. Muller; such specialization would affect their relative importance when ranked on the basis of duties paid. Data from Williams Annual Register, 1836; 197.

Further similar statistical data for New York for the years 1840-8 are given in New York Assembly Document 218 (1849) Vol. 5, p. 4; for Philadelphia data see Niles, 25: 80; 67: 342; 69: 336, and for Baltimore see Niles, 67: 324.

<sup>53</sup> N. Y. Assembly Journal, 1829: 391.

"On the arrival of their goods, their general practice" was "to hand over their invoices and endorsed bills of lading to their auctioneer, leaving it to him to enter their goods at the custom house and give bonds for the duties." The auctioneers were "in the habit of making advances on goods so placed under their control, to an amount equal to two-thirds of their value, and to pay the balance on sales as soon as they" were made out and thus enabled "the agent to make an immediate remittance to shippers."<sup>54</sup> It was frequently charged that these agents interfered in American elections, contributing substantial "sums of money for electioneering purposes . . . as well as for printing of pamphlets, &c., about the tariff, and for the support of agents at Washington when it was under discussion."<sup>55</sup>

Besides the general advantages to the British principal of tending to stifle our manufactures and of finding a market for his goods, the agent auction system gave him the certainty of an immediate sale and immediate remittance. It gave him the benefit of the customs credits and thus increased his working capital; the auctioneer became his bondsman for the duties at the custom house, as the law required that the sureties should be American citizens.<sup>56</sup> The expenses of selling were greatly reduced compared with those which were unavoidable to a regular mercantile establishment—house and store rent, stationery, fuel, insurance, clerk hire, family expenses, taxes, bad debts, expenses of collections, fall in value of the goods left on hand—expenses which were estimated to amount to  $7\frac{1}{2}$  to 10%.<sup>57</sup> His agents tended to become experts, "and by constantly attending public sales, and becoming perfectly acquainted with the market, kept their friends advised of every change; so soon as any article sold at a profit, it was instantly ordered, and transmitted with great rapidity."<sup>58</sup> They were said "to be always on the alert to obtain copies of orders sent to England by the old and experienced American importers, and the articles directed by them to be furnished as suitable for our market" were "hastily prepared and

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<sup>54</sup> *Ibid.*

<sup>55</sup> Niles, 35: 83.

<sup>56</sup> Bolles, I, 389; *Annals of Congress*, 16th Congress, 1st session, 2295.

<sup>57</sup> Niles, 18: 419; *Annals of Congress*, 16th Congress, 2d session, 1650.

<sup>58</sup> Bolles, I, 389.

sent off, to anticipate such orders, and supply the market before the goods on account of such orders" reached this country.<sup>59</sup>

Custom house practices, as well as the ease of concealment, made it impossible to determine what proportion of imported goods were handled on foreign account. It was, in 1817, "supposed that more than one-half of the goods subject to ad valorem duties, . . . imported into the United States" were "entered by . . . the mere representatives of the owners of the goods."<sup>60</sup> In 1819 an estimate, based upon "a careful examination of the weekly abstracts of merchandise entered at the custom house in New York" was that three-fourths of the importations were on foreign account.<sup>61</sup> The New York Mercantile Society in a petition to Congress in 1820 stated that the proportion ranged between two-thirds and three-fourths, and of dry goods from England, Scotland and Ireland four-fifths.<sup>62</sup> In 1824 it was claimed it could be "substantiated by a reference to official papers, that about three-fourths of all British and French goods imported into New York" were on foreign account.<sup>63</sup>

#### COMMERCIAL EFFECTS OF THE AUCTIONS.

It has been shown above that the auction system tended to reduce the efficiency of the protective tariff; this fact gave auctions a political importance as well as economic and fiscal; the resulting legislative campaign against auctions is treated in later paragraphs. The auction system produced some important commercial effects. Auctions facilitated the introduction of new foreign and domestic products; goods were forced on the market by rank price-cutting and in time the prejudices that opposed their introduction and advancement were overcome; this was true both of foreign and domestic goods.<sup>64</sup> The auctions were a solvent and revolutionary factor that broke down the too staid

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<sup>59</sup> Niles, 27: 289.

<sup>60</sup> Annals of Congress, 15th Congress, 1st session, 51.

<sup>61</sup> Niles, 18: 300.

<sup>62</sup> Annals of Congress, 16th Congress, 2d session, 1653.

<sup>63</sup> Niles, 27: 273. See similar and more detailed estimates in Niles, 27: 289 (1825), and Niles, 34: 106 (1828), and Bolles, I, 445 (1840), citing Ingersoll's Minority Report, April 4, 1844, No. 306, 28th Congress, 1st session.

<sup>64</sup> Annals of Congress, 16th Congress, 2d session, 1531.

traditional methods of commerce and consumption; the changes in dress, for instance, were toward "cheap but showy fabric" and were noticed by contemporaries.<sup>65</sup> The auctions served particularly the humbler domestic manufacturers with a means of reaching the market, and some who were too small to maintain a sales organization did all their selling through auctions.<sup>66</sup>

The strongest argument and apology for the auctioneers were that they tended to lower prices to the retailers and consumers through their economies in selling.<sup>67</sup> Certainly the sale at auction of a lot of merchandise at a sacrifice tended to give a very public expression of the apparent values of that sort of merchandise and set a presumptive low value on all the existing stock,<sup>68</sup> but such an assessment of value is a common objection to price-cutting in any sale however conducted. It was often alleged that auctioneers sold more goods daily than they advertised; that often the advertised lot was sold at a good price but other lots of the same goods were auctioned at successively lower prices; and that, this practice of the auctioneers being known, the price of the advertised lot was not bid up and there was therefore a general depression of prices.<sup>69</sup>

Undoubtedly there was much confusion as to values. Opponents of auctions claimed that the original diminution of prices to consumers soon ceased to exist and was compensated for by a reduction in quality.<sup>70</sup> Others dwelt upon the fact that auctioneers provided much less service for their customers, as catering to individuality, delivery, better inspection, store open every day at all hours, book credit, etc.<sup>71</sup>

Other opponents denied outright that prices were any lower. It was argued that it was impossible that three-fourths of the imports into the United States could be sold for a series of years at a loss, and that since those sold at auction were subject to additional expense of about 5% above those sold at private sale, this added expense would be added to the cost of the

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<sup>65</sup> *Ibid.*, 1530.

<sup>66</sup> *Ibid.*, 1532.

<sup>67</sup> "Remarks upon the Auction System," 9.

<sup>68</sup> Niles, 17: 337.

<sup>69</sup> Niles, 34: 260.

<sup>70</sup> Niles, 18: 421.

<sup>71</sup> "Ruinous Tendency," 8, 34-5.

goods and be ultimately borne by the consumer.<sup>72</sup> A most prominent auctioneer declared before an investigation committee of the New York Legislature in 1829 that goods sold higher at auction than at private sale.<sup>73</sup> Auctions made it possible to test the market without real selling; the principal might instruct his agent to bid in the goods at a certain minimum price; to test the market the auctioneer would offer a small lot for trial and if these were sold above the limited price the sale would continue.<sup>74</sup> The psychology of auction sales, with the excitement of a crowd of buyers bidding against each other, tends to raise prices.

The auction system affected the business of the importing merchants and the jobbers very materially. The passage of the auction law in New York in 1817, with its moderate duties on auction sales, gave New York City a comparative advantage over Boston and Philadelphia where "the free and absolute sale of goods at auction was not encouraged." East India goods which formerly all went to Boston were thereafter sent to New York.<sup>75</sup> Of course, other factors were tending to give supremacy to New York, such as the establishment of the first regular packet line between New York and Liverpool in 1817 and the construction of the Erie Canal in 1825 and the natural advantages of New York.<sup>76</sup>

The interior merchants and retailers resorted increasingly to auction sales at New York<sup>77</sup>; they came from Ohio, Indiana, Tennessee, Missouri, and other states, and the compelling motive was said to be the cheaper prices<sup>78</sup>; the periodicity and dependability of the auction sales were a great convenience to the visiting

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<sup>72</sup> Niles, 35: 229; 34: 258; 27: 290.

<sup>73</sup> Niles, 36: 186; 34: 258. See Niles, 34: 298, and "Remarks upon the Auction System," 48-52, for instances where auction prices exceeded retailers' prices.

<sup>74</sup> Niles, 34: 259.

<sup>75</sup> Hunt's, 10: 167.

<sup>76</sup> For a contemporary expert estimate of the relative merchandising advantages of New York, Boston and Philadelphia, see Girard, *Merchants' Sketch Book*, 1, 6: "In New York alone is located a class of foreign agents, whose whole business is to vend, through auctioneers and commission houses, the immense surplus production of their manufacturing districts."

<sup>77</sup> Niles, 21: 103.

<sup>78</sup> "An Examination of the 'Remarks on Auctions,'" 4, 9.

buyers; and they found the jobbers became more accommodating in the face of the competing auctions.<sup>79</sup> The overstocking of the seaports tended to force the goods into the interior "generally on extended credits"<sup>80</sup>; in the mercantile world the East tended to become creditor to the West. It was complained at the time that the New York auction tax had the effect of making the consumers of taxed goods in all states subject to New York tax laws.<sup>81</sup> The American manufacturers did not object so much to wholesale sales of foreign goods provided they were made through the regular jobber channels, but sales at auction obstructed their distributing system by eliminating the jobber.<sup>82</sup>

Besides the country merchants, the small city retailers were advantaged by auction sales. They were able to procure their supplies without the necessity of paying the intermediate jobbers' profits, which were commonly estimated at 15 or 20%.<sup>83</sup> A contemporary estimated that in New York City in 1831 there were about 7,000 persons engaged in the retail dry goods business most of whom made their purchases at auction piece sales.<sup>84</sup> The retailer with small capital, either on his sole account or jointly with others of his class, was able to buy direct and free himself from jobber monopoly.<sup>85</sup> A common complaint, however, of the retailer was that he had to spend so much time in auction rooms.<sup>86</sup>

The two middlemen who were hurt most were the importing merchants and the jobbers. A majority of the American dry-goods importing merchants, formerly the most numerous and important of the mercantile class, gave place to, or became themselves, agents of British manufacturing houses.<sup>87</sup> If an American merchant sent an order with description or samples the British manufacturer frequently sent by the same ship a large

<sup>79</sup> Annals of Congress, 16th Congress, 2d session, p. 1530.

<sup>80</sup> Annals of Congress, 16th Congress, 1st session, p. 2302.

<sup>81</sup> Niles, 34: 259.

<sup>82</sup> Annals of Congress, 16th Congress, 1st session, p. 2198.

<sup>83</sup> Annals of Congress, 16th Congress, 2d session, p. 1531.

<sup>84</sup> "An Examination of 'Remarks on Auctions,'" 4.

<sup>85</sup> *Ibid.*, 6; Annals of Congress, 16th Congress, 2d session, p. 1531.

<sup>86</sup> Niles, 34: 350.

<sup>87</sup> "Observations on the Report of the Committee of Ways and Means," 1828, p. 23; Niles, 34: 218; 35: 241; 23: 130.

quantity of the same goods to be sold at auction by his agent, thus defeating the merchants' market.<sup>88</sup> On account of this and other devices, the old importing houses failed<sup>89</sup> and new houses were restrained from beginning.<sup>90</sup> The general decline of the American merchant marine after 1815 was a leading factor in this tendency to mortality of mercantile houses.

The jobbers, as distinguished from retailers on the one hand and importing merchants on the other, were opposed to seeing their old customers go to auctions and were loud in their condemnation of the auction system.<sup>91</sup> The auctioneers, replying to the jobbers' demand for legislation prohibiting auctions, urged the danger of class legislation,<sup>92</sup> that other classes of tradesmen might be abolished or regulated when once such legislation had been initiated. Their efforts to abolish their new competitor having failed, there arose an "intermediate grade of merchants" who purchased largely at auctions, at the package sales, from wholesale importers, and in such other ways as they could obtain merchandise on reasonable terms, and who sold to local and country retailers.<sup>93</sup> One of these New York houses, Reuben Vose, shoe and hat store, was the first to introduce the one-price plan, which has come to characterize American business; he published a catalogue describing some hundred different articles with all prices marked against them; he gained and kept the ascendancy over all other New York jobbers in sales to western and southern merchants; his business was conducted on a strictly cash basis and he won from the credit houses their cash business.<sup>94</sup> There arose at this time in New York a company of young men, called "Prime Ministers," who were the junior

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<sup>88</sup> "Remarks on Present System of Auctions," 12; Bolles, I, 389-90.

<sup>89</sup> Read the lamentation of a Philadelphian in 1823, Niles, 23: 130. Of the 37 names, all merchants of high standing, appearing on an insurance policy in 1799, 27 had become bankrupt by 1823; of 54 persons or houses having merchant flags in the Baltimore observatory as engaged as ship owners in foreign trade and importers, 24 became bankrupts in the four years ending 1823.

<sup>90</sup> Niles, 35: 241.

<sup>91</sup> Niles, 20: 66.

<sup>92</sup> "An Examination of 'Remarks on the Present System of Auctions,'" 8.

<sup>93</sup> New York Assembly Journal, 1829, p. 393. A common form of such transaction is detailed in Niles, 34: 298.

<sup>94</sup> Girard, Merchants' Sketchbook, 8.

partners and confidential clerks of the jobbing houses; they had entire control of all country buyers who visited the city for the first time; they were men of education and polished manners, superior to the merchants who employed them; and they soon acquired a powerful influence in the mercantile world.<sup>95</sup>

By these (purchase by package at auction one-price-cash-sale, employment of expert salesmen, and entertainment of visiting buyers) and other devices the jobbers withstood to a good degree the competition of the auction houses.

#### CUSTOMS CREDITS.

A confusion of interests was injected into the commercial and fiscal situation by customs credits and duty bonds. Legislation,<sup>96</sup> in 1789, 1790, and 1795, had provided credit for customs on certain imported commodities for from four to twelve months, varying with the source and commodity. In 1799 a more general system was adopted: on goods from the West Indies, half of the duties were due in three and half in six months; on salt, in nine months; on wines, in twelve months; while on goods from Europe, one-third of the duties was due in eight, ten and twelve months; on goods other than from Europe, one-half in six, and one-fourth each in nine and twelve months; teas might, at the option of the importer, be deposited in storehouses agreeable to the importer and revenue inspector, and bonds be given running two years for double the amount of the duties. Collectors were also allowed to receive imported goods on deposit, to secure the payment of duties, as a substitute for sureties on bonds. If the importer, therefore, did not care to give such sureties, he could give his own bond, and remove of his merchandise all but enough to insure the payment of the duties on the whole. Duties for less than \$50 were payable in cash (after 1832 this minimum was raised to \$200). The law of 1799 was amended in 1805 and 1818 by minor extensions of credit periods.<sup>97</sup>

<sup>95</sup> *Ibid.*, 17.

<sup>96</sup> For a precise chronological summary of the legislation see Niles, 18: 299.

<sup>97</sup> Bolles, I, 478; Niles, 18: 299-300. These extensions were primarily due to petitions by the East India merchants of Boston and Salem. Niles, 18: 306.

In 1820 a reaction appeared and great effort was made to limit customs credits to drugs, dye stuffs, and groceries, except wines and ardent spirits, at three months and six months; to teas, at three, six and nine months; and to require that duties on manufactured goods be paid on arrival, or be deposited for six months and then sold at auction if the duties were not paid. The importer who might contemplate re-exportation was to have three alternatives: to avail himself of the system of drawbacks, by giving his bond for the duties and taking the debenture on re-exportation, or to declare his intention at the time of entry, giving his bond for security, to export and not re-land the goods; or, in lieu of such surety, to deposit them in a warehouse and take his time to decide whether to sell in the domestic or the foreign market. No discrimination was made in this bill between importation on foreign and domestic account, although considerable pressure was brought to that end; the reasons against discrimination were (a) the desire to retain the dwindling carrying trade<sup>98</sup> and (b) the shipping agreements with England.<sup>99</sup> The bill did not satisfy those merchants who petitioned the indiscriminate abolition of credits; the Congressional leaders believed so radical a measure would confound our commerce, and saw no reason for tampering with the West India trade which was in the hands of American merchants and did not operate to injure our manufactures. Credits to the Far East were to be reduced, so the arguments ran, because the balance of trade with these countries was adverse and led to exportation of specie, and it was not best to encourage such trade, and because the merchants who conducted it were rich capitalists who did not need credits of longer term than was required to make a single voyage.

This bill of 1820 failed to pass, but marks the reversion of opinion in the matter of credit extensions. In 1832 the law was decisively changed, so that "duties on wool, woollens and all merchandise of which wool formed a part, were required to be paid in cash without discount, or, at the option of the importer, be stored under bond at his risk, subject to the payment of interest from the date of importation. On all other merchandise, the duty, if not exceeding \$200, must be paid in

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<sup>98</sup> Niles, 18: 301.

<sup>99</sup> Niles, 18: 302.

cash; if exceeding \$200, be paid or secured in the manner formerly required—one-half payable in three months and the balance in six months. When any installment of duties became due, enough merchandise was to be sold at public auction to pay them, if this was not done by the importer.”<sup>100</sup>

The object in allowing a credit in the payment of duties on foreign imports was to enable the importer, out of the proceeds of the sales of the goods imported, to reimburse himself the amount of such duties before they became payable. The length of the credit was, therefore, presumably determined by the interval required to dispose of the goods after entry; a shorter credit would force the importer to tie up his capital in customs paid and limit the volume of his business and our foreign trade,<sup>101</sup> whereas a longer credit would provide the importer with additional capital from the time the goods were sold till the revenue bonds came due. Our early national policy was to promote foreign trade and navigation; there was little capital in the country, and the provision of capital by this indirect means was thought necessary to divert trade from foreign ships and merchants.<sup>102</sup> In the East Indies trade the voyages were under particularly heavy expense; the goods were of high price, large quantity, slow consumption, and slow returns, and therefore Congress gave exceptionally long credits to goods from the Far East.<sup>103</sup> The British government provided warehouses for the deposit of imported goods and the payment of duties only when removed and sold; the United States government had provided no warehouses as yet, nor had private warehouses arisen due to the dearth of capital, and so customs credits were allowed instead, being cheaper for the government.

The amount of the duties was in fact a loan from the government to the importer, without interest, and became a real part of his capital and as productive as his direct contributions. When the term of the customs credits exceeded that allowed by him in

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<sup>100</sup> Bolles, I, 495; Act of 1832, Sections 5 and 6. Further limitations were passed in 1842. Bolles, I, 480. The difficulties attending these restrictions were great, but were somewhat allayed by the establishment of the British warehouse system in the United States in 1854.

<sup>101</sup> *Annals of Congress*, 8th Congress, 2d session, p. 1494.

<sup>102</sup> Niles, 18: 299.

<sup>103</sup> *Annals of Congress*, 16th Congress, 1st session, p. 2342.

sales to retailers it provided him free of cost with the active use of government funds.<sup>104</sup> The importers were accordingly strongly opposed to cash customs duties or shortened credits as provided in the bill of 1820.<sup>105</sup> Undoubtedly the advantage from this free continuing loan on government account did not accrue wholly to the importers; for, to the degree that they were in competition, they would be forced to pass the advantage on to the consumers, by way of lower prices of the products handled. It is impossible to determine the exact extent of this percolation.

It was argued that this generous provision of commercial funds by the government was particularly advantageous to the younger and smaller importers, and that the abolition of such credits and the insistence upon cash payment of duties would not only curtail importations but would create and retain a monopoly of foreign trade in the hands of the large foreign and home capitalists.<sup>106</sup> This became the most popular defense of customs credits; but the small importers were willing to forego customs credits if that would defeat the auction system.<sup>107</sup> By 1820 the country possessed considerable free capital which might be borrowed by importers on practically the same security as had to be given the government.<sup>108</sup>

The customs credit system did not discriminate between goods imported by American importers and on American account and those imported on foreign account. It seems that customs credits and auctions gave the British an advantage over the American importer and increased his commercial capital by the amount of duties.<sup>109</sup> It was possible for the British agent to turn his goods three times within the average period of the credits and his

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<sup>104</sup> Niles, 18: 299; *Annals of Congress*, 16th Congress, 1st session, p. 2305. Customs credits helped to make the fortunes of N. L. and G. Griswold, John Jacob Astor, and Th. H. Smith. Barrett, *Old Merchants*, I, 32.

<sup>105</sup> See resolutions of merchant associations as reported, Niles, 18: 306; 19: 168, 222; 33: 380, and *Annals of Congress*, 15th Congress, 1st session, p. 368.

<sup>106</sup> Bolles, I, 495; *No. Am. Review*, XII: 66; *Annals of Congress*, 16th Congress, 1st session, 2306.

<sup>107</sup> See arguments against the bill of 1820, Niles, 18: 305.

<sup>108</sup> *Annals of Congress*, 16th Congress, 2d session, p. 1652; Niles, 27: 305.

<sup>109</sup> Niles, 18: 300, describes the manner of this. The Liverpool packets, by increasing the turnover, added to this advantage.

capital was therefore doubled.<sup>110</sup> A contemporary estimated that the United States government thus made a continuing loan of six million dollars without interest to foreigners, our competitors.<sup>111</sup>

Protectionists logically claimed that custom house credits were a positive bounty on importations and minimized or nullified the protection given by import duties.<sup>112</sup> Cash duties meant more stringent protection and therefore manufacturers supported the bill of 1820.

Customs credits, by easing the importation of goods, undoubtedly stimulated excessive and speculative importations.<sup>113</sup> These were injurious to our manufacturers, merchants, and government, for they made business less stable and dependable, caused bankruptcies, and resulted in heavy losses of revenues. It is probable, however, that consumers got goods at lower prices.<sup>114</sup> The losses of revenue from failure to pay customs credits were particularly heavy in the case of foreign agents, for they had little property other than their imported cargoes and it was too common that one agent went surety for another. Auctions offered a speedy sale and ready means of getting away without paying their credits.<sup>115</sup> In 1821 it was remarked that the "increase of custom house delinquencies has kept pace with the increase on foreign account."<sup>116</sup> A calculation of the revenue duties from 1789 to 1820 showed that of the \$351.3 million duties only \$1.5 million or 0.45% had been lost by the insolvency or was doubtful.<sup>117</sup>

The system of customs credits as a source of commercial capital became more efficient as the turnover of goods and the number of voyages within the interval of the credit were

<sup>110</sup> Niles, 34: 106.

<sup>111</sup> Niles, 27: 274. See a contrary opinion in *Annals of Congress*, 16th Congress, 1st session, p. 2305.

<sup>112</sup> Niles, 18: 301, 304; 19: 234.

<sup>113</sup> Bolles, I, 495; Niles, 17: 337.

<sup>114</sup> *Annals of Congress*, 16th Congress, 1st session, p. 2304.

<sup>115</sup> Niles, 18: 301; *Annals of Congress*, 14th Congress, 2d session, p. 850.

<sup>116</sup> Niles, 18: 301. A statement of the amounts in litigation is given according to cities and shows that litigations in those cities whose trade was on foreign account far exceeded those whose trade was on American account, whether their trade was relatively large or small.

<sup>117</sup> Niles, 18: 9. See also Report of Secretary of Treasury, Crawford, February 23, 1820. A quarterly statement of customs bonds outstanding 1821-2 is given in Niles, 23: 403; they ranged from \$16 to 24 million.

increased. Auctions facilitated these operations; by selling at auction for cash, or on short term notes which could be discounted at the banks, the amount of the duties thus loaned could be invested in a new voyage, and possibly several such rounds be completed before the first came due.<sup>118</sup>

#### UNDERVALUATION OF IMPORTS.

Another means by which the protection to American manufactures was minimized, and which was facilitated by auction sales, was the system of evaluating imports.<sup>119</sup> The plan in use was to take the invoice valuations, as of the exporting country, and certain flat addenda of 10 or 20%.<sup>120</sup> Such additions were, of course, artificial; the foreign cost so augmented was not the domestic cost, for the increment did not equal the difference in value here and abroad. The importer, consignee, or agent, had to make an entry and state under oath that the entry and invoice stated the actual cost of the goods abroad; if the goods were not invoiced at their actual cost at the place of exportation, with the design of evading any part of the duties, the goods, or the value of them, was forfeited; and if the collector suspected that the goods were invoiced at less than this true cost, he might retain them until an appraisement was made and the duties set according to the appraised value. But in practice this privilege of home appraisal was, for numerous reasons,<sup>121</sup> not effective, and the systematic evasion of duties by undervaluation was rank.

“Even when the foreign manufacturer entered his goods at their cost to him, the price was about 16% lower than the prices of similar goods entered by American importers.”<sup>122</sup> The foreign merchants could always lay in their goods on better terms than

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<sup>118</sup> Niles, 18: 300. The Mercantile Society of New York therefore stood for prohibitive taxes on sales at auction without any reduction in the term of customs credits. *Annals of Congress*, 16th Congress, 2d session, p. 1650.

<sup>119</sup> For complete statement of details of methods of collecting revenues, see *Annals of Congress*, 15th Congress, 1st session, p. 35 ff.

<sup>120</sup> Niles, 19: 157.

<sup>121</sup> The reasons are given in *Annals of Congress*, 15th Congress, 1st session, pp. 44-6.

<sup>122</sup> Bolles, I, 391; *Proceedings, General, Harrisburg Convention*, 1827, pp. 47-51.

American houses having no connection abroad; if sent by the foreign manufacturer himself, the cost price could be quite arbitrarily set for he could consider only the cost of his materials and omit his own labor and industry and his profits and, as the prices realized in the American market bore no necessary relation to the invoice price, he was tempted to invoice the goods at the lowest price which he thought he could get by the custom house.<sup>123</sup>

But more unscrupulous evasions were practiced, too. As the valuation upon which duties were to be paid were determined in most cases by the person who was to pay the duty, the temptation was strong to undervalue, and evasions were more common after the passage of each law raising the tariff rates. Various devices were used to make fictitious entries.<sup>124</sup> The foreign merchant who bought his goods from manufacturers would do so as opportunities were favorable, and often in different parcels, at different places, from several persons, at different prices; obviously when he prepared his own invoice he could set arbitrary prices, for it was quite impossible to trace the true costs.<sup>125</sup> If necessary, fictitious sales between principal and agents or partners or friendly traders might be used to create semblance of a true price.<sup>126</sup> The goods might be consigned to an American or foreign agent who had no knowledge of the foreign cost of the goods, except the invoice as sent to him, and who could without perjury enter the goods and take the custom house oath. The danger of conviction for perjury in swearing that a fictitious invoice was true was small any way, for the testimony requisite to maintain a criminal prosecution could very seldom be obtained in this country and the agent or consignee only swore that the invoice produced was the true and only invoice sent to him.

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<sup>123</sup> *Annals of Congress*, 15th Congress, 1st session, p. 38; *Niles*, 27: 290; *Bolles*, I, 391. It was alleged that two invoices were sometimes used, one with undervaluations to enter by, and another with true valuations to sell by; the true invoice was often sent to a third person, who was agent of the consignor of the goods and who was instructed and authorized to demand the goods from the consignee who made the entry.

<sup>124</sup> See a series of instances in "Remarks upon the Auction System," pp. 12-18.

<sup>125</sup> *Annals of Congress*, 15th Congress, 1st session, p. 36-8.

<sup>126</sup> *Ibid.*, 47.

These evasions were much more common in importations on foreign account than on American account. The great reason for this was the greater facilities offered by the agency system. It is likely that the foreign agent also did not feel the direct responsibility for moral rectitude which he would feel in his own country. The agent was also concealed behind the auctioneer, and the rapidity with which the latter transacted business rendered it difficult to detect frauds that would be exploited against the regular trader.<sup>127</sup> The auctioneer might or might not be privy to such frauds.<sup>128</sup>

The goods which were subject to ad valorem duties were mostly manufactures; the principal articles paying specific duties were iron, hemp, sugar, tea, coffee, wine, spirits, spices, molasses and salt. The evasions of duties by undervaluations applied, of course, only to the former group. Before 1815 the revenues yielded by the specific duty group exceeded those from the ad valorem group; but after 1815 this proportion "was not only suddenly but greatly reversed" and the common explanation was that the possibility of evading duties and thus lowering the bar to importation stimulated relatively the importation of the ad valorem group.<sup>129</sup>

In the tariff act of 1832 Congress provided for the home valuation of imports, but this provision was not to go into effect for ten years, and meanwhile it was repealed, and has never since been passed.

#### OBJECTIONS TO THE AUCTIONS.

Many of the objections to auctions have been stated above. These and others will be summarized here.<sup>130</sup>

(a) Auctions tended to defeat the American protective policy. They facilitated dumping by foreign manufacturers, made customs credits more advantageous to importers, and abetted the evasion of duties by undervaluation.

(b) Auctions hurt certain vested interests, particularly the

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<sup>127</sup> Niles, 27: 290; 35: 137.

<sup>128</sup> Niles, 34: 259.

<sup>129</sup> See argument, *Annals of Congress*, 15th Congress, 1st session, p. 51. There were many other factors working to this end.

<sup>130</sup> See general statements in Niles, 34: 174; 27: 258; New York Assembly Document 53, Vol. 4: 287.

American importing merchants and jobbers, and disturbed the accustomed channels of trade, and diverted a large part of foreign commerce to foreign agents and consignees resident in America.

(c) The auctioneer was less responsible than the merchant and retailer for dishonest practices and frauds, such as short lengths, deficient numbers, defective materials, etc.<sup>131</sup>

(d) Auctions tended to concentrate a considerable proportion of the trade in a few hands and draw away the customers of merchants and retailers, and were therefore attacked as "monopolistic." But it was a perverted use of the term, for the ear-marks of monopoly are limitation of supply, higher prices, discriminations, and excessive profits, none of which characterized the auctions. Indeed they tended to make trade more competitive, to break the hold of jobbers and retailers on their customers, and to give open publicity to prices and profits. The concentration of auction sales at fewer places was to the convenience of buyers and very likely intensified competition among buyers. Auction sales made it possible for small local and interior retailers to get a start whom the jobbers refused or hesitated to encourage. The complaint against auctions was that against big business and plutocracy; they were held to be "unjust, by giving to a few, that which ought to be distributed among the mercantile community generally. A single auction house does as much business as would support fifty respectable firms in private trade, each consisting of two partners, maintaining two families, and two or three clerks. The evident tendency of this monopoly is to crush the middle ranks, and to divide the society into the very rich and the poor."<sup>132</sup> Evidently the case is exaggerated and the economic doctrine questionable. The only basis for charge of monopoly was that the auctioneers were under license by the State and their number limited and no other persons were allowed to sell in this way<sup>133</sup>; but as there were every year some auctioneer licenses not taken it is evident that New York was

<sup>131</sup> For instances showing the impossibility of holding the auctioneer responsible, see "Remarks upon the Auction System," pp. 27-31, 36-42. For a direct denial of such responsibility and for a strong statement of the auctioneers' honesty and honor, see the "Auctioneers' Memorial" in *Annals of Congress*, 16th Congress, 2d session, p. 1521.

<sup>132</sup> *Niles*, 34: 258; 19: 130-131; 18: 301.

<sup>133</sup> *Niles*, 18: 418.

not suffering from the restriction on the number of auctioneers.<sup>134</sup> Nor were good evidences of monopoly the common charges that certain goods could be found only at auctions, that some stores refused to sell certain goods by private treaty but only through auctions where higher prices might be gotten, and that buyers at auction had frequently to buy more than they wanted.<sup>135</sup>

(e) In proportion to the amounts of goods imported and sold, the agents, consignees and auctioneers did not hire as many houses, stores and clerks and did not, therefore, contribute as much to the public coffers as the generality of resident merchants, jobbers and retailers. So they were alleged to hurt the city and escape their due burden of public expenditure.<sup>136</sup> But, on the other hand, the revenue derived by the State of New York from auction taxes constituted one of the principal items in the canal fund—"a revenue which grew out of a business which drew merchants or purchasers from all parts of our widely extended country, which tended directly to enhance the value of houses, stores and lots, multiply the business of the shipper, importer and jobber, and which has filled our city with palaces, and made our merchant princes."<sup>137</sup>

(f) Auctions tended to concentrate the whole trade of the country in a few large cities, to the extinction of all other wholesale markets. The importers of such places as Richmond, Petersburg, Charleston, Savannah, Augusta, disappeared within a few years.<sup>138</sup> Goods bought at auction in seaboard cities were carried by itinerant dealers to interior towns and offered for sale at auction day after day and night after night in some rooms adjoining the local retail stores; such operations tended to disrupt and destroy the local retail trade.<sup>139</sup> Some of these interior auctioneers were resident and maintained purchasing agents at the seaboard city.<sup>140</sup>

<sup>134</sup> N. Y. Senate Document 44, (1832), Vol. I, p. 8.

<sup>135</sup> "Remarks upon the Auction System," 34.

<sup>136</sup> N. Y. Assembly Journal, 1829, p. 391.

<sup>137</sup> Hunt's, 10: 157; New York, Senate Journal, 1823, p. 1035.

<sup>138</sup> Niles, (1828) 34: 258.

<sup>139</sup> N. Y. Assembly Document 12 (1832) Vol. I, contains memorial from Ogdensburgh. Rochester petitioned the State Legislature in 1831, but the fact that the total auction taxes paid by that city in 1831 were only \$80 is evidence that the evils alleged were exaggerated. N. Y. Assembly Document 151.

<sup>140</sup> N. Y. Assembly Document (1831) 151.

(g) It was argued that the foreign agent auction system hurt the country because it tended to cause the export of money which would otherwise be expended inside our boundaries. An estimate of the profits of foreign agents in 1825 was \$2,000,000, which, it was pointed out, would employ 500 principal merchants, with their 1,000 clerks and assistants, together with their families, and require stores, warehouses and dwellings, fully 1,000 houses with rentals of \$250,000, and would percolate to advantage through mechanics, dependent branches of business, farmers, etc.<sup>141</sup>

(h) Auction sales disturbed the regularity and dependability of commerce and industry. Dumping by foreign manufacturers had that very purpose. That steadiness of market which is required to yield a reasonable profit and regular employment was adversely affected.<sup>142</sup> Prices fluctuated widely and speculative purchases were fostered.<sup>143</sup>

(i) A charge against auctions, reiterated without end, was that they injected into use a poorer quality of goods than the people were wont to buy by private treaty and than they thought they were buying. It was a period when, the world over, people began to wear cheaper clothes introduced and made possible by the Industrial Revolution, particularly cotton goods. Auctions probably did facilitate this change of custom in costume by breaking the rigid trade channels and giving the manufacturer a competing outlet for his new products. But the enemies of the auction system charged the manufacturers and auctioneers with fraudulent activities. It was alleged that manufacturers prepared "*on purpose for auctions, goods defective in every respect—in length, width, quality, color, and pattern, which no reputable house would venture to import and to offer at private sale—and which would be dear at any price*"<sup>144</sup>; that they used auctions to force the sale of refuse and damaged goods<sup>145</sup>; and

<sup>141</sup> Niles, 27: 274, 289. This Mercantilistic doctrine is immemorial; for a similar complaint in 1704 see Goodrich, *Picture*, 45.

<sup>142</sup> Niles, 27: 273; 34: 259.

<sup>143</sup> Niles, 34: 258, 259, 350.

<sup>144</sup> Niles, 34: 258; 31: 24, 86; 18: 419-420. "Remarks upon the Auction System," 18-21. Some of these charges smack strongly of protectionism and connote a newspaper propaganda.

<sup>145</sup> Niles, 27: 280.

that they artfully made and packed the poor quality goods so that none but good judges could discriminate.<sup>146</sup> Auctions were supposed to facilitate these deceptions because the time and conveniences allowed to examine the goods were entirely inadequate.<sup>147</sup> Auctions caused a decline in the "distinctive character of goods," that is, they could no longer be bought simply by name and brand and number<sup>148</sup> but only after personal inspection. These allegations were probably somewhat exaggerated, for most of the goods sold at auction were sent there from the stocks of importers and retailers<sup>149</sup> and the difficulty of examining the goods in the short interval at time of sale was "in some measure removed by the previous exposure of the goods for examination (1 to 3 days) and also by the three days allowed after each sale, as allowed by common custom for the examination, within which time, goods sold as perfect, and of specific lengths, breadths and qualities, if found to differ from the terms of sale, in either of these respects," might be returned, or retained by the purchaser "receiving such deductions as may be agreed upon at his option."<sup>150</sup> That so few claims were made for deficiencies is evidence that the frauds were not rank.<sup>151</sup>

(j) Various undesirable social results were ascribed to auctions. They were thought to lower private morals. Deceptions, frauds, irresponsible sellers, etc., which were alleged to prevail at auctions, were said to be subversive of "the mutual

<sup>146</sup> Niles, 18: 419. The difference amounted to at least 20%.

<sup>147</sup> "Remarks upon the Auction System," 42-4. "At what are called piece or shelf sales, which form nine-tenths of auction sales,—one minute, or even less, and scarcely ever so much as two minutes, is all the time usually allowed to a large company of perhaps two hundred buyers, to examine, in the twilight of an auction store, amidst noise and confusion, goods which they never saw before. The worse the goods—the shorter will probably be the time given." Niles, 34: 259.

<sup>148</sup> "Names and lengths now (1828) really mean nothing—for years past all has been confusion." "Remarks upon the Auction System," 22-26. Instances are given.

<sup>149</sup> "An Examination of Remarks upon the Auction System," 10.

<sup>150</sup> N. Y. Assembly Journal, 1829, p. 393.

<sup>151</sup> "The average amount of deductions made from package sales of British dry goods, for claims of every nature, will not equal the one-sixteenth of one per cent." Auctioneers' Memorial, Annals of Congress, 16th Congress, 2d session, p. 1528.

confidence and courtesy that subsisted, in our better days, between the responsible importer and his customers," "subversive of all the milder and kindlier charities of our nature, and unavoidably conducive to progressive and infinite depravity."<sup>152</sup> The spirit of gambling was supposed to be excited by bidding at public sales, and resulted in over-buying, bankruptcies and misery.<sup>153</sup> The auctioneers claimed that their business was conducted on a high moral plane, and that credit extensions by private treaty sellers encouraged over-buying to a greater extent than auction sales.<sup>154</sup>

(k) In this connection certain business practices were criticized. Fictitious bidding at auctions was alleged; false news was published; the market was rigged; etc.<sup>155</sup> To evade auction duties small quantities of a certain commodity were offered at auction to determine the price, and then large sales at this price were made in private; false reports of sales were used<sup>156</sup>; the auctioneers sold their commissions,<sup>157</sup> conducted sales at other places than their regular place of business,<sup>158</sup> and did other irregular things.

#### CAMPAIGN AGAINST THE AUCTIONS.

The opponents of auctions tried openly three methods for ousting or restricting them. One was a vehement publicity campaign exposing their evils and shortcomings in violent and exaggerated language. This was done through newspapers, pamphlets and mercantile associations. The campaign was nation-wide but largely concentrated in the seaboard cities. Alliances between cities and with the protectionists were effected. The auctioneers fought this by a counter publicity campaign

<sup>152</sup> Citizens' Committee, N. Y.; Niles, 34: 258.

<sup>153</sup> Niles, 19: 131.

<sup>154</sup> Annals of Congress, 16th Congress, 1st session, p. 2175; 2d session, p. 1529; N. Y. Assembly Journal, 1829, p. 393.

<sup>155</sup> Niles, 34: 261; "Remarks upon the Auction System," 44-6.

<sup>156</sup> Niles, 18: 420; "Ruinous Tendency," 13; Annals of Congress, 13th Congress, Vol. III, p. 1853; Bolles, 113; N. Y. Senate Document 44 (1832), Vol. I, p. 6.

<sup>157</sup> N. Y. Senate Document 44 (1832), Vol. I, p. 7.

<sup>158</sup> New York Assembly Journal, 1829, p. 530.

and by threats to withdraw their advertisements from hostile newspapers.<sup>159</sup>

The second device was to boycott the auctions. The members of merchant associations agreed to purchase no goods at auction and to deal with no one who did. The United Dry Goods Association of New York in 1821 adopted unanimously a strong resolution against auctions but found after a short trial that its boycott was not respected by its members and repealed by close vote so much of the resolution as bound them to boycott.<sup>160</sup> In 1830 165 dealers in New York pledged themselves for one year not to purchase at any sale by auction where endorsed notes were required because they believed auction sales should be on an equality in this respect with private sales. Another large list of dealers pledged themselves not to deal with auctioneers who at a package sale exhibited dry goods in lots or parcels of less value than \$150, except in original packages, or who offered for sale duplicate packages not declared in the catalogue, or refused to sell a sample lot that had been exhibited. And a third long list of signers agreed not to attend, or be concerned in any purchase made at, auction after two o'clock P. M.<sup>161</sup> Boycotts of this limited nature which sought to correct specific abuses were more successful than omnibus boycotts against the whole auction system.

The third method of opposition was legislation, by the State and federal governments.

#### STATE LEGISLATION.

The colonies had from very early dates regulated auction sales; the regulations pertained to the places and times of auctions, the appointment of the auctioneer, his commission, his bond, the goods salable, reports, etc. In 1713 New York laid a duty on auction sales<sup>162</sup> and auctions were taxed almost continuously

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<sup>159</sup> Niles, 36: 186.

<sup>160</sup> Niles, 21: 103.

<sup>161</sup> Niles, 37, 410.

<sup>162</sup> Act of October 23, 1713, chapter 267; cf. Act of July 5, 1715, chapter 294; cf. Act of May 14, 1717, chapter 326, and Act of June 24,

thereafter throughout the 18th century. In 1804 New York experimented in classifying goods according to their sources and kinds and original packages and in fixing different taxes accordingly,<sup>163</sup> but abandoned the plan temporarily in 1814 and adopted a flat rate.<sup>164</sup> In 1801 the number of auctioneers in the City of New York was limited by law to 24, in 1803 to 30, in 1813 to 36, in 1824 to 42, and in 1825 to 54. In 1817 the auction law was overhauled but with no animosity toward the auction system; the taxes laid were \$2 per \$100 sales of wines and ardent spirits, \$1 per \$100 sales of East India goods, in original package, and \$1.50 per \$100 sales of all other goods whatsoever; auctioneers were to be appointed by the governor and council, as many as he pleased, but not more than 36 for New York City; the mayor was to name the place of sale at auction of horses, carriages and household furniture, auctions held at other than his place of business had to have two days' notice in the newspapers; auctioneers forfeited their licenses by accepting a license in another state; the auctioneer was to pay to the State a tax of 2½% of the auction duties collected by him.<sup>165</sup> This act was sponsored and approved by the auctioneers and was wholly regulatory and fiscal in purpose; auctions had not yet incurred the displeasure of protectionists, merchants and retailers. The auction revenues

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1719; cf. Act of November 19, 1720, chapter 399. These acts show that it became the permanent policy to use auction sales as a source of revenue early in the 18th century. For later similar acts see Act of May 20, 1769, chapter 1392, and amendment of January 1, 1770, and Act of February 26, 1772, chapter 1516, and the Act of February 20, 1784, 7th session, chapter 4, and Act of April 2, 1801, chapter 116.

<sup>163</sup> Act of April 6, 1804, chapter 65; these rates were modified by the Act of April 6, 1813, chapter 70.

<sup>164</sup> Act of April 13, 1814, chapter 116. See note, page 171.

<sup>165</sup> Act of April 15, 1817, chapter 275. This 2½% tax was a sort of license tax and was continued till 1843, even after the limitation on the number of auctioneers was removed in 1838, when it was no longer warranted. See Annual Report, Comptroller, N. Y., 843, p. 63; Act of February 28, 1838, chapter 52; and Act of April 8, 1843, chapter 86; Governor Van Buren criticised the monopolistic nature of auctioneers and recommended that the law be modified to allow every citizen who could give security for the duties to sell at auction by wholesale only, under license. *Governors' Messages*, Vol. III, p. 246-7.

were devoted to the canal fund and to certain charities in New York City and were therefore tenaciously held to.<sup>166</sup>

Despite the spirited campaign against auctions which arose after 1817, the New York Legislature was not moved to alter the Act of 1817 and make it more severe on auction sales. The pressure was for federal rather than State legislation, for the protection of manufactures was a national problem. Demands were, however, made that certain abuses of auctions be corrected.<sup>167</sup> The memorials of 1830-2 were closely considered by special select committees and investigations were made by the Comptroller.<sup>168</sup> The penal parts of the law were defective<sup>169</sup> and were strengthened by specific provisions.<sup>170</sup> It was not, however, until 1846 that auction duties were lowered.<sup>171</sup>

The Pennsylvania auction laws were not much unlike those of New York.<sup>172</sup> The culminating law of the pre-national period limited the auctioneers to three for Philadelphia, fixed the bonds at £20,000, auction duties at 1%, and varying commission rates.<sup>173</sup> Later laws provided for auctioneers at Lancaster,<sup>174</sup> Pittsburgh,<sup>175</sup> and other cities.<sup>176</sup> In 1821 the limitation on the number of auctioneers in Philadelphia was removed<sup>177</sup> and special auctioneers for horses, cattle and carriages were provided. The classification of auctioneers was further extended in 1822 with license fees and bonds varying with the kinds of goods handled.<sup>178</sup>

<sup>166</sup> N. Y. Senate Journal, 1829, p. 252; see amendment to State Constitution, 1835. For statistical statement of disposition, see Senate Document 80 (1863), Vol. 5.

<sup>167</sup> See list in N. Y. Senate Document 44, Vol. I, p. 9.

<sup>168</sup> N. Y. Assembly Document 381 (1830); Document 53 (1831), Vol. 4; Senate Document 44 (1832), Vol. I, pp. 5, 28, 35.

<sup>169</sup> N. Y. Governors' Messages, III, p. 18.

<sup>170</sup> E. g., Act of 1835, chapter 62; Act of 1847, chapter 242; Act of 1849, chapter 399.

<sup>171</sup> Act of 1846, chapter 62.

<sup>172</sup> For comprehensive detailed statement of the New York auction law as of 1840, see Hunt's, II, 73-5.

<sup>173</sup> Act of 1780, chapter 908.

<sup>174</sup> Act of 1808, chapter 96.

<sup>175</sup> Act of 1814, chapter 178.

<sup>176</sup> Act of 1832, chapter 140.

<sup>177</sup> Act of 1821, chapter 161.

<sup>178</sup> Act of 1822, chapter 158.

Certain abuses were provided against in 1824<sup>179</sup> and the whole auction law was overhauled with respect to Philadelphia and Pittsburgh in 1842.<sup>180</sup> No evidence appears in any of this legislation of an animus to the auction system; it too was wholly regulatory and fiscal in purpose.

This summary of the legislation of two leading commercial States is illustrative of the legislative situation with respect to auctions.

#### FEDERAL LEGISLATION.

Until 1817 auctions received consideration by Congress as a source of revenue only. The question of the advisability of taxing auction sales was a part of the more general question between the Republicans and Democrats whether the government should depend upon internal revenue duties. Jefferson and Gallatin opposed the plan on the grounds that it contravened the principles of liberty and was inquisitorial, that it was injurious to the morals of the people, that industry was injured by it, that it invaded the rights of States, that it operated unequally in different sections of the country, that it was unpopular and unwise politically, etc. Hamilton and the Federalists saw social, political and fiscal advantages in direct and internal revenue taxes. In 1794 the House Committee proposed a tax of 1% on sales at auction and estimated a yield of \$100,000.<sup>181</sup> The act passed that year imposed duties of one-quarter of 1% on auction sales of real estate, farming implements and stock, ships and vessels, and of one-half of 1% on sales of all other "goods, chattels, rights, and credits." The auctioneers were to pay the duties, were licensed, put under bond, subjected to district supervision, and required to make reports to the Treasury; no licenses were granted in a state or town where that state or town provided for licensed auctioneers. The auctioneers were allowed 1% commission. The act was to be in operation two years, but it was

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<sup>179</sup> Act of 1824, chapter 100.

<sup>180</sup> Act of 1842, chapter 90. New York prohibited the sale of stocks and bonds at auction, but Pennsylvania permitted such sales and subjected them to a duty of 1¼%, whereas the duty was 1½% on all other sales except on real estate or shipping.

<sup>181</sup> *Annals of Congress*, 3d Congress, 1st session, p. 1307.

renewed in 1795 for six years, and in 1801 without limitation of time. The act was repealed in 1802 through the efforts of Randolph, Chairman of the Ways and Means Committee, as a party necessity primarily. The duty fell almost wholly on imported commodities; its productiveness depended largely upon the honesty of the auctioneers and false reporting was common.<sup>182</sup> In 1795 it yielded \$36,000 and in 1796, \$43,000.<sup>183</sup> The duty was relatively easy to collect for it was confined practically to the chief towns and to few persons, but, on the other hand, it required the examination of the voluminous entries of the auctioneers.<sup>184</sup>

Gallatin was forced by the adverse situation of the Treasury in 1812 to recommend a return to internal revenue duties, and among these a duty on auction sales of articles of foreign produce or manufacture and at the same rate as heretofore.<sup>185</sup> The Ways and Means Committee in that year also recommended auction duties at rates of 2% on foreign merchandise and one-quarter of 1% on vessels, with an estimated yield of \$150,000.<sup>186</sup> In July, 1813, was passed an act to go into effect January 1, 1814, for the duration of the war, at rates of 1% on merchandise and one-quarter of 1% on vessels.<sup>187</sup> On December 23, 1814, the auction duty rates were doubled and the auction tax was put under general pledge to be kept in force till the public debt was paid or equal duties of other kinds substituted for the purpose<sup>188</sup>; and in December of the following year the Secretary of the Treasury recommended that the auction duty be continued without change.<sup>189</sup> In 1814 auction duties produced \$155,000.<sup>190</sup>

Efforts in the second session of the 14th Congress (1816) to repeal the internal revenue duties were unavailing. In December,

<sup>182</sup> Bolles, I, 113; Dewey, 108.

<sup>183</sup> Annals of Congress, 5th Congress, 1st session, Vol. III, p. 3582.

<sup>184</sup> *Ibid.*, 3591. See Report of Committee on Ways and Means, Dec. 12, 1817, for expenses of collecting internal revenues.

<sup>185</sup> Annals of Congress, 12th Congress, 1st session, Pt. I, p. 854.

<sup>186</sup> *Ibid.*, 1050.

<sup>187</sup> *Ibid.*, 13th Congress, Volume II, p. 2728.

<sup>188</sup> *Ibid.*, Volume III, p. 1852.

<sup>189</sup> *Ibid.*, 14th Congress, 1st session, p. 1637.

<sup>190</sup> Niles, 20: 355. See Niles, 7: 331, for portions paid by the different states.

1817, on a bill to repeal all internal revenue duties, Mr. Tallmadge of New York moved to except the auction duties, arguing that they had a beneficial operation as imposing an additional burden on foreign products, protecting the fair dealer, and encouraging our manufactures.<sup>191</sup> Obviously, protectionism made its début into the auction system. This proposal was debated and lost; Mr. Smith of Maryland, while favoring prohibitory auction duties on certain articles, particularly dry goods, held that that matter ought to be taken up on its own footing<sup>192</sup>; Chairman Lowndes of the Ways and Means Committee saw no decisive injury and considerable benefits from auctions<sup>193</sup>; he was supported in this view by Mr. Clay of Kentucky.<sup>194</sup> Mr. Whitman of Massachusetts would support the Tallmadge resolution if it were possible to discriminate among cities, in commercial depots the tax was desirable but in smaller seaports and towns it bore "almost without exception, on the necessitous and poor."<sup>195</sup> Others argued that the cost of collection of the tax, if retained alone, would absorb the whole tax.<sup>196</sup> The act to repeal all internal duties passed by overwhelming vote and became effective January 1, 1818. The Secretary of the Treasury in his report on the revision of the revenue laws issued that day made no mention of the proposal about auction taxes and the matter seemed definitely closed.

The protectionists brought three bills before Congress in 1820, one for a prohibitory tax on auctions, one for abolition or restriction of customs credits, and one for higher import duties.<sup>197</sup> The reasons for the precipitation of the tariff problem in 1817 and following years have been explained above. The auction bill was presented by Mr. Baldwin of Connecticut, Chairman of the House Committee on Manufactures. It proposed a tax of 10% on auction sales of a long list of enumerated foreign manufactures that competed with American manufactures, 2% on foreign grown or manufactured products not enumerated, 1% on American manufactures, and 5% extra if sold in other than their

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<sup>191</sup> Annals of Congress, 15th Congress, 1st session, p. 426.

<sup>194</sup> *Ibid.*, 427.

<sup>193</sup> *Ibid.*, 428.

<sup>194</sup> *Ibid.*, 427.

<sup>195</sup> *Ibid.*, 426.

<sup>196</sup> *Ibid.*, 427.

<sup>197</sup> Niles, 17: 361; 18: 169; 24: 104

original packages.<sup>198</sup> The bill had two purposes—to produce revenue and to protect American industry. Mr. Baldwin did not think the 10% rate prohibitory, but the generality proposed that it should be nearly so.<sup>199</sup> Some objected to the rates, not because they were prohibitory, but because they would work too partially or would be evaded.<sup>200</sup>

The introduction of this bill had been in response to a flood of petitions and memorials that had been pouring into Congress from the commercial cities during the early months of 1820.<sup>201</sup> This bill was said to be “imperiously called for—by at least nine-tenths of the merchants of New York, Philadelphia, and Baltimore.”<sup>202</sup> It was debated for several days, but, along with the other two bills, failed to pass, and action on the amended bill was postponed until next session.<sup>203</sup> One of the most objectionable features was that the federal taxes, in themselves prohibitory, together with the existing State taxes, would destroy the auctions which were a productive source of revenue to certain States, notably New York.<sup>204</sup> There was also considerable division of opinion on the whole subject.<sup>205</sup> At the next session of Congress petitions were presented by both auctioneers and opponents<sup>206</sup>; the bill was debated a whole day in committee of the whole and amended, but a motion then to consider it in the House was lost.<sup>207</sup>

Another auction bill was presented in 1824 by the Committee on Manufactures.<sup>208</sup> This was in conjunction with the pressure for tariff legislation that year. Congress was again much memorialized on the subject of auctions.<sup>209</sup> This bill proposed 7½% duties on sales whether of foreign or domestic growth, and 2½%

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<sup>198</sup> Annals of Congress, 16th Congress, 1st session, p. 2173.

<sup>199</sup> *Ibid.*, 2176; Niles, 18: 420.

<sup>200</sup> *Ibid.*, 2175-6.

<sup>201</sup> Note the presentations of petitions mentioned in Annals of Congress, 16th Congress, 1st session, pp. 78, 367, 374, 430, 454, 599; and in Niles, 18: 127, 148, 166, 169.

<sup>202</sup> Niles, 18: 422.

<sup>203</sup> For legislative history of the bill see Niles, 18: 169, 183, 185.

<sup>204</sup> Niles, 18: 185, 420; 27: 258, 306.

<sup>205</sup> Niles, 21: 103, gives reasons for failure of the legislation.

<sup>206</sup> Annals of Congress, 16th Congress, 2d session, 142.

<sup>207</sup> *Ibid.*, 864, 1227.

<sup>208</sup> *Ibid.*, 18th Congress, 1st session, p. 1398.

<sup>209</sup> *Ibid.*, 123, 775, 931, 1398, 3128; Niles, 25: 275, 289, 337.

extra when the original packages were broken.<sup>210</sup> No action was taken by Congress.

The campaign reached a high pitch of intensity in 1828 along with the tariff legislation then engaging Congress. Memorialists said that "the effects of the auction system as detailed in memorials—in 1817, 1818, and again in 1824," had "increased in an alarming degree" and might "now be denominated a national evil."<sup>211</sup> "Above fifty memorials, from almost every state," were received at Washington<sup>212</sup> and it was confidently expected that Congress would act.<sup>213</sup>

A monster petition with 10,000 names was sent by New York<sup>214</sup> and a great anti-auction meeting was held and resolutions adopted and sent.<sup>215</sup> From this date political pressure was openly brought on Congressmen; a meeting of mechanics in New York nominated an anti-auction ticket for Congress; this ticket was indorsed by a meeting of the merchants' clerks.<sup>216</sup> Mr. McDuffie wrote a letter to the New York *Evening Post* explaining that the New York resolution and petition came too late for legislative action and thus he hoped to defend Mr. Verplanck, Congressman from New York, from inaction or ineffectiveness.<sup>217</sup> In the wards of the city where the commercial and trading classes principally resided the anti-auction candidates carried the election.<sup>218</sup>

Meanwhile an inter-city movement was organized, committees were appointed to coöperate with similar committees of other cities and to push the propaganda.<sup>219</sup> Mass meetings were held at Philadelphia, Baltimore, and other cities.<sup>220</sup> Petitions poured in from widely separate cities, as Buffalo, N. Y., Norwich, Conn., Northampton, Mass., Lynchburg, Va., Nashville, Tenn., Hart-

<sup>210</sup> Niles, 25: 371.

<sup>211</sup> Niles, 34: 140.

<sup>212</sup> Niles, 38: 185.

<sup>213</sup> Niles, 35: 241.

<sup>214</sup> Niles, 35: 255.

<sup>215</sup> Niles, 34: 174, gives the resolutions.

<sup>216</sup> Niles, 34: 188.

<sup>217</sup> Niles, 35: 110, 120, 147.

<sup>218</sup> Niles, 36: 185.

<sup>219</sup> Niles, 34: 349-50. See report of activities of the anti-auction committee in Niles, 36: 184.

<sup>220</sup> Niles, 35: 209, 228-9.

ford, Conn., Pittsford, N. Y., Edenton, N. C., New Haven and New London, Conn., Pittsburgh, Pa., Providence, R. I., Montpelier, Vt., Wheeling, W. Va., etc.<sup>221</sup>

In January, 1829, the Ways and Means Committee made a report<sup>222</sup> on auctions and accompanied it with a bill. It prohibited sales by auction unless the auctioneer at the time of sale exhibited the original invoice on which the duties had been levied at the custom house. It required the auctioneer to publish in one or more newspapers of the city wherein the auction was held forty-eight hours immediately before the sale, schedules of the goods, name of the importer or consignee, detailed description of the goods and their marks, name of vessel by which they were imported and the time of their importation, and such schedules were also to be exhibited at the time and place of sale. It fixed as penalties for violation one-third of the value of the merchandise sold; but if the auctioneer knew the goods were smuggled, the penalty was full value; one-half of the penalty was to go to the informer or prosecutor. It did not apply to auctions of deceased persons' property, to sheriffs' sales, to re-sales by auction of goods once bona fide so sold, to tariff-free goods, and to sales of the stock of goods of any retailer or trader. It was designed merely to protect the revenue from frauds, and the Committee explained that Congress had no powers to act upon the subject except in that capacity; and that a tax upon auction sales would neither prevent the alleged frauds upon the revenue, nor the alleged advantages enjoyed by foreigners, unless it be a prohibitory tax; and that for whatever frauds were committed upon the community through auctions the application of the remedy belonged exclusively to the state legislatures.<sup>223</sup> This bill was very unsatisfactory to the anti-auctionists. Meanwhile Mr. Johnson of New York presented a substitute bill as drafted by the anti-auction committee of that city, containing added provisions against fictitious bidding, for continuing the auctioneer's responsibility for frauds, errors or deficiencies during seven days allowed for examination after sale, and for a schedule of duties

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<sup>221</sup> Niles, 34: 377-8; 35: 271.

<sup>222</sup> Niles, 35: 341-2, gives the text of the report and bill. Mr. McDuffie was chairman.

<sup>223</sup> *Ibid.*, 329, 342.

on auction sales. The rates of duty ranged from \$2.50 to \$5.00, depending upon whether the goods were foreign or domestic and upon the value of the parcel.<sup>224</sup>

Neither bill was acted upon. The short session of Congress and the disinclination to act upon any important subject till the new President was installed, were the reasons alleged for the default.<sup>225</sup> But the campaign continued. A larger mass meeting than ever was held in New York and a memorial to Congress was drawn up praying for a resumption of the consideration of the auction bill of the last session.<sup>226</sup> The response, however, was that the Ways and Means Committee brought forward the Ingersoll bill, which was the 1829 bill in all essentials.<sup>227</sup> Thus all efforts to procure help from Congress against auctions failed.

Within the next decade auctions ceased to play as important rôle relatively, and became less offensive. There were several reasons for this. Steam navigation brought together the agents of foreign commission houses and the jobbers of this country and the inducements for a speculative and uncertain market were lessened. The introduction of the bond and warehouse system enabled importers to hold their surplus stocks from auction until the market could absorb them in the regular mode of private sales. Many articles which were formerly sold largely at auction either ceased to be imported on account of our rising manufactures or for other reasons, or came to be largely sold through brokers.<sup>228</sup> It seems that the auction duties proved prohibitive in case of certain commodities, and these were increasingly sold through brokers.<sup>229</sup> By 1844, at least, the anti-auction war had passed and the era of peace prevailed.<sup>230</sup>

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<sup>224</sup> *Ibid.*, 380.

<sup>225</sup> Niles, 36: 185.

<sup>226</sup> Niles, 37: 303.

<sup>227</sup> Niles, 37: 422.

<sup>228</sup> N. Y. Assembly Document (1849) 218, Vol. V, p. 8.

<sup>229</sup> N. Y. Assembly Document 25 (1846), p. 44-5.

<sup>230</sup> Hunt's, 10: 154.

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to Science

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## RUSSIA'S CONTRIBUTION TO SCIENCE

While Russian literature, Russian music, Russian art and Russian dance are fairly well known to the American people, few realize the extent of Russia's contribution to science. This is quite pardonable considering the lack of knowledge on the part of the broad public of the ever growing achievements of exact science in all its branches, regardless of nationality, and taking into account also the difficulty of even casual acquaintance with subjects which require special training. To this must be added that a great deal of the work published by Russian scientists has been written in foreign languages, mostly in German and French periodical publications, while Russian publications are few and of these only one or two are known to foreigners.

In Russia itself education in general and science in particular has been for a long time unpopular, has been limited to a comparatively small circle of people and has even at the present time not yet penetrated into the broader masses. Purely clerical knowledge of the Tsarist Russia gave way to military training and to such education as was necessary for service in the bureaucratic institutions created by Peter the Great. Later humanistic studies and law became the standard of good education and dominated Russian society and Russian thought until comparatively recently. Medicine of course was early recognized as necessary knowledge, yet the people regarded it in the light of special knowledge rather detrimental to broad education. Applied science, such as engineering, was for a long time looked upon in the same way with the additional stigma of mistrust. Pure science has been looked upon rather as a hobby for men with sufficient means, dangerous in as far as it inclined to produce a critical attitude toward religion and the established order of things, undesirable inasmuch as it did not open any other field for activity than an academic career, and insufficient as a general basis for broad education. Yet in the second half of the past century pure science came into its own, conquered the opposition of society and furnished many a name looked upon with esteem and even admiration in Russia and far beyond its political frontiers.

To say that Russia might have produced a great deal more in the field of science than it actually has produced, had the development of the country been allowed to proceed normally, is not a mere figure of speech or an excuse, an attempt as it were to find extenuating circumstances for natural shortcomings. In a country where the word "constitution" was struck by the censor even from the pages of learned investigations, where the chief duty of the Secretary of Education was to devise means to prevent the spreading of knowledge, creative work in science was more than simply hampered, it was often physically impossible. Yet a glance at a list of works published by Russian scientists will show the productivity and many-sidedness of the Russian genius. There is scarcely a field of science in which Russians have not done some creditable work, increased the store of our knowledge, cleared up some intricate problem or opened new chapters and set forth new questions.

And all this had to be done in the face of great difficulties of which western institutions have no idea. There was always a lack of funds and a lack of men, a lack of institutions and a lack of young men to be trained for such institutions. The educational system was borrowed from Germany, its negative qualities were intensified while the most important positive qualities were partially or completely suppressed. The Russian national character was not taken into account by that system foreign to its spirit which was put as it were into a straight-jacket and had its wings clipped by two most efficient tools in the hands of autocracy—censorship and espionage. Used persistently with only occasional short intermissions, during more than one century, and embracing all phases of national and private life, being constantly present in all university recitation halls, laboratories and even private offices, censorship and espionage ruined the relationship between teacher and pupil, affected the character of the institutions and prevented the normal development of many a promising youth.

To understand the ruinous influence of espionage and censorship on national character and the productive genius of the people one must have grown up and gone through the schools in Russia. The offices of inspector and his aids in every secondary school were especially created to control not only the behavior of pupils in the school, but their life outside of school

walls. The teachers themselves were subject to this supervision and dreaded the never-closing Argus eye of the inspector. The duties imposed on them, the general atmosphere of life amidst poverty, suspicion, bribery, and Simonism, prevented the teachers of secondary schools from doing original work of any character. Such work, not uncommon in Germany, is of the rarest occurrence in Russia and only teachers of quite remarkable ability managed to step out of the high-school routine and drudgery into the broader field of an academic career. The Russian "Gymnasia," the Russian "Realnoje Utchilishtche" were patterned after the German "Gymnasium" and "Realschule" but the spirit of reactionary orthodox Russian autocracy was added to the German worship of authority and discipline of mind and will, and coupled with corruption, pervaded everything and corrupted and perverted the growing mind. It is a wonder under the circumstances that the mind, the spirit of Russian youth was not completely crushed in its instinctive upward struggling for light and knowledge and free expression of self.

The entrance into the sacred precincts of the highest education was purposely made difficult to prevent an undesirable growth of knowledge in wider circles. Only pupils who had studied in a gymnasium and had therefore had seven years of Latin and six years of Greek and who passed the examinations at the end of their studies extending altogether over eight years, had the right to study at a university. Yet it may not be quite out of place to mention here that a boy entering the university in Russia knows no more of mathematics than a high-school boy in America and knows even less of physics and chemistry, while biology was not on the program of studies at all.

One was allowed to postpone military training until after the studies at the university had been finished, and in the cases of men preparing for an academic career military training was altogether waived. This exemption applied both to those who became teachers at schools and professors at universities. But the requirements for professorial positions were so high, as we shall see later, that the exemption from military training was in no sense an inducement.

On entering the university the student had to follow a prescribed course of studies through all four years, but could and was expected to take also other courses, provided they did not

coincide with the obligatory ones. A course in theology, i. e., in the dogma of the Russian orthodox church, was compulsory for every student in the first year of his studies. Compared with the American colleges the work at the Russian universities is much heavier, the number of hours is considerably greater and the number of subjects required cover a much wider range. It was customary to work Saturday afternoon and some classes were given even on Sunday mornings, as for example entomology at the University of Moscow at the time that I was studying there. To give an idea of the scope of studies required at a Russian university from a student in natural sciences preparing for an academic degree, I shall simply enumerate the subjects which I myself had to study in Moscow: Physics (four hours per week during two years); inorganic chemistry (first year); qualitative analysis and quantitative analysis (second year); organic chemistry (third year); physical geography (one year); geology and paleontology (one year); mineralogy and crystallography (one year); meteorology (one year); human anatomy (one year); physiology (one year); histology and embryology (one year); introduction to zoology (one year); invertebrate zoology (one year); vertebrate zoology (one year); entomology (one year); botany (three years) (including general morphology, anatomy, physiology and systematics) and theology (one year). In the first and second year the spare hours were given to economics and principles of law. During the last term of the fourth year a thesis has to be written on a subject assigned by the professor, consisting of a review of work done by other workers and some original investigation. After a six-hour written examination on some subject in the department of study chosen by the student and after oral examinations in all subjects studied during the third and fourth year, those studied during the first and second year having been disposed of previously, the student receives a university diploma conferring on him the degree of *Candidat rerum naturalium*, which as may readily be seen is a much higher degree than either the corresponding degree of the German universities, or the B.A. of American colleges. It will be also seen from the foregoing that the training of a Russian student at the end of his studies is in every respect broader and covers a much wider range of subjects than either that of an American or a German student.

Students with exceptionally high standing, who desire to follow an academic career, are allowed to continue their studies at the university after they have received their degree. They have no more lectures to attend, but receive a general outline of reading and work to be done as a preparation for an examination which will give them the right to present a thesis for the degree of Magister in the subject which they have chosen, i. e., Magister of Chemistry, Magister of Botany, etc. This examination may under no circumstances take place sooner than two years after the examination for the degree of Candidat. It is one of the stiffest examinations imaginable and the amount of reading required is simply appalling. To give even an approximate idea of the ground which has to be covered by the candidate during these two years, I shall only mention that in my own case the books recommended to me by my professor occupied more than a five foot shelf and contained such works as Bronn's *Classen und Ordnungen* and similar works, all of which were supposed to be used not as reference books but as text books and the detailed information contained in them to be kept in one's memory ready to be drawn upon at a moment's notice. It has happened time and again that candidates were flunked because they were unable to produce from memory facts which the examining professor himself knew only because he was recently engaged in research on the subject.

After the successful passing of this examination the candidate receives the title of *Magistrant* and is admitted to lecturing and laboratory work in the capacity of a *privat-dozent*, a title also borrowed from the Germans. At the same time he must present his thesis for public discussion before he receives the degree of Magister. This dissertation has to be the result of an original investigation and to cover the ground thoroughly. It has to review the literature of the subject as far back as possible, in some cases going actually back to Aristotle. The public defense is no sinecure, for the officially appointed opponents take especial pleasure in tearing the arguments and evidence to pieces and in pointing out the slightest flaw in the treatment of the problem.

If the degree has been awarded the holder of it may now be appointed "extraordinary professor." Within not less than two years nor more than ten he has to present a second dissertation for the highest degree attainable, that of Doctor, not Doctor of

Philosophy as in Germany or America, but Doctor of the special science which he has chosen. The degree of Doctor of Philosophy in the American sense of the term does not exist in Russia, and whenever a professor is in possession of a Russian degree of Doctor of Philosophy, that means that he is a specialist in philosophy.

It will be seen that it is utterly impossible for a Russian to possess more than one degree of Doctor, unless it be an honorary degree which is scarcely ever given. The only exception is the degree of Doctor of Medicine, which strange to relate, does not need to be preceded by a Magister degree, is often given for some quite unimportant and small piece of work and comes nearest to the German M.D., especially since it has to follow upon an examination without which practice is not allowed. But the training of the medical student in Russia is also vastly broader than in the United States and the scope of knowledge possessed by the average Russian practicing physician has often been a subject of admiration to foreigners.

But the amount of work required of those who prepare for an academic career has also its negative side. Memory is easily overburdened with unnecessary details, much valuable time is lost in gathering the knowledge required for the examinations, and perhaps still more in reading and reviewing the work done by others, which in the majority of cases has long ago lost all scientific value and in many cases might have been better forgotten altogether. What with the academic duties of lecturing, laboratory work, committees, etc., the creative ability is easily stunted and unfortunately it is not an uncommon occurrence that the dissertation for the Doctor's degree is the last original work of the overburdened professor. Only the more talented and more pertinacious hold out under the strain and continue as investigators.

And all the time the outside life invades the peaceful premises of the university and asserts itself in the most uncompromising manner. Neither the Russian student, nor the Russian professor can avoid its influence. Censorship and espionage are more developed and stricter in the university than elsewhere and it seems that in this respect the renowned Bolshevik reformers and heralds of educational freedom for the poorest citizen, have far outdone the old Tsarist advocates of the muzzle and whip. But

'ensorship and espionage notwithstanding, the professor and student alike have to possess a distinct reputation as belonging either to the progressive or to the reactionary political group, and no liberal minded assistant may continue indefinitely to assist a reactionary professor. He has ultimately either to ally himself definitely with the reactionary elements or to resign. As a general rule we may say that the best work was done by progressive professors, although some very reactionary men have contributed creditable work in their particular field of learning. But real expression of political views was not possible except for a short period in the sixties and again after the revolution of 1905, and even then it had to be sufficiently guarded.

The first scientific institution created in Russia was the Imperial Academy of Sciences and its foundation was due to the genius of Peter the Great who conceived the idea and had conferences regarding its execution with Heinrich Fick as early as 1718. Dr. Blumenrost prepared a project which was approved by Peter in 1724 and according to which the Academy should be not only a research, but also an educational institution. Peter died in 1725 and it was his widow Catherine the First who ordered the opening of the Academy on November 12, 1725, and fixed its yearly budget at 24012.00 Roubles. Foreigners, mostly Germans, were invited as professors. About the year 1727 there were seventeen of these including such men as Hermann, and Goldbach in mathematics, Nicholas Bernulli in mechanics, Buerger in chemistry, Biefinger in physics, Duvernoie in anatomy and zoology, Leonhard Euler in mathematics, etc. The eight students who had to study with these professors were all Germans, all imported for the purpose from Germany. By the year 1742 there were as many as twelve students. In 1747 the Academy was divided into two sections—the *Academy* proper, and the *University*. The internal organization of the Academy was changed in 1803 and again in 1836 and in 1841, when it was subdivided into three sections. The Memoirs of the Academy are so well-known and contain so many important articles in all branches of science that we do not need to consider them here further.

The Academic University died a natural death through lack of students and the first Russian university must be considered to be the University of Moscow which was opened in 1754, and

had as many as one hundred students in 1758. In 1804 a constitution was adopted, framed on German model by W. N. Karasin. This constitution recognized the autonomy of the university and was extended to the newly founded universities in St. Petersburg, Kazan, Kharkov, Vilno and Dorpat. In 1830 the University of Vilno was abolished and that of Kiev opened. In 1835, however, the constitution was modified. The number of students was limited, and the Government appointed special curators to control university affairs. The last traces of academic freedom were obliterated in 1849 when the new constitution framed by Prince Shirinsky-Shikhmatoff was introduced into all universities. All executive officers and all professors were from now on appointed and not elected and "harmful" sciences, such as constitutional law, were forbidden. The liberating and progressive movement at the beginning of the sixties brought with it a change in the universities also. A new constitution prepared by Golovin restored academic freedom, but only for a short period. In 1866 Count Dmitri Tolstoy was appointed Secretary of Public Instruction and began immediately to interfere with the work of the universities by means of special decrees. A constitution prepared in accordance with his suggestions was introduced in 1884, when Delyanoff was Secretary, and from now on until the revolution of 1905 the universities were entirely under the strictest control of the government. A short breathing space after the revolution, then oppression worse than before; then again a sudden wonderful efflorescence of freedom in 1917 and now almost complete ruin under the Bolsheviki!

Such is the sad history of the Russian universities which played such a glorious rôle in developing Russian youth, in combating reaction based on ignorance and avarice and in contributing through the patient work of their professors to the store of human knowledge. Only a century of existence, a century of martyrdom! During that time many thousands of students were never allowed to finish their education, some banished to Siberia, others imprisoned, many killed. And during that time many professors were removed from office, banished, censured, imprisoned, broken in spirit. And in the aftermath of the revolution some of the best among them have died of starvation, others have been executed and all execrated as enemies of the proletariat.

Yet even in the darkest hours and years of reaction the uni-

versities continued their work in science. Every university has its own publications in the shape of transactions or proceedings, or of similar publications of societies organized by the universities. Especially well known are the publications of the St. Petersburg Mineralogical Society, of the St. Petersburg Society of Naturalists, of the Moscow Society of Naturalists and of the Moscow Friends of Natural Sciences, Anthropology and Ethnography. But, other publications, such as the Proceedings of the Society of Naturalists of Kazan, founded in 1869, and those of the corresponding society of Kiev, also founded in 1869, and of Kharkov contain many valuable and important articles. Men who studied at universities but who were forced by circumstances to live in cities which had no university or other higher educational institution, founded small scientific societies, little local museums, as the Society of Naturalists in Ecaterinburg, which publishes its own proceedings, another similar society in Saratov, again one in Tiflis, an anthropological and ethnographical museum in Twer and so on. The foreigners can have scarcely any idea as to how much all these publications contain of material referring to local fauna, local flora, local ethnography, etc. The various Governmental Departments have been also publishing many important contributions to our knowledge both in pure and applied sciences, geological, mineralogical, entomological investigations. Reviews of Russian contributions to the various branches of science have been printed from time to time, such as Anatoli Bogdanoff's "Materials for the History of Pure and Applied Zoology and of Allied Branches of Knowledge in Russia," 1850; Sabaneeff's "List of books and papers on hunting and nature study," 1883; G. A. Kojewnikoff's "Reports about Russian Zoological Literature," 1893, etc., but the special work which was in preparation when the revolution disrupted all university work in Russia and which was to embrace all branches of science in a way similar to the volume dealing with humanistic sciences, has been interrupted by the upheaval and may have been lost.

The physical conditions of the country, the climate, the historical development, the political oppression, the economic backwardness, the general stagnation and hopelessness of life have moulded the Russian national character to a form differing from that of other nationalities. And as the Frenchman is different

from the Englishman not in language and nationality alone, but in all qualities of mind as well, so the national character may be traced, broadly speaking, not only in the sphere of politics, trade or business, but also in other branches of mental activity. If the average quality of the German scientist is heavy thoroughness, that of the Frenchman clearness and lucidity of thought combined with an impulse to treat science as art, that of the British extraordinary positivity and that of the American an ability to combine specialization with mass production, then the distinctive character of the Russian may be seen in the restlessness of his spirit and the striving to embrace a wide field of knowledge, to find answers to questions which are ever present in his thoughts and which once raised may not be lightly put aside, but must be settled the one way or the other, if only for the satisfaction of his own soul.

These qualities have been manifested already by the father of Russian science, Michail Vassilievitch Lomonosoff, who came of peasant stock and gradually rose to the distinction of being the foremost man of science and letters in Russia. He was born in 1711 in a small village of the Government of Archangel in the dreary north, far from any civilization. He learned reading with the aid of books given him by some villagers who took interest in him and when 19 years old, in 1730, went to Moscow to study at the so-called Slavo-Latin Academy. Here he spent five years, living in poverty and studying with grim determination amidst boys many years his juniors, who laughed at the big, ignorant fellow. A glimpse of this period may be gained from Lomonosoff's letter to Shuvaloff written in 1753. "With an allowance of three pennies (altyn) a day, I was not able to spend more than a penny for bread, a penny for kvas (a Russian beverage) and a penny for paper, footwear and other necessaries. Thus I lived during five years, yet I did not give up my studies." From Moscow Lomonosoff went to Germany where he studied mathematics, physics and philosophy with Wolff, chemistry and metallurgy with Henkel. He spent five years in Germany and returned to Russia in 1741. The following year Empress Elizabeth appointed him Adjunct in Physics to the Imperial Academy. In 1745 he was appointed Professor of Chemistry in the Academic University the foundation of which was due mostly to his influence. There he created the first Russian Chemical Labora-

tory in 1748 and in 1756 was the first to explain what we now understand as oxydation by converting tin into stannic oxyde, antedating the work of Lavoisier on a similar subject by 18 years. Lomonossoff was one of the pioneers in work on atmospheric electricity and shares with Franklin the honor of the discovery of the lightning rod. He made the suggestion that electricity is responsible for the aurora borealis. In astronomy he was the first to discover the presence of an atmosphere around the planet Venus. He elucidated the nature of amber as balsam of extinct vegetation. He taught that anthracite originated from peat. All this was done at a time when science was looked upon as almost of the Devil by the Russian Church and in his paper about the planet Venus, Lomonossoff took therefore particular pains to explain that there is no contradiction between science and the Bible.

But the activity of Lomonossoff was not limited to natural sciences alone. He was a historian with two important works in this field to his credit. He was a philologist and wrote a book on "Rhetoric," a "Grammar" and "Rules of Russian Versification." He was an orator and a poet. He was a statesman and prepared a project concerning trade, industry, agriculture and education and another project for the foundation of a university in Moscow which he planned to open to students in 1755 and was unable to do so only because of the unexpected death of Empress Elizabeth. He died in 1765 at the age of 54 years in the fullness of his powers and at the height of his mental activity.

I take another example, that of the great composer Alexander Porphirievitch Borodin. To Americans he is known only as the composer of "Prince Igor," but although he achieved greatness in music he was by education and profession a chemist, a professor of this science at the University of St. Petersburg. He worked chiefly with haloides and to his credit are no less than 21 papers in chemistry. He was the first to produce benzoyl fluoride. He lectured for ten years to women students of medicine. He was a forefighter for education for women and when he died, his former students placed a wreath on his monument with the inscription: "To the founder, defender and guardian of the medical classes for women, to the friend of pupils—from women physicians of ten classes."

And how about Nicolai Petrovitch Wagner, the discoverer of

pædogensis in insects, who received two prizes for his zoological investigations, one of them from the Paris Academy, and who achieved no lesser fame and endeared himself to all Russian children by his incomparable "Tales of the Purring Puss"? not to mention his less known novel in two volumes printed in 1890 and entitled "The Dark Path." How about the writer and critic Danilewsky who published in 1885 two volumes on "Darwinism" in which he collected all evidence that could be brought against Darwin's theories? How about Ilya Ilyitch Metchnikoff who first achieved fame as zoologist, changing later to bacteriology and the study of immunity and occupying an assistant directorship in the Institut Pasteur in Paris where he died quite recently?

Yet the beginning of scientific study and research as we have seen was made by foreigners whom Peter the Great marked out for the work and Catherine the First called to occupy the first chairs in the Imperial Academy while Catherine the Second followed their example. Some of them became in time loyal Russians, others at least enjoyed Russian hospitality and conditions which were evidently more favorable to work than professorial positions in their own countries. To that extent at least the great Swiss mathematician Euler; the great embryologist Karl Ernst Baer, known in Russia where he was born of German parents and where he spent almost all his life as Karl Maximovitch; the German anatomist and physiologist, the creator of the Theory of Epigenesis, Kaspar Friedrich Wolff, born in Berlin in 1733 and called to Russia by Catherine the Second in 1766 and resident in Russia until his death in St. Petersburg in 1794, have contributed to Russia's share in science and to avoid mentioning them would be as unfair to their memory as to avoid the name of Louis Agassiz in speaking of America's contribution to science. They were favored, they were happy in their work in Russia. They became identified with the Imperial Academy, they printed their papers in the Memoirs of that institution which they and others after them made great.

It is not my purpose to present in this short sketch of Russia's contribution to science an outline of work in all branches of natural sciences. Nor do I intend to give a list of all men and women who contributed to the world's treasury of knowledge, still less to give a list of books and papers written by Russian scientists. Such a list would fill several stately volumes. All I

desire is to recall to the memory of those who have always admired Russia and of those who have lately lightly condoned the destruction of Russian universities by fanatics and adventurers under the pretext that Russian men of science serve not the proletariat but wealthy bourgeois alone, to recall to their memory the great service rendered by Russia. And for this purpose I shall dwell only on a few of the natural sciences and mention only the most important work done.

Uppermost in my mind is chemistry, that particular science for which lately the Germans more than other nationalities were admired. But Voskresensky, Zinin, Beketov, Butlerov, Beilstein, Mendelejeff, Menshutkin—what a cluster of names of which any country may justly be proud! Although Lomonosoff had been the first to teach chemistry and created the first chemical laboratory, the “Grandfather of Chemistry in Russia” is usually considered to be and is known under that endearing nickname Alexander Abramovitch Voskresensky, born in 1809 in the city of Torjok, in the Government of Twer. He was the teacher of Mendelejeff who always spoke of him with reverence and admiration. His works were numerous and covered a wide field of research. He studied various reactions of sulphuric anhydride. But his chief work was in organic chemistry. He was the first to discover and describe the quinones, to elucidate the chemical structure of naphthalene, to find theobromine in chocolate. Nicolai Nicolaevitch Zinin, born in 1812 in the Caucasus and professor of chemistry in St. Petersburg from 1847 to his death in 1880, was so distinguished in organic chemistry, especially through his exhaustive investigations of benzene and its derivatives, that he was elected corresponding member of the academies of Paris and Berlin and of the London Chemical Society. He discovered naphthylamine (he called it naphthylidam), and described the preparation of amines from nitro compounds with the aid of hydrogen sulphide, a reaction of great importance in the production of modern aniline dyes, and still referred to as Zinin’s reduction.

Nicolai Nicolaevitch Beketov, born in 1827, was one of the first theoretical chemists of his time, at a time when theoretical chemistry was not yet in vogue, and was particularly interested in the problem of chemical affinity which he made the subject of a number of articles.

Alexander Michailovitch Butlerov, born in 1828 and for many years professor in St. Petersburg, created a whole school of chemistry. He wrote a celebrated book entitled "Introduction to a Complete Mastery of Organic Chemistry" and dozens of special articles dealing with the derivation and structure especially of isomeric alcohols and hydrocarbons. It may be added that he was also an expert in bee-keeping and wrote a popular book on "The Bee: Its Life and the Rules for Rational Bee-Keeping," published in a cheap edition in 1871 and reprinted repeatedly. He was also interested in the occult questions of spiritism and achieved quite a fame in this field much to the dismay of his more materialistic colleagues.

Feodor Feodorovitch Beilstein, born in St. Petersburg in 1838, is sufficiently well known to foreigners as one of the most distinguished students of organic chemistry, who usually consider him to be a German because he wrote in German. Yet he lived all his life in Russia where he was professor, spoke Russian and considered himself and was considered by his students a Russian. At least I remember him as such presiding over the examination in chemistry which I myself had to take in Moscow. The best known of his works is his "Handbuch der Organischen Chemie," the standard reference book on the subject, but he has published many special articles on aromatic compounds, on Russian petroleum, on molecular rearrangement, etc.

Nicholai Alexandrovitch Menshutkin, born in 1842, in St. Petersburg, a pupil of the Russian chemist N. N. Sokoloff and of the Germans Strecker, Wurtz and Kolbe, is best known by his textbook of analytical chemistry, printed in 1871, reprinted since that time in many editions and translated into three foreign languages, but not less valuable is his "Lectures in Organic Chemistry" also published in many editions. His earlier work was on the synthesis and properties of carbamides, but later he was more interested in the question of the relation between isomeric alcohols and acids and esters, and received a prize for this work in 1878. Since the foundation of the Russian Chemical Society in 1868 Menshutkin was closely associated with it and was the editor of its journal. The British Association for the Advancement of Science elected him corresponding member. A complete list of his papers may be found in the second volume of the Biographical Dictionary of the University of St. Petersburg. He

took interest in local affairs and was a member of the Luga County Zemstvo and of the St. Petersburg Zemstvo. Although very exacting to his students in the laboratory, he was a friend of all who were striving to acquire education and was for many years president of a committee of aid to needy students.

It seems to be scarcely necessary to review the work of the greatest of all Russian chemists and the pride of all to whom Russia means more than a land of mystery, surprises, Kazaks, knuts, vodka and revolution. But the account would be incomplete without some reference to Dmitri Ivanovitch Mendelejeff, the creator of the periodic system. He was born in 1834 in Tobolsk in Siberia the youngest of a family of seventeen. His father died while he was a child and his mother when he was a youth of fifteen. At first he attended a gymnasium in Tobolsk, then in Moscow. Later he studied at the Pedagogical Institute of St. Petersburg and the St. Petersburg University. As a student he published his first research in chemistry concerning isomerism. After graduation he became high school teacher, first in Sympheropol then in Odessa. Only in 1856 had he been appointed Privatdozent in chemistry at the University of St. Petersburg, after the successful public defense of his dissertation on the subject of "Specific Volumes." In 1859 he went to Heidelberg where he made a research in capillarity of fluids. While there he also began the publication in Russian of his course in organic chemistry. In 1863 he returned to Russia and was appointed professor at the Imperial Technological Institute. At this time questions of applied chemistry and technology occupied most of his attention. He investigated the oilfields of Baku in the Caucasus and performed various experiments in connection with agricultural problems. In 1866 he was appointed professor of chemistry at the University of Petrograd. In 1868 he began the publication of his Principles of Chemistry wherein he propounded for the first time his periodic law. This work marked an epoch in the study of chemistry and was repeatedly reprinted with additions and corrections made by the author. It was also translated into many languages and brought him later in 1882 as reward for his discovery the Davy medal of the Royal Society. The arrangement of the elements into short and long periods according to their atomic weight and properties showed the presence of various gaps in the series and permitted Mendelejeff to

predict the existence of the yet unknown, missing elements as well as their atomic weight and properties. This prediction is justly likened to the prediction of the planet Neptune by Leverrier from his mathematical calculations. And indeed two years after the prediction in 1871, the first element was discovered, and called gallium (Mendelejeff proposed the name ekaboron). In 1879 was discovered scandium (Mendelejeff's ekaaluminium) and in 1886 germanium (Mendelejeff's ekasilicon). In several cases Mendelejeff ventured to question the correctness of the commonly accepted atomic weights, because they did not fit rightly into his periodic system and later investigations proved the correctness of his assertion. In 1888 he made an exhaustive study of the Donetz anthracite industry and was subsequently appointed member of the council of trade and manufacture. To this period belongs also his work on smokeless powder done at the request of the ministry of war. In 1893 he resigned his professorship to become Director of the Bureau of Weights and Measures. In 1902 in a paper on the chemical conception of ether he gave expression to a hypothesis that ether is a gaseous element with an atomic weight smaller than that of hydrogen. Mendelejeff died in 1907 and the list of his works comprises over 140 titles including many investigations in various branches of physical chemistry, such as indefinite solutions, expansion of liquids with heat, etc.

But for lack of space it would be unjust to pass in silence over the splendid work done by Russian chemists in recent years. I cannot refrain however from mentioning V. N. Ipatiev's extensive researches in organic chemistry, especially in hydrogenation of oils; and I. I. Ostromuiskii's investigations of rubber.

In the closely interrelated sciences of crystallography, mineralogy, petrography, and physical geology, several names stand out amidst a number of less known investigators. Ewgraf Stepanovitch Fedoroff was the first to prove that all crystals belong to the one or the other of the 32 possible types of symmetry and created the nomenclature afterwards accepted by Grote and others. He was a productive worker and made many researches in geometry, crystallography, geology, physical and descriptive, ores, etc.

His pupil and my teacher in crystallography and mineralogy, Wladimir Ivanovitch Vernadsky, one of the broadest and best

educated men in the world, is the real creator of the mineralogical museum in Moscow and author of many researches. He investigated the mines of Austria and Germany in 1894 during which trip I had the privilege of accompanying him and shall never forget his enthusiasm, energy and perseverance. He worked at that time from morning till late in the evening, collecting minerals, visiting mines, museums, art galleries and points of interest and in the evening when I was totally exhausted and ready to fall asleep, he would open some new treatise on history of art, or civilization or sociology and read until late into the night. Later he took part in the liberating movement of Russia, was member of the Imperial Council, and quite recently member of the Provisional Government, remaining in Petrograd at his post when the Kerensky Government was fighting its last battle. A man of the tenderest heart, a friend of youth, he lived through most trying experiences during the student revolt, enduring discomfitures and incurring insult for extending with fatherly love his protection to persecuted students.

Alexander Alexandrovitch Inostrantzev is perhaps the most distinguished Russian geologist, born in 1843. He travelled a great deal throughout European Russia, the Caucasus and the Ural mountains and published many works among which I cannot omit mentioning his two volumes of *Materials for the Geology of Russia*, published in 1869, his *Geological Investigations of the North of Russia*, published in 1872, his subdivision of the stone age into periods, published in 1880, and his *Treatise of Geology*, published in 1885 and reprinted several times with additions and revisions. Inostrantzev was for years president of the geological section of the St. Petersburg Society of Naturalists and president of the Russian Anthropological Society. He worked up the geological collection brought by Przewalsky, Potanin, Pievtzov and others, and made the St. Petersburg Geological Museum one of the best in Russia. It may be interesting to recall to memory the fact that the Philadelphia Academy of Sciences elected Inostrantzev corresponding member.

One more name should be mentioned in connection with geological and mineralogical sciences. It is the distinguished name of the unfortunate Dokutchaeff, who did so much for the elucidation of the nature of the black earth in Russia, created a school of learning, founded a museum of natural science in Poltawa and

another in Nishnij Novgorod and succumbed finally to a slow affection of the brain. He described the formation of the river valleys in European Russia in 1878, and in the next year gave expression to the then novel idea of the influence of the geographical factor in the formation of soils. In 1883 in his standard work on Russian black earth he explained its origin through the decomposition of the herbaceous plants of the steppe under the influence of climatic factors which exist even at present. He published many investigations on soils which he regarded as things different from minerals and rocks and the study of which he raised to the level of a separate science. His private life, full of privations, sufferings, disappointments and struggle, is one of the saddest chapters in the history of Russian men of science and will be forever an example of achievement through nothing but talent and indomitable will.

Turning our attention to biological sciences in the broader sense of the word, I should like to touch only briefly on physiology and adjoining fields of knowledge, for this science is so intricately connected with other aspects of human life that it should find special consideration in connection with medicine. Four names command our admiration, Setchenoff, Tarkhanoff, Pavloff, and Bekhtereff, each with a group of followers many of whom are known throughout the world.

Ivan Mikhailovitch Setchenoff, born in 1829, received his first education as officer in a military academy, but left service to study medicine at the University of Moscow from which he graduated in 1856. He occupied the chair of physiology at first at the Medico-Surgical Academy, then at the Novorossiisk University, then at the University of St. Petersburg and finally at the University of Moscow, where he served until he was retired, continuing in the capacity of private-dozent and emeritus at the same time. He was a man of broad knowledge and deep thought, commanding the respect and admiration of the widest circles. He published investigations about the gases in the blood, about alcoholic intoxication, cerebrospinal reflexes, about centers inhibiting reflexes, about the innervation of the heart, and so on. Especially well known in Russia are his "Physiology of Vegetative Processes," "Reflexes of the Brain," "Psychological Studies," and "Elements of Thought." I remember his speech at the meeting of physicians and naturalists in Moscow more than

25 years ago on the subject of "What is Thought?" Unassuming and quiet, he spoke in the immense assembly hall of the Moscow nobility without raising his voice which nevertheless was heard by everybody in the audience.

Prince Ivan Romanovitch Tarkhan Mouravov, better known as Tarkhanoff, a Georgian by nationality, born in 1846, was for many years professor of physiology at the Medical Academy of St. Petersburg. His works embrace the physiology of thermic reflexes, the innervation of the spleen, the application of the telephone to the study of animal electricity, the physiology of the normal sleep in animals, the automatic movements of decapitated animals, the influence of music on animals and man, etc.

The physiologist best known in foreign countries and one of the most remarkable experimenters of the world is Ivan Petrovitch Pavlov, born in 1849 and professor of physiology at the Medical Academy of St. Petersburg since 1890. His investigations extending over many years and contained in numerous articles may be divided into three groups: work relating to the innervation of the heart, work in connection with the so-called Eck fistula, and work on the secreting activity of the stomach. In the first series of papers, Pavlov has shown that besides centers accelerating and retarding the heartbeat, the heart possesses also centers augmenting and depressing the strength of the heartbeat. In the second series of experiments Pavlov used the operation suggested by his teacher Eck and consisting in an artificial connection of the portal vein with the inferior caval vein. Through this connection the blood flowing from the digestive organs was diverted from the liver and the function of the latter organ can be studied independently. It was thus that Pavlov was enabled to show how the liver acts as an organ absorbing from the blood harmful substances and purifying it.

But the most celebrated of his investigations are those based on œsophagotomy, i. e., on an operation consisting in the severing of the œsophagus and the production of an artificial fistula, allowing a direct observation of the contents of the stomach under various conditions. This operation is too well known to require an explanation or detailed description here. The results of these investigations, which have been translated into many languages, may be briefly summarized as follows: the secretion of saliva is caused by reflexes through smell, sight, etc., before food is taken

into the mouth. Similarly the secretion of the gastric juice is induced by a psychic condition before food is taken into the mouth. If, unknown to the animal, solid food is introduced directly into the stomach through the fistula, no secretion of gastric juice takes place for at least an hour. Mechanical stimulation is ineffective.

Studying the chemical phenomena of digestion Pavlov used another remarkable operation consisting in the artificial production of an accessory miniature stomach connected with, yet separate from the main one. The action of the vagus nerve which conveys the excitation to the glands of the stomach was excluded by a division of this nerve. Thus Pavlov was able to show that meat juice and beef extract cause secretion while no secretion of gastric juice follows the introduction of eggwhite, fat, or starch into the stomach.

Wladimir Mikhailovitch Bekhterev, born in 1857, is an alienist by profession. As such, he has had a great deal to do with normal and pathological functions of the nervous system. His works embrace a wide range of subjects from the anatomy of the nervous system to the psychopathy and its relation to responsibility before the law. He wrote on the physiology of the central nervous system, especially on the localization of tactile and pain centers in the brain. In 1884 he published an interesting paper on the formation of our conception of space. Induced by special circumstances he has also made a psychological and ethnographical investigation of the semibarbaric Votyaks and published a paper on their history and present status.

Many were the Russian workers in botany and there is scarcely a branch of this science that has not been made subject of thorough investigation. Nicolai Ivanovitch Annenkoff, born in 1819, was the first student of the local flora. To his patient work in this field is due our knowledge of it. He prepared the celebrated herbarium kept in the botanical Museum of Moscow University. He wrote the "*Flora Mosquensis Exsiccata*," and later in 1859, the "*Botanical Dictionary*," which is a most valuable reference book. His successor in the field of systematics was Nicolai Nicolaevitch Kaufman, born in 1834, whose "*Moscow Flora*" reprinted many times plays in Russia the rôle of Gray's Manual and is in the hands of every student of flowering plants. Lev

Semenovitch Cienkowsky, born in 1822 in Warsau, was the most distinguished student of the lowest plant organisms of his day. In his paper on "The Lowest Algæ and Infusoriæ," published in 1856, he was the first to express the idea that these organisms are not complicated creatures as taught by Ehrenberg, but unicellular forms. His earlier works are mostly on myxomycetæ, fungi, and algæ. Later he was particularly interested in Bacteriology and shares with Pasteur the distinction of founder of this science. He applied his knowledge also to practical ends and has described an improved method of inoculation against anthrax. Christopher Yakovlevitch Gobi, another student in algæ, born in 1847, made numerous contributions to our knowledge of the marine flora of the Gulf of Finland, of the White Sea and other Russian seas. In more recent years a great deal of work has been done by various Russian botanists on local floras taxonomy and geographical distribution of plants, much of this work having been published in Russian journals.

Anatomy and physiology of plants have also found many distinguished investigators among Russian botanists. Andrei Sergeevitch Faminzyn, born in 1835, a student of Cienkowsky's, is the first to be mentioned in this line. In his student years he published a "Natural History of the Conifers of the St. Petersburg Flora." But soon he turned his attention to physiological problems. In 1861 he printed an investigation entitled "An Attempt of a Chemico Physiological Investigation of the Process of Ripening in Grapes." He worked a great deal with algæ as material. In 1867 he published his paper "On the Action of Light on Algæ and other closely related Organisms." He extended these investigations to cover many forms, studying the formation of starch and other processes dependent upon the action of light. In 1883 appeared his "Metabolism and Transformation of Energy in Plants." His paper on crystals and crystallites, published in German in 1884, was a natural sequence of these studies. In 1889 he published "A Contribution to the Question of Symbiosis between Algæ and Animals," followed in 1890 by an essay on "The Psychic Life of the Lowest Representatives of Living Beings." In 1898 he wrote an article "On Contemporary Natural Science and Psychology," and in 1901 on the "Reform of the System of Education in Russia."

Of his numerous students the best known are Batalin, Borodin, Baranetzky, Ivanovsky and Timiryaseff. Alexander Fedoritch Batalin (born in 1847) published many investigations in cereals and other useful plants. But the work which attracted most attention was "On the Influence of Light on the Form in Plants" (1872) and "The Mechanics of Movement in Insectivorous Plants," mentioned by Charles Darwin in his books on the subject. Ivan Petrovitch Borodin (born in 1847) made investigations in the anatomy of plants, especially of their leaves, published in 1888 a well known "Course in Anatomy of Plants," studied the process of breathing, the formation and distribution of crystals in plants, etc.

Clementi Arcadieitch Timiriaseff, born in 1843, is known by his studies of the chlorophyll. He discovered protophylline, a compound distinct from etioline and derived from the chlorophylline through reduction. Under the influence of light and air the oxydized protophylline becomes again chlorophylline. The absorption band of the protophylline being in the orange rays, Timiriaseff concluded that the orange rays are mostly responsible for the green color in plants, a conclusion which later found confirmation in the experiments of the German scientist Reincke. But Timiriaseff's fame rests chiefly on his ability as teacher, lecturer and populariser. His book "The Life of the Plant" was published in several editions and has been translated into German. For many years he was professor of plant anatomy and physiology at the University of Moscow, beloved and admired by his students. A staunch supporter of Darwin he published a book in 1863 on "Darwin and His Theory" which has since seen many editions. He was violently opposed to Weismann's theories of heredity and I remember him attacking Weismann in his lectures with all the vigour of his eloquence. His works found him recognition on the part of the Royal Society which elected him Fellow.

Wladimir Palladin, born in 1859, is another of the well known contemporary Russian botanists of the older generation. He worked in anatomy and physiological chemistry of plants. His books "Plant Anatomy" and "Plant Physiology" are used as textbooks in all Russian universities and have seen several editions. Many of his investigations have for their subject metabolism in plants.

Of other Russian botanists whose work is known outside of Russia I may mention Belajeff, Nawaschin, Gorojankin and Golenkin as well as the distinguished bacteriologist Vinogradsky.

Zoology, embryology, and allied sciences have been always popular with the Russians. We have seen already that as early as 1725 Duvernoie was called to the first chair of anatomy and zoology established at the St. Petersburg Academy. Three names of men who, because of their Teutonic origin and great achievements in science are claimed by the Germans, may be even with greater justice claimed by Russia because they spent most of their life in Russia and became identified with the Imperial Academy of Petrograd. These are Wolff, Pallace and Baer.

Kaspar Friedrich Wolff, who by right should be called the founder of the science of embryology, was born in Berlin in 1733, the son of a tailor. In Halle where he studied medicine he wrote his "Theoria generationis" published in 1759, a remarkable work in which he attacked the so-called evolution or preformation theory and advanced his own theory of epigenesis or gradual development. Unable to continue his studies in Germany, Wolff gladly accepted a call to the St. Petersburg Academy in 1766. In 1768 and 1769 he published his second great work "De Formatione Intestinalium" in the Memoirs of the Academy. Von Baer spoke of this work as "the greatest masterpiece of scientific observation which we possess." Wolff died in St. Petersburg in 1794 and those Germans who claim him because of his origin and still more because of the excellence of his work, should remember the statement made by Ernst Haeckel himself in his *Natuerliche Schöpfungsgeschichte* that "De Formatione Intestinalium" remained unknown to the Germans until it was translated from the Latin in which it is written into German in 1812—which means that Wolff during his life did not exist for the Germans since he left Germany at the age of 33.

Peter Simon Pallas, born in Berlin in 1741, is also claimed by the Germans. Yet he left Germany when 20 years of age, lived in England where he was elected member of the Royal Society, then in Holland, served for a short time as professor of surgery in Berlin and was called to the Imperial Academy of St. Petersburg in 1767, i. e. at the age of 26 years. In Russia he spent 43 years, i. e., until 1810, and when his wife died, returned to Germany only to die the following year. He was a great traveller

and a prolific writer. Before going to Russia he published "Elenchus Zoophytorum" and "Miscellanea Zoologica." He began publishing his celebrated "Specilegia Zoologica" in 1767. The natural history results of his six years of travel through Russia and Siberia were published in the French translation of his "Travels, etc." (eight volumes with nine volumes of plates, 1788-1793). He published "Icones Insectorum præsertim Rossie Siberiæque peculiarum" in 1781-1806, and "Zoographia russo-asiatica" in three volumes, in 1811. His was a remarkable mind interested in many problems, he was an accomplished geologist and paleontologist, he studied the geographical distribution of animals, wrote a memoir on variation in animals, as botanist published the first "Flora Rossica" in two volumes in 1784-1788. He was besides a philologist, topographer, mineralogist, ethnographer, archeologist, agronomer and technologist. He was well known in other countries, but although he did not particularly enjoy life in Russia, he spent most of it there, partly in travels, partly in research in his estate in the Crimea, which Catherine the Second presented to him.

Carl Ernst, or Carl Maximovitch von Baer, the father of embryology, was born a Russian subject in 1792 in Estland, Russia, and studied first at Reval at a gymnasium and then from 1810 to 1814 at the University of Dorpat. His work is too well known to need any particular mention here. What I want however to point out is that Baer, like Wolff and Pallas, spent most of his life in Russia. In Germany he spent only seventeen years as professor at Königsberg, from 1817-34, when he was called for the second time to the St. Petersburg Academy. (He was called the first time in 1829, but returned from St. Petersburg to Königsberg in 1830.) From now on to the end of his life, i. e., forty-two years, he lived in Russia and worked there, dying in Dorpat in 1876. Thus even the second volume of his celebrated "Embryology of Animals," published in 1837, appeared three years after his departure from Germany. And his discovery of the mammalian egg in 1827 was also for the first time reported in a communication to the St. Petersburg Academy. Baer was a many-sided investigator, traveller, anthropologist, ethnographer, historian and geographer. Some of his investigations were written in the Russian language including the especially important paper "Why have our rivers which flow north or south, a high

right and a low left shore," in which he established the law of meridional deviation of rivers usually known as Baer's Law.

Johann Friedrich, or better Fedor Fedorovitch Brandt, born in Germany in 1802, was called to Russia in 1831 and became director of the Zoological Museum of the St. Petersburg Academy. During the forty-eight years of his life in Russia he wrote a number of papers in Latin and German on the subject of systematics, anatomy, paleontology and geographical distribution. His son Alexander Fedorovitch Brandt, born in St. Petersburg in 1844 and for years professor of zoology at the University of Kharkov, is known for his work on the Anatomy of Invertebrates and especially on the structure of the reproductive system in insects as well as the development of round worms.

The problems of anatomy have occupied and are still occupying the attention of many investigators. Such men as Kowalewsky, Metchnikov, Salensky, Bobretzky, Korotneff, Tikhomirov, Zograf, Kulagin, Schimkevitch, Cholodkowsky, Schewiakow, W. Wagner, Kojevnikov and others have published papers on the one or the other invertebrate group, and Menzbir, Koltzoff, Ivantzoff, Nasonow, Sushkin on the anatomy of vertebrates. The subject, however, does not lend itself easily to a general account and I shall merely remind the reader of the interesting descriptions of the two creatures forming a transitional stage between the comb-jellyfish and the flat worms. One of these papers was written in Russian by A. Kowalewsky and is entitled "*Cœloplana Metschnikowii*," and has been published in the Proceedings of the Society of Friends of Natural Science in Moscow, in 1882 (a preliminary account was published by Kowalewsky in German in 1880). The other belongs to A. Korotneff, is entitled "*Ctenoplana Kowalewskii*," and was published in German, in the *Z. f. W. Z.* in 1886. Of great interest is also the work of Knipowitsch on the strange group of *Ascothoracida* among the *Cirripedia*.

Microscopic anatomy and histology have also been made subjects of extensive studies. The microscopic structure of invertebrates is generally treated by zoologists, but what is known as the department of histology in Russia has to deal almost exclusively with vertebrates. Here the names of Owsjannikov and Lawdovsky are first to claim our attention, especially because of their remarkable textbook "*Microscopic Anatomy of Man and Ani-*

mals," published in two large volumes in 1887-8 in coöperation with Dogiel, Erlitzky, Peremeschko, and Stieda, all of whom were at that time professors in various Russian universities (Stieda was professor at Dorpat). I also wish to mention the excellent textbook in cytology written by Ogneff, and published in 1903.

The study of systematics, zoogeography, and local faunas was continued uninterruptedly since the first works of Pallas. The museums in Petrograd, Moscow and other universities were enriched by numerous collections (of special interest is the *Equus Przewalskii*). Articles treating special groups of animals are found in all Russian periodicals. The study of fishes was always popular in Russia. We find the excellent monograph on the "Bieluga" written by Sabaneeff in 1871 and his "Fishes of Russia" published in 1875. In more recent years my classmate Berg has distinguished himself as student of Russian and Asiatic fishes. Of the books on Russian birds I should like to mention only the classical two volumes by Menzbir which embody all our knowledge of the life and system of that group, and the books of Modest Bogdanoff.

The impetus given by Baer through his discovery of the germ layers, directed the attention of zoologists toward the problems of embryology. Here the names of Metchnikoff and Kowalewsky occupy quite an enviable position. Alexander Onufrievitch Kowalewsky was born in 1840 and at first studied engineering. His first work in embryology, published in 1865, on the "History of Development of *Amphioxus lanceolatus*" at once placed him in the ranks of distinguished investigators. Equally fine was his thesis for the degree of Doctor of Zoology, "On the Development of *Phoronis*," published in 1867. In the next year Kowalewsky was called to the chair of zoology at Kazan, a year later to Kiev. The year after he undertook a scientific journey to the Red Sea and Algiers. Returning, he was appointed professor at the University of Novorossijsk and in 1890 member of the St. Petersburg Academy and in 1891 professor of histology at the University of St. Petersburg. His investigations cover almost the entire field of invertebrate embryology and in view of their importance it would be almost impossible to point out any title in preference to others. We may, however, mention his "Embryology of Simple Ascidians," published in 1866, an epoch-

forming work because in it the Ascidians were for the first time shown to be of chordate nature; his "Embryological Studies on Worms and Arthropods" published in 1871, a work which received the prize of the St. Petersburg Academy and which contained besides other interesting observations, the celebrated description of the development of *Sagitta*; and some of his later publications on the physiology of excretory and circulatory organs in invertebrates.

Ilya Ilyitch Metchnikoff was born in 1845 and studied at Khar-kov. From 1864 to 1867 he worked in Germany at various universities. His first important publications published in 1866 deal with the development of insects. His work in zoology extends over about twenty years before he changed from zoology to bacteriology and immunity. His influence on the development of our knowledge of invertebrate embryology was no less than that of Kowalewsky and his researches also cover almost all groups of invertebrates. He was the first to give a careful description of the development of Hydrozoa and proposed the term of Parenchymula for their early larvæ. He described parthenogenesis or as he terms it "Sporogony" in *Cunoctanta*. He gave the first, remarkable description of the embryology of the scorpion. He described the six-legged larva of the Diplopoda. In his "Embryological Studies of Insects," published in 1866, he described the early separation of the progenital cells which he termed the "polecells" in parthenogenetic Diptera. It was while working on the development of invertebrates that Metchnikoff discovered phagocytosis in 1882, the discovery which proved of such vital importance in the study of disease and immunity and which gradually diverted his attention from purely zoological subjects. But Metchnikoff worked also in anthropology and published in 1874 and in 1876 investigations of the Kalmyks. He was also a populariser of biology and wrote numerous articles published in the Russian magazines: "Naturalist," "Vestnik Evropy," "Nature," "Home and School."

The brilliant young zoologist Alexander Pavlovitch Fedchenko, who perished at the age of 29 in a snowstorm on Mont Blanc in 1873, has left a few remarkable investigations, as for example, the description of the life history, hitherto unknown, of the Guinea worm, *Dracunculus medinensis*. He brought from Turkestan a rich collection of animals and plants, the description

of which was published later in Russian journals. The wife of Fedchenko continued his studies in plants and published numerous papers of a taxonomic and phytogeographic character.

I have already mentioned the discovery of pädogenesis by Nikolai Petrovitch Wagner in 1861, such a startling discovery at the time that von Siebold refused to print the paper until the German zoologist Pagenstecher two years later made a similar observation. But Wagner's paper was meanwhile printed in Russian and received a prize.

The discovery of artificial parthenogenesis was also made for the first time by a Russian, my teacher Alexander Andreevitch Tikhomirof, in 1881, on the eggs of *Bombyx mori*, the silkworm. To him belongs also the best monograph on this insect, unfortunately unknown to foreigners because written in Russian, in 1882, and he was the first to introduce *Scorcionera* as food-plant for silkworms instead of the mulberry which cannot grow in the far north. By this substitution of food Tikhomirov made sericulture possible in North Russia and Finland. In 1887 he published, also in Russian, an interesting investigation in the development of Hydrozoa. A man of extraordinary education and wide knowledge, Tikhomirov was unfortunately misled by ambition, diverted his activities into administrative channels and cast a shadow on his name as investigator through his coöperation with the secret service while Acting President of the University of Moscow. But the little that he published will endure and is to the credit of Russian science.

Salensky, Korotneff, Cholodkovsky and Schimkevitch as well as others have contributed to our knowledge of the development of various animals. The anatomy and development of spiders, for example, was for a long time almost entirely based on the studies of Schimkevitch and his "Text-book of Comparative Anatomy" has been translated into German. Cholodkovsky was the first to elucidate the complicated life history of Scale-Insects in a series of articles.

A host of younger scientists were engaged in research in their respective sciences when the world war claimed the attention of all patriotic men. As I have explained before, in Russia, men espousing an academic career were exempt from service and therefore did not, in the majority of cases, receive any military

training whatsoever. But many men of science volunteered their services in other capacities than soldiers. The revolution of 1917 brought new hopes, but these were soon shattered and now the universities are deserted and empty but for a few who have adapted themselves to the Bolshevik régime or chose to remain at their posts and to carry on the torch of light amidst the darkness of ruin and desolation. Some perished. Others fled to foreign countries. Russia's contribution to science may become a closed chapter, unless new forces will arise capable not only of adjusting themselves to the new conditions, but of creating and producing where the present generation has failed.

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THE  
Rhetorica of Philodemus

TRANSLATION AND COMMENTARY

BY

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## PREFACE.

This work is intended to be a systematic presentation of the rhetorical fragments of Philodemus, with an interpretation of the more important passages, in the hope that they may be made more accessible to the general reader than they have heretofore been. On many points of interpretation the author's judgment has changed repeatedly in the course of the work, and he is far from positive that the correct rendering has in all cases been attained. But in the present condition of the text perfection is an unattainable ideal, and some slight gain in accuracy would hardly justify a greater expenditure of time. It would perhaps be more exact to call it a paraphrase than a translation. While it has been possible in general to translate almost literally, there are many passages where the papyrus is so fragmentary that nothing more than an approximation is possible, and the gaps must in some cases be filled entirely by conjecture. Moreover at times it has seemed best to condense some of the more prolix paragraphs. It is hoped that this will in no way hinder the student who is seeking an introduction to Philodemus.

The author is profoundly grateful to his colleagues and friends, Professor G. L. Hendrickson and Dr. E. W. Nichols, who very generously read the translation in manuscript, and offered valuable criticism.



## THE RHETORICA OF PHILODEMUS.

### INTRODUCTION.

The excavations at Herculaneum in the eighteenth century, so rich in results for the student of classical archaeology, produced another treasure which aroused the greatest interest in the learned world, and seemed for a time likely to overshadow in its importance the additions which these excavations made to our knowledge of ancient sculpture. In one of the villas were found many charred papyrus rolls. At first they were not recognized as such, and many were destroyed before the discovery was made that they were the remains of a very extensive private library. Even then the task was hardly begun, for it was found impossible at that time to unroll the papyri; many were cut apart and sadly mutilated before a successful method was devised. Thereafter the work of unrolling and deciphering them was undertaken, and has continued, though with very serious interruptions, to the present time. Two series of *Herculanensia Volumina* totaling twenty-one volumes were published in Naples, and a third series is now planned, of which the first volume has already appeared.<sup>1</sup> In addition to these editions copies of many of the rolls were made under the direction of English scholars early in the last century. These copies are preserved at Oxford; some have been published.<sup>2</sup> These do not exhaust the Herculanean discoveries, but are fairly representative of the whole mass of papyri.

The expectations aroused in the scholarly world by the discovery of these papyri have been realized only to a small degree. For instead of finding the lost works of some master of Greek literature, it was seen that the library was composed of philosophical works, almost entirely of the Epicurean school; nor were the volumes written by the greatest of the Epicureans, but

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<sup>1</sup> *Herculanensium Voluminum quae supersunt XI Tom.* Naples, 1793-1855. Vol. VII did not appear. *Herculanensium Voluminum quae supersunt collectio altera, XI Tom.* Naples, 1862-1876. *Herculanensium Voluminum quae supersunt collectio tertia, Tom. I,* Milan, 1914.

<sup>2</sup> *Herculanensium Voluminum Ps. I, II,* Oxford, 1824, 1825; W. Scott, *Fragmenta Herculansia,* Oxford, 1885.

mainly by Philodemus, at best an authority of the second rank. In fact it has been acutely conjectured by Comparetti<sup>3</sup> because several copies were found of the same works of Philodemus that this was Philodemus' own library, and by another ingenious bit of reasoning Comparetti concludes that the villa in which the library was found belonged to the Piso family. We know that Philodemus was for many years a member of the household of L. Calpurnius Piso cos. 58 B. C., and it may well be that at his decease his library passed into the possession of the Pisos.<sup>4</sup>

It is to his connection with Piso that we owe most of our knowledge of Philodemus. He was a native of Gadara, had studied with the Epicurean Zeno at Athens, had been expelled from Himera, for what cause we do not know,<sup>5</sup> and settled at Rome where he became the client of Piso. From this point our knowledge of him is derived from Cicero. In the attack on Piso Cicero mentions an Epicurean who lived on terms of intimacy with Piso, and describes in no complimentary terms his activities in commemorating the grosser side of the revels in the Pisonian circle.<sup>6</sup> Cicero mentions no name, but Asconius iden-

<sup>3</sup> La villa de' Pisoni e la sua biblioteca *in* Pompei e la regione sotterrata di Vesuvio nell' anno LXXIX (Naples, 1879) p. 159 ff. also in Comparetti e de Petra, La villa Ercolanese dei Pisoni, Turin, 1883.

<sup>4</sup> Certainty cannot be obtained, and Mommsen (*Archae. Zeit.*, XXXVIII (1880), p. 32) has argued strongly that the villa cannot have belonged to Piso. Comparetti replied in *La Bibliothèque de Philodème*, *in* *Mélanges Chatelain*, 1910, p. 118 ff.

<sup>5</sup> Evidence of his expulsion is given in a fragment of Aelian quoted by Suidas s. v. *τιμῶνται*. Another notice (s. v. *συκοφαντεῖν* and *Ἱμεραία*) may also be from Aelian and is commonly printed with the other notice in editions of Aelian, e. g. fr. 40 Hercher. If it refers to Philodemus, it appears that epidemics and famines at Himera were supposed to have been caused by his contemptuous remarks about the gods; his expulsion followed.

<sup>6</sup> In *Pisonem* 28, 68; *Dicit aliquis: unde haec tibi nota sunt? Non mehercules contumeliae causa describam quemquam, praesertim ingeniosum hominem atque eruditum, cui generi esse ego iratus, ne si cupiam quidem, possum. Est quidam Graecus qui cum isto vivit, homo, ut vere dicam-sic enim cognovi-humanus, sed tamdiu, quam diu cum aliis est aut ipse secum. Is cum istum adolescentem iam tum hac dis irata fronte vidisset, non fastidivit eius amicitiam, cum esset praesertim appetitus: dedit se in consuetudinem, sic ut prorsus una viveret nec fere unquam ab eo discederet. Non apud indoctos, sed, ut arbitror in hominum eruditiss-*

tifies the object of the attack as Philodemus, and there is no reason to doubt his statement.<sup>7</sup> Much of Cicero's abuse of Philodemus is undoubtedly due to the heat of the invective against Piso, and should be correspondingly discounted, but the basis of fact is probably only too true, for Philodemus has borne testimony against himself in the scabrous epigrams preserved in the Anthology. It is noticeable, too, that Cicero qualifies his

simorum et humanissimorum coetu loquor. Audistis profecto dici philosophos Epicureos omnis res, quae sint homini expetendae, voluptate metiri. Recte an secus, nihil ad nos, aut, si ad nos, nihil ad hoc tempus: sed tamen lubricum genus orationis adolescenti non acriter intelligenti est saepe praeceptum. 69. Itaque admissarius iste, simul atque audivit voluptatem a philosopho tanto opere laudari, nihil expiscatus est: sic suos sensus voluptarios omnis incitavit, sic ad illius hanc orationem adhinnivit, ut non magistrum virtutis, sed auctorem libidinis a se illum inventum arbitraretur. Graecus primo distinguere et dividere illa, quem ad modum dicerentur: iste claudus, quem ad modum aiunt, pilam: retinere quod acceperat, testificari, tabellas obsignare velle, Epicurum desertum dicere; etenim dicit, ut opinor, se nullum bonum intelligere posse demptis corporis voluptatibus. 70. Quid multa? Graecus facilis et valde venustus nimis pugnae contra imperatorem populi Romani esse noluit. Est autem hic, de quo loquor, non philosophia solum, sed etiam ceteris studiis, quae fere ceteros Epicureos negligere dicunt perpolitus. Poema porro facit ita festivum, ita concinnum, ita elegans, nihil ut fieri possit argutius. In quo reprehendat eum licet si qui volet, modo leviter, non ut improbum, non ut audacem, non ut impurum, sed ut Graeculum, ut assentatorem, ut poetam. Devenit autem seu potius incidit in istum eodem deceptus supercilio Graecus atque advena, quo tot sapientes et tanta civitas. Revocare se non poterat familiaritate implicatus, et simul inconstantiae famam verebatur. Rogatus, invitatus, coactus ita multa ad istum de isto quoque scripsit, ut omnes libidines, omnia stupra, omnia cenarum conviviorumque genera, adulteria denique eius delicatissimis versibus expresserit. 71. In quibus si qui velit possit istius tamquam in speculo vitam intueri: ex quibus multa a multis lecta et audita recitarem, ni vererem ne hoc ipsum genus orationis, quo nunc utor, ab huius loci more abhorreret: et simul de ipso, qui scripsit detrahi nihil volo. Qui si fuisset in discipulo comparando meliore fortuna, fortasse austerior et gravior esse potuisset: sed eum casus in hanc consuetudinem scribendi induxit, philosopho valde indignam: si quidem philosophia, ut fertur, virtutis continet et officii et bene vivendi disciplinam: quam qui profitetur, gravissimam sustinere mihi personam videtur. 72. Sed idem casus illum ignarum quid profitetur, cum se philosophum esse diceret, istius impurissimae atque intemperatissimae pecudis caeno et sordibus inquinavit.

<sup>7</sup> Vol. V pt. 2, p. 16, Orelli; Philodemum significat, qui fuit Epicureus illa aetate nobilissimus, cuius et poemata sunt lascivia.

condemnation of Philodemus; he grants that he is *humanus* as long as he remains in proper society. He has a breadth of culture far surpassing that of the average Epicurean, and his poetry has the charm and polish of the best society verse. However his too easy good nature has brought him into the meshes of Piso's net, from which he is unable to extricate himself. These qualifying phrases agree with the other notice in Cicero<sup>8</sup> which may be taken as showing more nearly than the harsh words of the *In Pisonem* his real attitude toward Philodemus.<sup>9</sup>

I have mentioned that Philodemus was a disciple of Zeno. This connection is of prime importance in estimating Philodemus' position in the Epicurean sect, and in the contemporary world of letters, and necessitates a brief consideration of Zeno. Here again, we rely for our information largely upon Cicero. When the latter was a student at Athens in 79/8 he was advised by Philo to study Epicureanism under Zeno. He was probably at this time head of the school, though the fact cannot be established beyond a doubt.<sup>10</sup> At any rate he was the ablest exponent of the Epicurean doctrine, and Cicero records that his style distinguished him from the other representatives of his sect. *Non igitur ille, ut plerique, sed isto modo ut tu, distincte, graviter, ornatè.* *De Nat. Deor.* I, 21, 59. We derive further information about his style from the notice in *Diog. Laert.* VII, 1, 35. Diogenes is enumerating the different philosophers by the name of Zeno, with a line of description for each; of our Zeno he says, *ἄγδοος Σιδώνιος τὸ γένος, φιλόσοφος Ἐπικούρειος καὶ νοῆσαι καὶ ἐρμηνεύσαι σαφῆς.* Evidently his style was striking, otherwise we should not have two independent notices devoted so markedly to it; this characteristic is all the more remarkable because the Epicureans affected indifference to manner of presentation. Now we have seen that Philodemus

<sup>8</sup> *De Fin.* II, 35, 119; *Quae cum dixissem, Habeo, inquit Torquatus, ad quos ista referam, et, quamquam aliquid ipse poteram, tamen invenire malo paratiores. Familiares nostros, credo, Sironem dicis et Philodemum, cum optimos viros, tum homines doctissimos.*

<sup>9</sup> W. Crönert in an article published in the *Jahreshefte d. öst. archae. Inst.*, vol. X (1907), pp. 145-153, entitled *Die Epicureer in Syrien*, thinks that he has discovered in *Pap. ined.* 986, fr. 19 mention of the enmity between Philodemus and Cicero.

<sup>10</sup> See the discussion in *Zeller III*, 1 (3rd ed.), p. 373, n. 2.

was poet to the Piso family, and his reputation in Rome rested fully as much on his poetry as on his philosophy. And we shall find in the second book of his *Περὶ ῥητορικῆς* that a strife had arisen among the Epicureans which perhaps was not serious enough to be called a schism, but at least gave rise to several controversial pamphlets, and much truly Epicurean billingsgate. In this quarrel Zeno and Philodemus supported the thesis that a certain kind of rhetoric, to which they applied the adjective "sophistic," was an art, and this was disputed as heresy by the opposing party. The Epicureans as a whole rejected all rhetoric as useless; Zeno and Philodemus held that the epideictic branch of rhetoric was a proper subject for study because that alone could be reduced to rule, whereas the parts involving persuasion depended on the speaker's ability to catch the popular favor. The rhetorical works of Philodemus are an exposition of this doctrine. Thus the fragments which we have are the remains of a distinct literary movement in the Epicurean sect, and should be regarded as a literary pronunciamento. The interesting point of connection here is that Zeno whom Cicero lauds a stylist was the champion of this new view which accepted that part of rhetoric which above all others was primarily concerned with style rather than with thought.

Philodemus' importance as a man of letters in Rome is shown again by his relation to the Augustan group, Horace, Vergil, Varius, Quintilius. That these poets were at one time strongly influenced by the Epicurean philosophy is too well known to need mention. But it is only recently that any close connection between this group and Philodemus has been shown. To be sure there was the allusion to Philodemus at the end of the second satire of the first book, but this did not prove anything more than that Horace was acquainted with Philodemus' epigrams. But Körte has discovered amid the almost undecipherable fragments of *Περὶ κολακείας* the names *Οὔαριε, Κοϊντίλιε, Οὐ[εργίλιε, 'Ορά]τριε*, showing with great probability that Philodemus was acquainted with the Augustan group.<sup>11</sup> Still more recently Hendrickson has traced the influence of the technique of an epigram of Philodemus on Horace Car. I, 38.<sup>12</sup> It may therefore be set

<sup>11</sup> *Augusteer bei Philodem, Rhein. Mus. XLV (1890), pp. 172-177.*

<sup>12</sup> *An Epigram of Philodemus and two Latin Congeners. Amer. Journ. Phil. XXXIX (1918) pp. 27-43.*

down with a reasonable degree of certainty that Philodemus was a prominent figure in the literary circles of Rome of the late republic and early empire; that his interest in polite letters distinguished him as it had his master Zeno from the rest of the Epicureans, and that his interest in literature is reflected in the doctrines of the Rhetorica.

The latter works have attracted less attention than they deserve. The philosophical works were naturally the first to be attacked in the hope of supplementing our scanty knowledge of Epicurean doctrines. But little that was satisfactory was done on the Rhetorica until Sudhaus' edition.<sup>13</sup> In this he collected all the fragments of the Rhetorica, using the Oxford and Neapolitan copies, and supplementing these with his own examination of the papyri. His results were little short of astounding, when the nature of his material is taken into consideration, though unfortunately for the general reader or even for the specialist in this field they are almost nullified by glaring faults in arrangement and presentation. He has clearly established the existence of two works, a *ὑπομνηματικόν* in one book, and *Περὶ ῥητορικῆς* in seven. The relationship between these works is as follows: The Hypomnematicon is the precursor of the *Περὶ ῥητορικῆς*. It was intended for private circulation, to propound to his own immediate associates at Rome his peculiar views on rhetoric, at that time a subject of lively interest and active debate in the Graeco-Roman world. These views were not original with Philodemus; he had derived them from his master, Zeno, and their source may be still higher in the Epicurean school. But Zeno was known to Roman audiences mainly through the intermediary of Romans who like Cicero had attended his lectures at Athens, and Philodemus may have found that his doctrines had the appearance of novelty at Rome. The pamphlet circulated anonymously, though we must suppose that the authorship was an open secret, at least in Rome. By accident the book fell into the hands of an Epicurean of Rhodes, who scented

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<sup>13</sup> Spengel published the fourth book in 1837, an admirable piece of work considering the scanty nature of his materials. Gros published the Rhetorica from the Oxford copies with Latin translation and commentary in 1840.

heresy, and recognizing the views as peculiar to Zeno, assumed that he was the author, and published a reply. This attack led Philodemus to return to the subject of rhetoric with a reply to his critic, and a restatement of his views now expanded to the seven books *On Rhetoric*. Naturally, then, the two works cover much of the same ground, and seem to have followed the same general plan. The *Hypomnematicon* contained criticisms of the arguments for and against rhetoric, such as we find at length in the second book *Περὶ ῥητορικῆς*, and again in the seventh book. From this section we have a considerable group of quotations from Diogenes of Babylon who appears also in the seventh book. We have also small fragments of the criticism of Nausiphanes and the Peripatetics, which forms the bulk of our fragments of the sixth book. There was also a discussion of the nature of "art," parallel to that of book I. But most important of all we have in col. XXXIX ff. a full statement of the contents of the constructive part of the work with Philodemus' definition of rhetoric.<sup>14</sup>

The *Περὶ ῥητορικῆς* may be briefly outlined as follows:

- Book I General introduction. Nature of "art."
- Book II Is rhetoric an art? Criticism of arguments for and against. Philodemus' view that sophistic i. e. epideixis is an art, but all other varieties of rhetoric, as well as politics, are not.
- Book III The sophistical school does not produce statesmen; in fact the sophistical training is often harmful.
- Book IV Criticism in detail of the claims of rhetoric, apparently as given in some manual. Philodemus denies the ability of the sophistical schools to teach a beautiful style; complains of their faulty treatment of metaphors; denies the claim of the sophists to universal knowledge, and their assumption of moral superiority.
- Book V Detailed discussion of the disadvantages of rhetoric, with a comparison of the wretched life of the rhetor with the happy life of the philosopher.
- Book VI Attacks on philosophical schools which advocated the study of rhetoric. The surviving fragments deal with Aristotle and Nausiphanes.
- Book VII Criticism of the Stoic attitude toward rhetoric. Further criticism of Aristotle. Comparison of rhetoric and philosophy.

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<sup>14</sup> In this paragraph we have followed in the main the conclusion stated by Sudhaus in the note on p. 44 of his *Supplementum*.

It will be seen that the work assumes a twofold character. On the one hand it is a discussion of the moral and educational value of rhetoric, and is a counterpart of the encomia of rhetoric prefixed to manuals such as we find in the *Rhetores Graeci*. On the other hand it is a discussion of a minor point in Epicurean philosophy, an attempt to interpret the Epicurean creed to meet the changed conditions of the time. The latter side was the immediate occasion for the work, and the one into which Philodemus throws his whole soul. But by the perversity of history it is his criticism of other works on rhetoric which is of most interest to us. For in the hazy condition of our knowledge of the development of rhetoric subsequent to Aristotle, and of the educational conflict between the rhetoricians and the philosophers, any additional facts assume an importance quite out of proportion to their original value. Nausiphanes, Alexinus, Diogenes of Babylon, these are names which Philodemus has made more than mere names. One who wishes to see how far Philodemus is of service to the history of literature should carefully study Philodemus in connection with the first chapter of von Arnim's *Dio von Prusa*, and note how much of our still meager history of the period depends on Philodemus.

If the most valuable portions of the *Rhetorica* are the quotations from earlier authors, the unique part is his definition of "sophistic rhetoric." His discussion of the value of rhetoric and its place in the educational system is concerned first with the definition of "Art." After a lengthy refutation of the views of others he presents his own definition, which he claims is sanctioned by usage, and not formed, as those of his opponent have been, for the purpose of proving the doctrines of some school. An art, he tells us, is a habit of action resulting from the observation of certain fundamental principles which apply to the majority of cases. The art produces a result that is beyond the power of those who have not studied it. Moreover, it produces this result regularly and surely, and not at random.<sup>15</sup>

On the basis of this definition he examines the claims of rhetoric, and makes a threefold division. These three divisions, he says, are not the ordinary divisions, *πανηγυρικόν*, *πολιτικόν*, *δικανικόν*, but *σοφιστική ῥητορική*, generally called by him simply *σοφι-*

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<sup>15</sup> I, 69, 2 = Suppl. 35, 1.

στικῆ, ῥητορικῆ in the strict sense including forensic and deliberative oratory, and πολιτικῆ or political science.<sup>16</sup> Of these three only σοφιστικῆ is used in a technical sense, which apparently originated with the Epicureans, and is restricted to the study of the principles of composition, with special reference to epideictic oratory. It is placed on a level with poetics and might be called the art of prose writing. I, 122, 29 = Suppl. 61, 12 . . . κατ' ἀλήθειαν ἡ σοφιστικῆ ῥητορικῆ τέχνη τίς ἐστίν περί τε τὰς ἐπιδείξεις οἷας αὐτοὶ ποιῶνται, καὶ τὰς τῶν λόγων διαθέσεις, οἷων αὐτοὶ γράφουσιν τε καὶ σχεδιάζουσιν. Φυμὲν τοίνυν τὸ μεθοδικὸν ἕξειν αὐτήν, οὐ πολὺ δὲ καθάπερ οὐδὲ τὴν ποιητικῆν.

To the other two branches, ῥητορικῆ in the narrow sense and πολιτικῆ, he denies the position of an art. They lack the essential characteristic, namely a definite set of principles which can be imparted from teacher to pupil. Quite the contrary, ability in oratory and politics is the result of practice and experience. The successful public speaker may be compared to a good merchant, a hunter, or even a successful thief.<sup>17</sup> All succeed, however, as a result of their own skill based on experience, and their occupations cannot be called arts in the sense in which we speak of music as an art.

Similarly σοφιστής means an epideictic orator, and by a natural enlargement of its semantic area, a teacher of epideictic oratory; and σοφιστεῖν means to teach or practice epideictic. This meaning of "sophist" is quite different from that current down to the fourth century. The development of meaning has been worked out by Brandstätter,<sup>18</sup> and need not be repeated here except so far as it affects our immediate discussion. Brandstätter infers from the fragments of Philodemus that Epicurus was the first to use "sophist" and related words in this sense, and that it became a part of the technical vocabulary of the school in the writings of Hermarchus and Metrodorus. But an examination of the passages on which he based his conclusion (I, 78, 2-19; 78, 19-85, 19; 85, 27-89, 10; 120, 10; 120, 22) will show that Philodemus nowhere quotes from Epicurus an example of the use of the word. The passages are in some

<sup>16</sup> II, 245, 6.

<sup>17</sup> I, 74, 13.

<sup>18</sup> Leipziger Studien, 1894.

parts hopelessly corrupt, but the general sense is clear enough. It seems that Epicurus recognized epideictic oratory as an art, and made the distinction between this and practical oratory which Philodemus makes. That he applied the term "sophistic" to epideictic oratory cannot be proved from Philodemus. The latter is arguing against an unnamed opponent who claimed to be unable to find in Epicurus a statement that sophistic was an art. But the mere fact that Philodemus is compelled to argue that Epicurus meant this, instead of quoting a short sentence that would settle the question definitely, seems to point to the conclusion that the statement was not to be found in Epicurus except by implication. As to Metrodorus the case is simpler, for we know the title *Πρὸς τοὺς σοφιστὰς*,<sup>19</sup> in which sophist probably had the meaning which it bears in Philodemus. We might conjecture that this work was the first in which the word was regularly used in the technical sense. The question is doubtful, however, for there is the possibility that *σοφιστής* was used in a different sense. Diogenes Laertius (x, 26) concludes his list of Epicureans with the words, *Ζήνων θ' ὁ Σιδώνιος ἀκροατῆς Ἀπολλοδώρου, πολυγράφος ἀνὴρ καὶ Δημήτριος ὁ ἐπικληθεὶς Λάκων, Διογένης θ' ὁ Ταρσεὺς ὁ τὰς ἐπιλέκτους σχόλας συγγράψας, καὶ Ὠρίων καὶ ἄλλοι οὓς οἱ γνήσιοι Ἐπικούρειοι σοφιστὰς ἀποκαλοῦσιν.*

The difficulty arises first in regard to the antecedent of *οὓς*. Is it *ἄλλοι* or Demetrius, Diogenes, Orion and others? It is tempting to reason thus: Zeno invented this meaning of *σοφιστική* and *σοφιστής*; he with the others mentioned with him, and Philodemus formed a distinct group of Epicureans noted for their contention that sophistic was an art, and called sophists in derision by orthodox Epicureans. But two objections arise to this interpretation; Zeno was probably head of the school; if so he was presumably orthodox. In the second place it is probable that this list in Diogenes comes from Philodemus' *σύνταξις τῶν φιλοσόφων*. If that is so the last clause *οὓς—ἀποκαλοῦσιν* cannot refer to Zeno, for Philodemus would not reproach his master with heterodoxy. Consequently the identity of those called sophists remains doubtful, and there is always the possibility that the word may have had two different applications in the Epicurean school, and that Metrodorus used one and Zeno the other.

<sup>19</sup> Diog. Laert. X, 24.

But in the absence of definite proof it is perhaps safe to say that Zeno used the word in the same general sense as Metrodorus, but with greater precision.<sup>20</sup>

This peculiar use of σοφιστής and the theory of the artistic nature of σοφιστική colors the whole of Philodemus' argument, and should be kept in mind in reading the following pages. It may not be amiss to discuss at this point some other words which are used in peculiar senses by Philodemus, and which require some comment if the translation is not to be misunderstood. τέχνη is (1) an art, craft or profession, or (2) the formal statement of the principles of the same, i. e., a manual or handbook. The English would undoubtedly be better if I had varied my translation between craft and profession, but where so much of the argument depends on the meaning of this one word I have thought it best to have a uniform translation at the cost of a certain artificiality of expression. It was almost imperative, also, to use a word which would permit of a derivative denoting agent, for τεχνίτης is used constantly of one who has mastered a τέχνη. "Art" and "Artist" give the necessary pair in English, and if it is borne in mind that in this work "art" means any activity or occupation which is reducible to rule, and "artist" anyone who pursues such an occupation, no confusion will result.<sup>21</sup> The opposite of τεχνίτης is ἄτεχνος which I have rendered

<sup>20</sup> See the discussion in Körte, *Metrodori Epicurei Fragmenta*, Jahrb. f. cl. Phil. Suppl. XVII (1890), p. 532 ff.

<sup>21</sup> The history of τέχνη and 'art' and their derivatives affords interesting parallels. 'Art' in its largest meaning in English has nearly as extensive a semantic area as τέχνη in Greek; "profession" which is included under τέχνη is not wholly included under art in English; e. g. medicine is either an art or a profession, but the ministry is not an art. Artist and τεχνίτης, theoretically equivalent, have both undergone a narrowing process; τεχνίτης came to mean an actor, while artist suggests primarily a painter. Both became terms of compliment, and both were extended to cover fields of activity which caused the more respectable artists to blush at the misuse of the word. A passage from R. G. White, *Words and their Uses*, forms an interesting parallel to some words of Philodemus, "Artist has been beaten out so thin that it covers almost the whole field of human endeavor . . . A cook is an artist; so is a barber; and Goldsmith soberly calls a cobbler an artist." Philodemus I, 59, 19 = Suppl. 30, 7 Τὰ δ' ἐκ παρατηρήσεως καὶ τινος ἱστορίας συνησκημένα τέχναις ἢ συνήθεια τῶν Ἑλλήνων οὐ πάνυ τι προσαγορεύει κατὰ τὸν κύριον τρόπον ἀλλ' ἔστιν ὅτε καταχρωμένη, καθάπερ ἐνόησε καὶ τοὺς ἐν τοῖς θαύμασιν συντόνους τεχνίτας καλεῖ καὶ τὸ δεξιῶς ξύλα σχίσαι καὶ

by "layman." As the opposition is almost always between the trained speaker or lawyer, and one not so trained, this use of the word will be natural enough to English readers. Ἐπιστήμη is used at times in the same sense as τέχνη. At other times there is the usual distinction between art and science, a distinction which is emphasized by the use of adjectives; τέχνη στοχαστική is opposed to ἐπιστήμη πάγιος or ἔσθηκνῦα. I do not recall seeing τέχνη πάγιος.

Ῥήτωρ and its derivatives form another group that is puzzling to the translator. The start can be made with ῥητορικὴ for which the time-honored translation "rhetoric" must almost necessarily be used. But ῥήτωρ causes trouble. As used by Philodemus it shifts from orator to teacher of rhetoric, though for the latter he sometimes uses ῥητορικός, and one's first impulse is to vary the translation to suit the shift in meaning. But a twofold objection arises: the word "orator" does not cover the same semantic area as ῥήτωρ, even if we exclude from the latter word the meaning "professional teacher of speaking." With us "orator" means either a person chosen to speak on a definite occasion as in the phrase "orator of the day" in which case it is equivalent to speaker, or a person gifted in speech, as "he was a natural orator." There is nothing in either case to indicate that speaking is the man's habitual occupation. The Greek ῥήτορες, however, formed a distinct profession; it covered the field which to-day forms part of the fields of the lawyer, the preacher, the statesman and the public lecturer. Manifestly "orator" fails to cover the semantic area of ῥήτωρ. A second reason is that in Philodemus there is a constant play between ῥήτωρ and ῥητορικὴ<sup>22</sup> which depends for its point entirely on etymology, and this is lost if we translate by "orator" and "rhetoric." I have therefore translated ῥήτωρ throughout as "rhetor," preferring the awkwardness of using a word hardly acclimated in English to the loss of the point of many of Philodemus' sentences. ῥητορικός I render by "rhetorician" in the sense of teacher of rhetoric.

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συνθεῖναι καὶ ἐνεδρεῦσαι τινα πονηρῶς τεχνικὸν λέγει καὶ τέχνας τὰς ἐν ταῖς κωμῶδαις καὶ πᾶν τὸ τοῦτοις παραπλήσιον. Καὶ μὴν τῷ καὶ παρατήρησιν καὶ ἀσκησιν τέχνην προσαγορεύειν τὰ πλείστα τῶν ἐν τῷ βίῳ τέχνας προσαγορεύοντες οὐκ ἂν φθάνομεν.

<sup>22</sup> See II, 215, col. XI for a case of the double meaning of ῥήτωρ which is easily lost in translation.

πολιτική and πολιτικός should strictly speaking be rendered so as to keep the etymological connection, e. g. "politics" or "political science" and "politician." However as πολιτικός has none of the opprobrium which sometimes attaches to politician in English, I have rendered it by "statesman." There is not in the case of this pair the reason for keeping the etymological connection plain which we have noticed in the case of ῥήτωρ-ῥητορικός.

The date of the Rhetorica cannot be determined with exactness. It was written in the lifetime of Zeno, if we may be allowed to interpret strictly the present tenses of the paragraph referring to him; Suppl. p. 44 ff.; p. 45, l. 1: ὁ παρ' ἡμῶν ἐστὶν Ζήνων, p. 48, l. 13: τίς ὁ ἐκεῖν' ἀναγράψας ἐστίν; Οὐ Ζήνων γὰρ. Zeno's dates cannot be determined exactly; he was born as early as 150, was teaching and apparently head of the school in Athens in 79/8, and was succeeded by Phaedrus shortly thereafter, if Phaedrus was succeeded by Patro in 70/69.<sup>23</sup> If we place Zeno's death at 75 we should have the inferior limit for the Rhetorica. One other point may be taken into consideration; the Περὶ ῥητορικῆς was addressed to a certain young Gaius (ὁ Γάϊε παιῖ, I, 223, 5). This would suggest that Philodemus was at Rome, acting as tutor in some Roman family. The beginning of Philodemus' Roman sojourn may be approximated as follows: he met Piso when the latter was *adolescens*.<sup>24</sup> If we place the limit of *adolescens* at 30, the acquaintance must have begun before 71, as Piso was born at least as early as 101. That would make it possible for Philodemus to have been in Rome in the seventies, and so to have addressed the Rhetorica to his pupil Gaius before the death of Zeno in (circ.) 75.<sup>25</sup>

It is almost paradoxical to pass judgment on the style of an author from whom we have scarcely a single sentence that has remained entire. Much of the obscurity is undoubtedly due to

<sup>23</sup> We really are not certain about the date of the succession of Patro. Phaedrus was contemporary with Zeno and probably did not long survive him. The only certainty is that Patro became head of the school before 51 B. C., v. Cic. Ad Fam. XIII, 1. For a fuller discussion of the dates v. Zeller III, 1 (3rd ed.), pp. 373-5, Susemihl II, p. 261 ff.

<sup>24</sup> Cic. In Pis. 28, 68.

<sup>25</sup> Comparetti on slightly different grounds arrives at a conclusion regarding the limits of Philodemus' literary activity which admits of the date given above for the publication of the Rhetorica. v. La Bibliothèque de Philodème, Mélanges Chatelain, p. 128.

unskillful emendation, and many of the half sentences would be plain enough if we only knew how the sentence began. Anyone who will take the pains to study the articles in which Sudhaus first published his reconstructions, and notice the steps by which the difficulties were cleared away year after year will appreciate the fact that it is dangerous to dogmatize about Philodemus' obscurity, for a single brilliant discovery may affect the interpretation of a whole book. For example, after Sudhaus had published his first volume, he discovered that Papyri 1015 and 832 were the upper and lower parts respectively of the same papyrus. The result was the complete reconstruction of the sixth book in his second volume, and a brilliant contribution to the history of rhetoric by von Arnim. But allowing for the difficulties arising from the fragmentary condition of the papyrus, many others still remain. Chief among these is the philosophic jargon of the Epicurean school, and the habit, also due to philosophy, of preferring abstract to concrete, and the impersonal to the personal. There is a dreary wordiness and prolixity which is so often characteristic of both philosopher and rhetorician in the period of decline. Characteristic, too, of the period is the hair-splitting, the page after page devoted to quibbles over the meaning of "art," "rhetoric," "sophistic," and the dozen other trifles with which the scholastic age of Greek literature amused itself. Philodemus' interest in expression did not carry him into the refinements of Atticism; his Greek is the typical literary Koine of the day, and he distinctly deprecates any attempt at imitation of the ancients and the cultivation of a special or artificial diction.<sup>26</sup> His theory of style is that there is no style except the ordinary language of every day intercourse.<sup>27</sup> A clear use of this provides a better means of expression than is offered by all the schools of rhetoric. Thus while renouncing all theories of style he commits himself to a very far-reaching theory. Freedom from the frills of rhetoric he certainly attained; one could wish that we might say as much of the clarity of his style. From the smooth, flowing style of the epigrams we might expect a similar ease and sharpness of definition in the *Rhetorica*. It is however wholly lacking even in the portions which are nearest

<sup>26</sup> I, 151, 6: "Ἐπειτα εἰ μὲν μηδὲ εἰς ἦν φυσικῶς καλὸς λόγος, ἴσως ἂν ἦν ἀναγκαῖον ἀγαπᾶν τὸν κατὰ θέμα· νῦν δὲ ὑπάρχοντος, ἄθλιον τὸ παριέντας αὐτὸν ἐπ' ἐκείνων καταπτᾶν.

<sup>27</sup> I, 153, col. X.

to a state of complete preservation. It is an interesting commentary on the artificiality of the epigram that a second-rate writer like Philodemus can attain comparative success in it while failing to write a readable prose style. Philodemus' mastery of the epigrammatic style is purely formal; nowhere does he show any great originality of thought; but his style is uniformly lucid and pleasing. In his prose, partly as a result of his theory of style, partly as a consequence of his rambling method of thought, he never attained such a degree of excellence. Even after making due allowance for the obscurity caused by imperfect restoration, it is hardly possible that he will ever be found to deserve the characterization of his master, *καὶ νοῆσαι καὶ ἐρμηνεύσαι σαφῆς*.

The translation follows closely the edition of Sudhaus in three volumes; Philodemi Volumina rhetorica edidit Dr. Siegfried Sudhaus, Leipzig, B. G. Teubner 1892, vol. II, 1896, Supplementum, 1895. As the fragments are presented in some confusion by Sudhaus, I have appended a schematic arrangement of the contents according to the divisions of Philodemus' work.

Philodemus	Sudhaus.	Hubbell
Book I	I, 1-12 = Suppl. 3-8	265-267
Book II	I, 13-18 19-123 = Suppl. 11-61 123-136 136-137 = Suppl. 61-62 137-146 II, 65-130	267-293
Book III	v. Sudhaus' Intro. P. XXXVI	293
Book IV	I, 147-225	293-305
Book V	II, 131-167 I, 225-270	305-318
Book VI	I, 270-289 I, 289-325; revised in II, 1-64	318-332
Book VII	I, 325-385	332-341
Frag. Incerta	II, 168-195	341-346
Hypomnematicon	II, 196-303	346-364

Corresponding pages in the Sudhaus edition and in this translation.

Sudhaus	Hubbell
I, 1-146	265-286
147-225	293-305
225-385	311-341
(289-325 revised in II, 1-64)	

Sudhaus	Hubbell
II, 1-64	321-332
65-130	286-293
131-167	305-311
168-195	341-346
196-303	346-364

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## BOOK I.

We have five fragments of the first book, one of seven columns, the others containing one column each. If we may make a rather large generalization from so small a section we might say that the first book contained an outline of the whole work. I have therefore reconstructed, partly from references, partly by inference the following outline of the book. The fragments which we possess come from the latter part of the book.

The first book contained:

1. The dedication to Gaius. Cf. I, 223, 5.
2. A statement of the purpose of the work: to criticize various views of rhetoric,
  - a. those of its supporters,
  - b. those of its opponents,
  - c. those of the extreme Epicureans who denied that sophistic rhetoric was an art, thus running counter to the doctrines of Epicurus, Hermarchus and Metrodorus. Cf. I, 12.
3. A discussion of the relation of the arts to one another, and of the nature of an art, with especial reference to the errors into which both supporters and opponents of rhetoric fall. Cf. I, 1, ff.

First a division of arts and sciences according to the relative necessity of natural ability and training (*φύσις* and *ἀσκησις*).

Sudhaus

Some sciences depend entirely on natural ability and need but little practice; some accomplish their purpose of and by themselves, granted that the workman has the natural endowment common to all the human race; no practice is necessary; some do not need natural ability but only practice.

I, 1, fr. IV  
= Suppl. 3.

In the case of some arts, their purpose can be accomplished partially and reasonably well by those who have not studied the principles of the art; in other cases only the person technically trained can succeed.

Some say that an art must have definite rules, e. g. grammaticé, others that an art is merely wisdom or skill (*σοφία*), others require that it have a definite purpose, e. g. Plato<sup>1</sup>; others demand that it shall tend to improve life.<sup>2</sup>

I, 2, fr. III  
= Suppl.  
4, 1.

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<sup>1</sup> Gorgias 503E.

<sup>2</sup> Possibly Critolaus, cf. Sextus Empiricus Adv. Rhet. 10-12, 20.

Those who define art fall into the error of expecting that one definition will cover all arts (*or rather* that all arts fulfil equally all the requirements of the definition), in order to obtain what they call the union of arts (*σύνδεσμος*). Then when they find an art which has some characteristic not shared by the others, as is frequently the case, they exclude it from the position of an art.

I, 3, fr.  
I = Suppl.  
4, 8.

In the sciences there is frequently an interchange of function: two sciences produce the same result.<sup>3</sup> But this does not prove that they are not arts.<sup>4</sup> It is not unheard-of for the same result to be accomplished by two arts, and perhaps this is the best way of distinguishing the merely useful from the necessary art.

I, 4, Col.  
I = Suppl.  
4, 17.

Objections can be made to most if not all of the arguments here mentioned (i. e. in the gap between fr. I and Col. I). The worst class of arguments are those which act as boomerangs and demolish the position of the disputant. As far as these arguments are concerned no one can object to the opponents' saying that there are perfect artists and imperfect ones as well. [It is unfair to blame the perfect artist for the failures of his imperfect colleague. But that is what the present critics are doing. The end of rhetoric is to persuade in a speech; consequently it is idle to mention other means of persuasion, such as beauty. If laymen sometimes persuade by means of a speech it does not follow that they persuade better or more frequently than the trained rhetor.<sup>5</sup>

Col. III.

Col. IV.

Apart from the aforementioned obscurities you will find that many of the arguments overstep the bounds of the facts under discussion and are built up on double meanings of words. Many of the arguments do not differ in validity, but by a variety of examples display the fertility of the inventors. Then, too, in these arguments there is a great deal of bare assertion, entirely unsupported by argument (*ἀκατάσκευον, κατασκευή*=constructive argument).

<sup>3</sup> E. g. Sculpture and music both produce pleasure.

<sup>4</sup> Philodemus seems to use *ἐπιστήμη* and *τέχνη* interchangeably.

<sup>5</sup> If Philodemus here as elsewhere, notably in Book II, seems to champion the cause of Rhetoric it is because he is refuting the arguments against rhetoric in order to show that they are inadequate, and that the only true answer to the claims of rhetoric comes from the Epicurean school.

The following error is found in almost all the arguments: they Col. V.  
assume from the lack of technical treatises at a given time or  
place that no art then existed. But it is hardly to be expected  
that we can find technical works in a period in which the art of  
writing had not been invented.

Most, if not all, the arguments do not prove what they claim  
to prove even if the premises be granted. For if the art of  
music does not produce the ability to read and write, it may still  
be the art of other things. Similarly if they assume that sophistic  
rhetoric does not produce political science or practical rhetorical  
ability, they are right, but that does not preclude the possibility  
that sophistic is an art.<sup>6</sup>

“Just as dialectic is an art, but accomplishes nothing unless Col. VI.  
combined with ethics or physics, so rhetoric is an art, but accom-  
plishes nothing unless combined with politics.” There are many  
other errors in the arguments, but we do not intend to take them  
up in detail.

Those Epicureans are to be censured who assume that sophistic Col. VII.  
is not an art, and thus run counter to the teachings of Epicurus,  
Metrodorus and Hermarchus, as we shall show later. Such  
Epicureans are almost guilty of parricide.<sup>7</sup>

## BOOK II.

In the second book Philodemus discusses the question: Is rhetoric an  
art? The fragments fall into two classes. The first consists of one  
papyrus in ten short fragments and a continuous passage of very consider-  
able proportions, contained in Volume One, pages 13-146, most of which  
has been incorporated by Sudhaus in the Supplementum pages 11-62. The  
second group consists of many fragments mostly unconnected, collected in  
Volume Two pages 65-130. The content of the first group may be  
expressed schematically as follows:

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<sup>6</sup> Here we get the first statement of Philodemus' favorite distinction  
between σοφιστική ῥητορική on the one hand, and πολιτική and ἔμπρακτος ῥητορική  
on the other.

<sup>7</sup> This paragraph gives an interesting glimpse of the passion for ortho-  
doxy which was characteristic of the Epicurean school. It also reveals  
the intensity of the feud between Zeno-Philodemus and the other branch  
of the sect.

## I. Arguments advanced by others.

1. Arguments against rhetoric refuted.
2. Arguments in favor of rhetoric refuted.
3. Criticism of the views of Epicureans on rhetoric.

## II. Philodemus' constructive arguments.

The book is thus seen to be a critique of various works about rhetoric. The Epicurean triad, Epicurus, Hermarchus and Metrodorus provide most of the material for the last two sections. Among the opponents of rhetoric to whom prominence is given are Diogenes of Babylon and Critolaus. The work of Critolaus has been discussed by F. Olivier, *De Critolao Peripatetico*, Berlin 1895, and by Radermacher in the introduction to Sudhaus' *Supplementum*. In general I follow their conclusions, although I am not prepared to go as far as they do in crediting Critolaus with most of the ideas expressed in this book. In the notes I have indicated briefly my judgment on the sources of the principal ideas without entering into an extended discussion for which the reader is referred to the excursus at the end of this volume.

## SECTION I-I.

*Refutation of arguments against rhetoric.*<sup>1</sup>

I, 14, fr. V. The arguments are quoted in direct form without introduction, and are  
I, 16, fr. IX. followed by a brief criticism. The first is fragmentary but may be reconstructed as follows:

(a) "The Spartans and Romans expelled rhetors." This does not prove that it is not an art, for states have expelled physicians, musicians and even philosophers.<sup>2</sup>

I, 19, Col. I The argument which is criticized at the beginning of column I is miss-  
= Suppl. II. ing, but must have run somewhat as follows: "An art always produces a beneficial result."<sup>3</sup>

But the captain sometimes loses his ship, the physician kills his patient. We must either deny that navigation and medicine are arts, or abandon the demand that all arts must always be beneficial.<sup>4</sup>

(c) "Different arts do not attain the same end, but gram-

<sup>1</sup> See note 5 on page 266.

<sup>2</sup> Cf. the similar discussion in *Sext. Emp. Adv. Rhet.* 20-25. It was one of the commonplaces of current educational argument; Sextus records that it was used by Critolaus, and by the Academics, Clitomachus and Charmadas; v. *Excursus* p. 379.

<sup>3</sup> For a similar passage cf. *Quint. II, 17, 23 ff.*; v. *Excursus* p. 378.

<sup>4</sup> Cf. *Book I, fr. III.*

marians and dialecticians attain the end of rhetoric." Others do persuade, but the end of rhetoric is not to persuade but to persuade in a rhetorical speech. The philosopher persuades by force of logic, Phryne<sup>5</sup> by her beauty; neither persuades rhetorically.

I, 19, 12 ff.  
= Suppl. 11,  
7 ff.

(d) "An untrained person should not be able to excel one who has been trained in an art, but in rhetoric this sometimes occurs." The untrained man may excel the trained man at times in a conjectural art (*στοχαστική*), but never in an exact science. But if the layman without experience be compared with a man trained in the schools the comparison does not justify the conclusion that sophistic and politics are not arts.

I, 20, 9 ff. =  
Suppl. 12, 6 ff.

(e) "In other arts the rules are true, in rhetoric they are false."<sup>6</sup> (The reply is fragmentary but seems to mean): The same statement might be made about philosophy or medicine. In those some lay down principles which are not true, but the error of some individuals does not prove that the whole subject is not an art if properly treated.

I, 22, 11 ff.  
= Suppl. 12,  
18 ff.

(f) (α) "The artist does not deny that he is an artist, but the rhetor does." The major premise is false. Some artists do deny that they have an art.

I, 23, 4 ff. =  
Suppl. 13,  
7 ff.

(β) "And yet if the meanest artists do not deny that they have an art we should not expect the sophists to deny it."<sup>7</sup> But as a matter of fact philosophers, geometricians, poets and physicians sometimes do deny it, thinking thereby to allay the suspicions of those who expect to be deceived.

<sup>5</sup> For Phryne cf. Quint. II, 15, 6 and 9; Athen. XIII, 590, 591; Sext. Emp. Adv. Rhet. 4; Plut. Vit. Hyper. p. 849E. The story runs that Phryne was accused of impiety, a capital charge, by one Euthias, and defended by her lover Hyperides. When the latter saw that the jury was likely to bring in a verdict of guilty he rent Phryne's robes and exposed her breast, and thus won a verdict of acquittal. As we see from the employment of this illustration by Quintilian in a similar context, this was one of the stock arguments against rhetoric. Alciphron seems to be answering this argument in Ep. I, 31, Bacchis to Phryne, when he says: *μηδὲ τοῖς λέγουσί σοι, ὅτι εἰ μὴ τὸν χιτωνισκὸν περιρρηξαμένη τὰ μαστάρια τοῖς δικασταῖς ἐπέδειξας, οὐδὲν ὀ βήτωρ ὠφέλει, πείθου. Καὶ γὰρ αὐτὸ τοῦτο ἴνα ἐν καιρῷ γένηται σοι, ἢ ἐκέλευο παρέσχε συνηγορία.*

<sup>6</sup> For illustrations of the false rules of rhetoric v. Sext. Emp. Adv. Rhet. 10-12; Quint. II, 17, 18 ff; v. Excursus, p. 375.

<sup>7</sup> This continues the thought of the quotation in the preceding paragraph.

(γ) "They deny that they possess the so-called sophistic rhetoric, and say that it is not a separate kind of rhetoric. However they do lay claim to the possession of experience in practical affairs reduced to a system, and ability to discuss these matters, and boast of it; a good example is Demosthenes." It is a disgrace for them to be ashamed of their art. However as sophistic offers no system for public speaking, how can it produce public speakers?

(δ) "Therefore it is plain that some criticize the art as having no characteristic which distinguishes it from other arts." In the case of other arts, too, which are really or apparently harmful, some criticize the teachers not for what they profess to know, but for what they do not even desire to accomplish.

I, 25, 32 ff.  
= Suppl. 14,  
16 ff.

(ε) "Every artist professes to accomplish a result, the rhetor does not profess to persuade." By no means all artists profess to accomplish the end of their art at all times. All who deal with conjectural arts, as, for example, physicians and pilots, sometimes fail in their purpose. The rhetor does profess to accomplish his purpose, which is not to persuade always, but to persuade better than one who has not been trained.

I, 26, 17 ff.  
= Suppl. 15,  
6 ff.

(η) (Fragmentary and obscure.) "Every artist claims the province of the art as his own peculiar field (i. e. as belonging to the trained man and him alone); but the earliest speakers possessed the power of rhetoric before the art of rhetoric was formulated." On this principle we have to reject the art of medicine because men healed before Asclepius.

I, 27, 31 ff.  
= Suppl. 15,  
12 ff.

(ι) "A rhetor never charges others with lack of art, but with being in a state of mind which prevents them from seeing the connection of events." Therefore we must say that rhetoric is not a matter of practice or experience.<sup>8</sup> For they would have claimed the results of practice for themselves.

I, 27, 6 ff. =  
Suppl. 15,  
17 ff.

(κ) "Men spoke better before manuals of rhetoric were written than they have since." The facts are granted, but inasmuch as rhetoric is not entirely subject to the rules of art, but demands much practice and natural ability, it is not surprising if there were once better rhetors than now, just as there were better

<sup>8</sup> For *ιστοριαν* Sandys in *Class. Rev.* IX (1895), p. 359, proposes to read *ἐμπειριαν*, as *τριβή* and *ἐμπειρία* are coupled in the *Gorgias* to which *Philodemus* refers several times.

philosophers. By this reasoning we should have to deny the position of an art to medicine and poetics. Then too, one might claim that there are good rhetors now. However sophists did not flourish before the technical treatises, but the arts were introduced by the statesmen, not by those who had made no study of the subject; and there are other arts about which nothing has been written as is the case in many parts of the barbarian world.

SECTION I-2.

*Refutation of arguments in favor of rhetoric.*

Having now discussed the arguments against rhetoric's being an art we shall now take up the arguments in its favor.

I, 29, 14 ff.  
= Suppl. 16,  
15 ff.

*General criticism of these arguments.*

(a) They assert that it is an art without establishing the preliminary principles on which their statement rests.

(b) They fail to see that not only is art required for some purposes, but practice is required for others, and think that the same training is adequate for sophistic and politics, whereas there is no art of the latter.

(c) If they apply the term "art" to the state of mind adapted for making rhetorical speeches, how can this be the property of only a few?

Let us take up the arguments one at a time.

"If the rhetors did not use a method we would not find many paying money for their courses." This argument rests on the supposition that rhetoric is an art of politics. This is contradicted by Epicurus in his treatise *Περὶ τῆς ῥητορικῆς* in which he says: "Those who study in the rhetorical schools are deceived. They are charmed by the tricks of style, and pay no attention to the thought, believing that if they can learn to speak in this style they will succeed in the assembly and court of law. But when they find that this style is wholly unfitted for practical speaking they realize that they have lost their money." In this respect rhetoric may fittingly be compared to the art of prophecy.

I, 31, 3 ff. =  
Suppl. 17,  
20 ff.

"Not a few who were unable to speak in public have gained ability by studying in the rhetorical schools." But some come out of the schools worse than when they went in. And if some improve, it may be from other causes which we shall discuss

I, 35, 1 ff. =  
Suppl. 19,  
13 ff.

elsewhere; and we shall also discuss elsewhere why they frequent the schools. This improvement does not demonstrate that rhetoric is an art for it is possible for speakers to improve by practice and experience.

I, 36, 24 ff.  
= Suppl. 19,  
24 ff.

[If it were not an art] "the majority of the students would not become good, but inefficient." Yet we see at times some without art producing more and better speakers than those who possess accurate knowledge; this proves that it is not an art. Some leave the study of sophistic to the child, and afterward give the youth the benefit of association with those who have had practical experience in the assembly and courts. Then if they succeed they are said to have studied with sophists, and the sophists get the credit for giving them the training which they have received from another source.

I, 38, 5 ff. =  
Suppl. 20,  
17 ff.

"Lawyers and statesmen send their sons to the sophists to pursue those studies which gave them their ability." In the first place some insist that they wasted the time which they spent in study with the sophists, and send their sons to their own teacher—the people. However if they do send them to the sophists it is because they do not want their sons to be deprived of any possible advantage to be obtained at the rhetorical schools, but they do not expect the school to produce a trained statesman. Some send their sons to the rhetoricians merely for a liberal education, putting rhetoric on a par with other studies.

I, 40, 18 ff.  
= Suppl. 21,  
7 ff.

"As in music and grammar so in rhetoric there is a transmission of knowledge from teacher to pupil, and the training is not without method." There may be a transmission of knowledge which is not connected with an art but acquired by experience and observation. The statement that "the training is not without method" is mere assertion without any argument to support it. If the statement means that sophistic is an art of practical speaking it is entirely wrong. (Lacuna.) In publishing technical works they are like the Chaldaeans and prophets who give out dreams to deceive the people, and are themselves deceived. If we grant anything we grant that sophistic is an art; but not even those who teach it believe that it is an art of politics.

I, 42, 17 ff.  
= Suppl. 22,  
8 ff.

[If there were no art of rhetoric] "none of those who speak powerfully and intelligently would speak artistically." We may turn the argument around and say that if some speak artistically before the court or the assembly the graduates of the schools

do not share any of their good qualities. However we may be accused of using language loosely and failing to distinguish between what comes with art and what without. For we use the word "artistic" in our everyday speech in a loose way, e. g. one plays games artistically.

"On seeing a beautiful statue you would say without argument that it was the product of art; you will pass the same judgment after investigating the acts of statesmen." One might acknowledge that the works of the panegyrists are the products of art. But inasmuch as the acts of a statesman deal with a subject which cannot be reduced to the rules of art how can they reveal that they are the products of art.

I, 44, 16 ff.  
= Suppl. 23,  
5 ff.

"If it were not an art those who have studied it would not practice proof (or demonstration)." Not only is one who has not studied an art unable to do the work of an art, but one who has not practiced and observed cannot reap the benefits. By studying what pleases the crowd and practicing, one can become skilled in politics. This is a strong proof that sophistic is not the art of politics.<sup>9</sup> If it is, let him who has studied the technical treatises go before the people and speak!

I, 45, 13 ff.  
= Suppl. 23,  
20 ff.

### SECTION I-3.

#### *Criticism of the views of Epicureans on rhetoric.*

The Epicureans who claim that *rhetoric* is an art of *writing* speeches and delivering epideictic orations make the error of

I, 47, 1 ff. =  
Suppl. 24,  
10 ff.

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<sup>9</sup> Here Philodemus seems to be attacking "sophistic" which he elsewhere admits as an art. The inconsistency is only apparent, however, as will be plain if we examine closely the meaning of "sophistic" as defined by Philodemus. The "sophists" are in his language the professional teachers of rhetoric, and sophistic is the subject taught in these schools. This subject matter is called "rhetoric" by those who teach it, and it is claimed that it trains for deliberative and forensic oratory, and therefore is an art. This Philodemus denies. The ability to persuade in a speech whether in law court or in public assembly, he says, is the result of natural endowment and facility acquired by practice; it must be acquired by each individual and cannot be set down in the form of rules and imparted from teacher to pupil; hence it cannot be called an art. In so far, then, as the professors of rhetoric attempt to teach the principles of public speaking and the laws of politics with a view to producing statesmen, they fail, for sophistic is not an art of politics. Later he sets the limits of sophistic—it is the art of epideixis and nothing more.

applying the term *rhetoric* to what should properly be called *sophistic*. Those who admit that *sophistic* is an art, but deny that there is an art of forensic and deliberative oratory because *sophistic* is not the art of these branches, have failed to prove that there is no art of forensic and deliberative oratory. There may be a method of these branches; but all they have shown is that some do succeed by means of natural ability and experience without the aid of rhetoric. Nor have they established beyond a doubt, as they should, that *sophistic* is the art of epideictic. The treatise on rhetoric ascribed to Poilyaenus we have already shown to be spurious.

I, 40, 14 ff.  
= Suppl. 25,  
15 ff.

Those who say it is an art, but requires ability and practice, not to acquire it but to attain the end completely, have utterly failed. They have not made the division between the different parts of rhetoric (i. e. *sophistic* and practical rhetoric) which was made by Epicurus and his immediate successors. Epicurus demonstrated that *sophistic* is an art of writing speeches and delivering epideictic orations but is not the art of forensic or deliberative oratory; accordingly they say that *sophistic* is an art; his successors likewise have said that there is no art of politics. They certainly leave no place for any science of politics.

Moreover their statement that ability and practice are needed to learn the art of *sophistic* is false, or we must make the same statement about philosophy. Their illustration from the art of grammar turns against them. For natural ability is required for rhetoric just as much as it is as a foundation for grammar. In the case of grammar natural ability and practice are required in order to acquire the knowledge of the subject, not to attain the end. Consequently if rhetoric is similar to grammar we must admit that ability and practice are needed to acquire rhetoric. When they say that ability is required for delineation, for making suitable gestures, etc., and experience is needed to judge the proper occasion for speaking, what have they left for art? They ought to show what *is* needed to acquire the art if ability and practice are not needed.

I, 53, 3 ff. =  
Suppl. 27,  
6 ff.

Those are wrong who claim that rhetoric is not an art on the assumption that an art must have method and a transmission of definite knowledge, if on the other hand they allow medicine which is conjectural to be an art.

(a) Their expression *εἴ τις προείληφε* assumes that one can define art as one chooses.<sup>10</sup>

(b) While criticizing those who do not make proper divisions, they fail to differentiate between the several parts of rhetoric.

(c) Politics is an art according to their grouping of the sciences and this is false. For it has no method, nor is it even a conjectural art. This can be proven by passages from Epicurus and Metrodorus. (Some of which are quoted.)

(d) It is stupid to say that the rhetors have *observed* the elements which generally persuade, and have reduced them to a system, and that we persuade by use of prooemium and narrative and the other parts of an oration.

A fourth class<sup>11</sup> present arguments which are a combination of the last two, and are open to the same objections. Their definition of art is "a state of training acquired as a result of observation, by which the proposed end is obtained generally and with reasonable probability." This removes the distinctive characteristic of an art which is its method and general principles applying to the individual cases. The practical skill acquired by observation is not called an art by the Greeks except that sometimes in a loose use of language people call a clever woodchopper an artist. If we call observation and practice art we should include under the term all human activity.

They say that politics is not an art, and yet they claim that rhetoric i. e. *πολιτικὴ ῥητορικὴ* is helpful in practical life. How can rhetoric be called an art when it does not help the artist but sometimes makes him inferior to the layman. Dialectic and eristic may be arts by their definition, but in differentiating between them and rhetoric they prove that rhetoric has no method. The other differences which they point out all go to show that rhetoric is not an art. These points of difference are (1) when it contributes anything it is something insignificant and accidental; (2) it is not necessary, a layman can do as well

<sup>10</sup> Philodemus has in mind in this criticism his purpose to base his judgment of rhetoric on the definition of *τέχνη* accepted by usage. Cf. such passages as I, 69, 2 = Suppl. 35, 1: *ἔστιν τοίνυν καὶ λέγεται παρὰ τοῖς Ἕλλησιν* · I, 59, 19 = Suppl. 30, 7 ff. *ἡ συνήθεια τῶν Ἑλλήνων* · I, 68, 7 = Suppl. 34, 14; *κατὰ τὴν συνήθειαν*.

<sup>11</sup> Possibly these were followers of Diogenes of Tarsus, who derived their arguments from his *Ἐπιλεκτοὶ Σχολαί*.

I, 57, 23 ff.  
= Suppl. 29,  
15 ff.

as an artist; (3) its principles are easily acquired; (4) it depends largely on practice and memory. In short rhetoric has no method.

I, 64, 11 ff.  
= Suppl. 32,  
19 ff.

Bromius in his discussion of the arts passes over sophistic rhetoric on the ground that it is not regarded as an art either by people in general or by Epicurus. The only art that he will allow in this connection is politics. How can he do this when sophistic *is* an art and is so considered by the leaders of our school? If he considers sophistic to be no art why does he not prove his statement? How can he make the claim that the good statesman has calculated the means of arousing the emotions, and of persuasion, and uses these continually? Any success which the speakers attain they attain because of practice, but they do not succeed universally. Furthermore, his statement that the technical treatises of the rhetoricians are not entirely barren is in direct contradiction to the teachings of Epicurus who says that all such treatises are useless for producing the political faculty.

## SECTION II.

### *Philodemus' theories about rhetoric.*

I, 68, 1 ff.=  
Suppl. 34,  
12 ff.

We shall now present our own views under the following heads:

- (a) Definition of art according to usage.
- (b) Epicurean doctrine declares that sophistic rhetoric is an art.
- (c) Sophistic is an art of epideixis and writing of speeches, but not of forensic and deliberative oratory.
- (d) Politics depends on investigation and practice, but has none of the essentials of an art.

## SECTION II-a.

### *Definition of 'art.'*

An art, as the term is commonly used, is a state or condition resulting from the observation of certain common and elementary principles, which apply to the majority of cases, accomplishing such a result as cannot be attained by one who has not studied it, and doing this regularly and certainly and not by conjecture. For the moment we may leave out of the discussion whether or not a looser use of the word sanctions the inclusion under the heading 'art' of all occupations depending wholly on practice. This

definition applies both to the exact sciences like grammar and music which have certain definite rules, and to the conjectural which are in possession of certain common elements affecting<sup>12</sup> individual cases, although these common elements may not have been completely mastered, and the result may not be accomplished always but only more frequently than by those who do not possess the art.

(There follows a passage which cannot be restored.)

If rhetoric has no method it is not an art. We apply the terms 'experience,' 'observation,' 'practice' when one has failures as well as successes; but we never call this art, for the essence of art is to accomplish the result always.

[Another lacuna; apparently, A dancer] has observed the proper way of producing a beautiful effect, i. e. how to stand, how to walk, etc., but he has no method or elementary principles to impart as has the musician. The same statement applies to acrobats. If we class these occupations as arts we shall include practically everything. To sum up; these which we now say are arts we say have a certain character which is possessed by grammar and sculpture; and those which we deny are arts lack this character and are characterized by observation. On the basis of this definition we declare sophistic to be an art and politics not.

#### SECTION II-b.

##### *Epicurean doctrine declares that sophistic is an art.*

We now turn to the statement: *We* are not responsible for the statement that sophistic is an art and that politics is dependent on observation and practice, but this comes from the founders of our sect, not from us.<sup>13</sup> I shall show where in the works of Epicurus Zeno found the expression of this doctrine. In the first place what would one make of the continual use by Epicurus

I, 77. 26 ff.  
= Suppl. 38,  
14 ff.

<sup>12</sup> There is a difference between the principles of the exact arts or sciences and those of the conjectural; of the former it is said that they accomplish the result *διὰ τινος παρατηρήσεως στοιχείων τινῶν διηκόντων διὰ πλείονων τῶν κατὰ μέρος* of the latter that they possess *κοινῶν τινῶν διατεινόντων εἰς τὸ κατὰ μέρος*.

<sup>13</sup> By *ἡμεῖς* Philodemus means himself and his master Zeno. They had been engaged in a controversy with another group of Epicureans who disputed the claim that Epicurus considered sophistic an art.

in his book on rhetoric of expressions like this: "schools of rhetoric," "the ability produced by the schools," "profession," "instruction about speeches and enthymemes" and the like?

I, 78, 19 ff.  
= Suppl. 39,  
5 ff.

Turning to Hermarchus, we find the same opinion in an epistle to Theophrides. Alexinus in his work on education criticized the rhetorical sophists for wasting their time on investigation of useless subjects, such as diction, memory, and the interpretation of obscure passages in the poets. He added, "We can grant that they try to speak about useful subjects, by which it is possible to settle questions of philosophy; for if they do not possess *ἐπιστήμη* they do use conjecture which is the instrument of the rhetor." To this Hermarchus replied, "If by speaking about useful subjects he means speaking about such matters as will bring them pecuniary reward, he is insane."

I, 81, 3ff.  
= Suppl. 40,  
23 ff.

Hermarchus then continues [Lacuna in which was shown the uselessness of these so-called useful subjects which the rhetoricians discuss:] "It is better to lose one's property than to keep it by lawsuits which disturb the calm of the soul."

I, 82, 24 ff.  
= Suppl. 41,  
10 ff.

Nor can we praise the rhetors for teaching their pupils to give advice on public questions. Hermarchus says: "If he says that the rhetors deserve admiration for being useful statesmen his statement will not stand the test. For cooks and carpenters give useful advice which need not be put in the form of a speech. Similarly any farmer without rhetorical training, even without elementary education can discover what is useful for the state.

I, 84, 31 =  
Suppl. 42, 1.

Furthermore, what are we to make of Alexinus' statement that rhetorical speeches depend not on knowledge but on experience and conjecture? He cannot mean that they have no dialectical syllogisms. At any rate he rebukes Eubulides for despising speeches without syllogisms."

We have given these last quotations in case anyone desires to have them, realizing that they will seem to have been written about some other subject than the one under discussion.<sup>14</sup>

I, 85, 27 =  
Suppl. 42,  
14.

Metrodorus in the first book of his *Περὶ ποιημάτων* seems to indicate clearly that rhetoric is an art. Speaking with one who had written on poetics he says, "Until some proof is brought

<sup>14</sup>In this remark of Philodemus we have a naïve admission of the weakness of his case. His attempt to find exact statements in Epicurean authorities to support his position is not particularly successful.

in regard to the art of the rhetoricians, it can hardly be said that it produces rhetors." Then he adds, "Callistratus and others spoke satisfactorily before the assembly about the public interests without having studied the τέχνη of Thrasymachus or of any one else." Elsewhere he says that those who teach the art of speaking do not speak themselves; it is ridiculous to suppose that one man possesses the theory, and another the power, of speaking.

(Lacuna)

A little later he says, "One who purposes to speak in public will not seek the teacher who after giving theoretical instruction is not able to see the next step; but with an eye solely to the task to be accomplished will fulfill by himself the purpose of the art, and will let no chance escape of becoming a better orator."

An outline of the history of the controversy which Philodemus discusses in the next section may enable the reader to understand some of the points to which he alludes in very obscure language. Philodemus was the pupil of Zeno, an eminent Epicurean who taught at Athens in the latter part of the second and early part of the first century B. C., and attained great eminence among his contemporaries, if he was not actually head of the school. Cicero attended his lectures at the advice of Philo, and admired his style; Non igitur ille, ut plerique, sed isto modo, ut tu, distincte, graviter, ornate. *De Nat. Deor.* I, 21, 59. His style is alluded to by Diogenes Laertius, VII, I, 35, *καὶ νοῆσαι καὶ ἐρμηνεύσαι σαφῆς*; he was evidently interested in style, and this interest served to distinguish him from the average Epicurean. Philodemus shared his master's interest in elegance of style as we may conclude from Cicero's remarks; (In Pis. 28, 68) *Homo . . . humanus . . . Est autem hic, de quo loquor non philosophia solum, sed etiam ceteris studiis quae fere ceteros Epicureos negligere dicunt, perpolitus; poema porro facit ita festivum, ita concinnum, ita elegans nihil ut fieri possit argutius.* It was this literary interest which led Zeno to make a collection of passages from Epicurus, Hermarchus and Metrodorus, which he thought proved that the leaders of the school considered sophistic rhetoric an art. He limited the province of the art, however, so as to include only the writing of a speech, particularly of an epideictic oration such, for example, as the orations of Isocrates, and excluded all power of rhetoric to persuade in the fields of forensic and deliberative oratory. The quotations, as far as they can be recovered from Philodemus, are not convincing; still it must be acknowledged that while Zeno might not have been able to quote chapter and verse from Epicurus in support of his view, he was in spirit true to Epicurean principles. For Epicurus, at least in his exoteric writings, paid attention to clearness if not, indeed, elegance of style.<sup>15</sup>

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<sup>15</sup> v. Usener, *Epicurea*, p. XLII.

Zeno had not published his views, but Philodemus had published anonymously a *Hypomnematicon* which was not intended for general circulation. A copy of this fell into the hands of an Epicurean of Rhodes who wrote a reply criticizing Philodemus' pamphlet as heretical, and also assuming that it had been written by Zeno. The next section is an answer to this attack.

I, 89, 11 =  
Suppl. 44, 4

Some Epicureans now resident at Rhodes write that when in the course of their teaching at Cos and again at Rhodes they were upholding the thesis, "Rhetoric is not an art," some students recently come from Athens asserted that this position was not agreeable to the teaching of Epicurus. Being asked to quote their authority, one said that a definite statement on this point was to be found in the *Symposium* or in the *Lives*; the other said he did not know where the statement was to be found, but knew that this view of sophistic was held by the Epicureans in Athens.<sup>16</sup> The philosopher darkly hinted at in the latter phrase is Zeno; the fact that he had written nothing on the subject does not prevent the opponent from writing a reply to him. Frequently in this treatise he says that he found in Epicurus no trace of a statement that rhetoric is an art, but countless statements that no part of it is subject to the principles of art. Now we shall not hesitate to set forth in the future at greater length wherein we think this philosopher is wrong. For the present we shall give a brief outline of our criticism.

I, 92, 10 =  
Suppl. 45,  
16.

The opponent says that Epicurus and Metrodorus considered that the political and forensic branches of rhetoric needed practice and experience and a certain experimental knowledge, whereas the panegyric branch depended on practice and experience and a certain habit of expression without any knowledge of facts. Moreover the leaders of the school believed there was no art of persuading large bodies of men; that the aforementioned practice and experience do not suffice to persuade even in a majority of cases, and those trained in panegyric are less able to face the tumult of the assembly than those who have no rhetorical training; Epicurus and his followers knew that *τέχνη*

<sup>16</sup> Philodemus is careful not to mention names, though describing the opposing parties by phrases which would be intelligible to his audience. The Rhodian school represents the author who had criticized Philodemus' work, thinking it to be Zeno's; the philosophers at Athens are Zeno and Philodemus.

had been written, and referred to these works by this name without granting that they accomplish their purpose; if any one possesses the power of persuasion, it is responsible for evil and not good. With these arguments he thinks that he proves that those who believe any part of rhetoric to be an art are inconsistent with Epicurus.

I wonder at the perplexity of the pupils of that "philosopher of Athens." If they cared to know where this doctrine was laid down they might have consulted the philosophers at one of the meetings of the school on the twentieth of the month, or any of the regular associates of Zeno, who lives in Athens, not in Persia. In order to satisfy their desire we have presented the passages which we claim prove that the so-called sophistic rhetoric is an art, and is not a part of rhetoric; for the divisions of rhetoric are not as he assumes throughout his work, panegyric, political and forensic any more than the genus dog is divided into the species sea-dog and land-dog.

We forgive the man for having written so much against our position; we should not have mentioned it except to show what strange things philosophers sometimes do. "But I desire to know," you will say, "who wrote that book"? Not Zeno.<sup>17</sup>

Our claim that the Isocratean orations and those of like character are not composed without method is especially attacked in the passage, "Epicurus believed that there was no art of persuading large bodies of men; that those who are not rhetoricians sometimes are more persuasive than the rhetoricians; that those trained in panegyric are less able to face the tumult of the assembly than those who have no rhetorical training; that Epicurus spoke of arts, and said that those acquainted with them were benefited, but did not mean that this enabled them to attain the end; if anyone possesses the power of persuasion it is responsible for evil and not for good."

But the arguments of Epicurus which prove that there is no art of politics do not prove that the sophists do not possess some other art. We shall select certain passages from the Symposium of Epicurus which support our view.

In order to represent the young man as being refuted when

I, 95, 18 =  
Suppl. 46,  
29.

I, 99, 5b =  
Suppl. 48,  
15.

I, 102, 21 =  
Suppl. 49,  
18.

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<sup>17</sup> Philodemus was the author of the book (his Hypomnematicon) which had been attacked on the supposition that its author was Zeno.

he claimed that his rhetorical study gave him power to deliver panegyrics and engage in politics, Epicurus makes Idomeneus beg pardon for his youthful presumption, and represents some one addressing him thus; I quote word for word, "It is strange that you are not prevented by your youth from surpassing older and famous men in the power of rhetoric"; by which he means, "It is strange that you are not prevented by your youth from excelling in rhetoric, which seems to require practice, while it is possible for you to be prevented by your youth from participating in philosophical discussions which depend more on knowledge than on practice."

I, 103, 13 =  
Suppl. 50,  
17.

"This," says the opponent, "is a clear statement from Epicurus; he makes a hard and fast distinction between *ἐπιστήμη* and *τριβή*, and considers that all rhetoric, not merely the political and forensic divisions, depends entirely on experience. If rhetoric were wholly or in part an art, Epicurus' statement would become an absurdity meaning, 'If that which is produced by method can be attained by a youth, much more can that be obtained which is produced by method.'"

To assume that this statement of Epicurus refers to rhetoric as a whole, and not to the political part alone violates both the letter and the spirit of the Symposium. If sophistic rhetoric is an art, as it really is, requiring much practice (for the Epicureans acknowledge that some sciences need practice) how is Epicurus absurd? If the political form or division of rhetoric requires practice, and the sophistic, knowledge only, how is this absurd? The statement which our opponent thought to reduce to an absurdity, really means, "If that which is produced partly by method can be obtained by a young man, much more so, that which is produced by method alone."

I, 107, 15 =  
Suppl. 53, 5.

Our opponent now proceeds to discuss the phrase *ὁ δοκεῖ τριβῆς εἶναι* (I, 103, 6 = Suppl. 50, 12). The passage is so fragmentary that the meaning can be restored only partially. Philodemus has been arguing that the phrase meant that a part of rhetoric employed method and art, and a part depended on practice and experience. The opponent insists that the phrase *δοκεῖ τριβῆς εἶναι* expresses Epicurus' view of rhetoric as a whole, and that *δοκεῖ εἶναι* is merely a milder expression for *ἐστιν*, a form of expression which Epicurus uses even when making a positive statement about philosophy. If *δοκεῖ τριβῆς εἶναι* applies to the political branch of rhetoric *δοκεῖ* must be equivalent to *ἐστιν* with the implication that *σοφιστικὴ ῥητορικὴ* also depends solely on *τριβή* and so Philodemus' position is refuted. To this Philodemus replies:

This is foolish. For it is not like Epicurus to hesitate to speak the truth. However an obscure statement as to its being an art is characteristic of the leading Epicureans. One ought not to insist on the letter, but rather follow the spirit of the passage as revealed by comparison with other passages.

I, 109, 7 =  
Suppl. 54,  
11.

[Opponent.] "Do you not then admit that he agrees with those who declare that rhetoric is not an art, if you admit that he spoke without reservation?" No, for in other places he clearly says that it is an art.

[Opponent.] "But we claim that *δοκεῖ* applies also to *πολιτική*." (The implication is that if the use of *δοκεῖ* instead of *ἔστι* allows one part of rhetoric, viz., sophistic to be an art, it also allows us to consider politics an art, and this is acknowledged to be false.) We grant this, and even grant that *δοκεῖ* applies to sophistic; for Epicurus did not wish to settle the question by this one passage, and in many others he says that it is an art.

If anyone should ask Epicurus just what he considered an art and what not, he would say that the uncertainty of the premises makes the conclusion uncertain. He is in doubt whether *all* rhetoric depends on practice; he agrees that it requires *much* practice.

Again we say, "If he considered it to be only a matter of practice and experience, he would not have added *δοκεῖ*." They said that our interpretation did not give the right meaning, or that it did not give the only meaning. If the first is true we do not understand Greek; if the second, why do they, too, use obscure language in attacking us?

I, 112, 7 =  
Suppl. 56, 6.

I shall show that Epicurus is obscure in the passage on *φρόνησις* when he says, *ὄ μάλλον ἂν δόξειεν ἐπιστήμη αἰτιῶ εἶναι ἤπερ τριβή*. also that he shows that rhetoric is the result of knowledge and practice, but more of practice than of knowledge; that philosophical theorizing is the result of both, but more of knowledge than of practice; second, that he shows that philosophical theorizing is the result of both, but of one in a greater degree than the other, while rhetoric is the result of one alone; third, that philosophical theorizing is the result of knowledge and not of practice. The opponent chooses one of these interpretations at random. But suppose we substitute *ἔστι* for *δοκεῖ εἶναι* so that the sentence reads, *Σὺ μὲν οὐκ ἐξείργου τῇ ῥητορικῇ δυνάμει προέχειν, ὁ τριβῆς ἔστι καὶ συνθηθείς πολλῆς*. How can this mean that rhetoric

I, 112, 24 =  
Suppl. 56,  
15.

is not the result of art, but of practice alone? We might say *πολλῆς φιλοπονίας ἐστὶ δηλονότι τὸ φιλοσοφεῖν καὶ ἡ φιλοσοφία*, but no one would assume that philosophy is the result of labor alone. So by *πολλῆς ἐστὶν ἡ ῥητορικὴ τριβῆς καὶ συνηθείας* Epicurus means *δείτῃ πολλῆς τριβῆς καὶ συνηθείας*.

Furthermore, from the words that this man has used it is uncertain whether Epicurus assumed that rhetoric was the result of practice alone, or of art and practice, or largely but not entirely of practice. For in the sentence, *Θαυμαστὸν δὲ, εἰ σὺ μὲν οὐθέν ἐξείργου διὰ τὴν ἡλικίαν ἐν τῇ ῥητορικῇ δυνάμει προέχειν ὃ δοκεῖ τριβῆς εἶναι καὶ συνηθείας πολλῆς*, does ὃ δοκεῖ κτλ. refer to *ῥητορικῇ δυνάμει* or *ὑπερέχειν*? It is possible to take this to mean that the power of rhetoric can be acquired by art, but to surpass all in it requires practice. This, however, I do not hold to be true. If you wish to consider how the author of the book understood this, he will say that *δοκεῖ* refers no more to *ὑπερέχειν* than to *ῥητορικῇ*, but you have rejected my plain statement, and use the tricks of the sycophant against me.

I, 119, 28 = [In a fragmentary passage Philodemus promises to discuss  
Suppl. 59, later passages from Metrodorus.]  
14.

I, 120, 10 = Epicurean authorities hold that sophistic rhetoric does not  
Suppl. 60, 6. perform the task of practical and political rhetoric. This can be proved by passages from Epicurus, Hermarchus and Metrodorus. The ability to speak in assembly and court comes from practice and observation of political events.

#### SECTION II-C.

I, 122, 25 = Of the third section only the title can be determined with certainty.  
Suppl. 61,  
10.

Sophistic rhetoric is an art of epideixis, and of the arrangement of speeches, written and extemporaneous.

To which we may add the passage

I, 135, 40. Sophistic is not the knowledge of political rhetoric; this section we shall take up in the Hypomnematismus<sup>18</sup> which is to follow. In that will be demonstrated that political ability cannot come from these sophistic schools any more than from the common schools or from the philosophical schools; that oftentimes the possession of it is responsible for no small mischief, and does not even bring success in actual law cases.

<sup>18</sup> He refers to the third book, now lost.

SECTION II-d.

*Politics depends on investigation and practice.*

We now pass to the last section. No system of politics has ever been imagined except that offered by the rhetorical sophists. Now since sophistic contributes nothing to produce political ability, it follows that those who possess this ability have acquired it without the help of scientific principles. I, 136, 20 = Suppl. 61, 19.

After I, 122 the papyrus is so mutilated that no continuity between columns remains, and often the meaning of any one column is doubtful. I have given the only important passage in the last few columns. For the sake of completeness I append a synopsis of the other columns.

. . . it follows necessarily that the experience of the sophists is transmitted not without method. I, 24 . . . those emulated among many peoples, Euphranor, Nicias, Nicomachus and Hegesias<sup>19</sup> and many others. I, 124, col. XXV.

Prooemium, narration, demonstration, exception<sup>20</sup> and summary. I, 126, col. XXVI.

Unless he said that the Panegyric of Isocrates or the Panathenaic or the Busiris and the Helen and the Peace<sup>21</sup> were without method. I, 127, col. XXVII, l. 20.

What is true of the most inconsequential arts is true of rhetoric. In these one with a suitable nature, who acquires the principles and adds to them practice is able to produce the result; one who does not learn the principles, either from others or from manuals, even if he aims at the desired goal always is incapable of producing any of the results. So in rhetoric. I, 128, col. XXVIII, l. 9.

A clever man without studying the technical works of the sophists can study some sophist's speech and so learn to imitate them. But how can he imitate it if it is a long way off? "How can he help imitating it if it is very near?" says Epicurus.<sup>22</sup> I, 16. How can they expect that there will be differences in the written works when the art is the same? How will they persuade in medicine and many other sciences? But, as I said, the kinds I, 130, col. XXIX.

<sup>19</sup> For Hegesias we should probably read with Wilamowitz, Hermes XXXIV (1899), p. 636, Pausias.

<sup>20</sup> Reading in I. 5 *ὑπεξαίρεσεως* with Fuhr, Rhein. Mus. LVII (1902) p. 432.

<sup>21</sup> Reading I. 24 *τὸν περὶ εἰρήνης* with Sandys, Class. Rev. IX (1895), p. 359. The thought is the same as I, 100, 10 (v. p. 20).

<sup>22</sup> For a better understanding of this column compare II, 251.

of principles of such arts are very few, and differ from the sciences.

I, 132, col.  
XXX. l. 7.

They say that the art applies to deliberative and forensic oratory. Therefore when it is demonstrated that they are capable of neither, it is made plain that they have no art.

I, 134, col.  
XXXI

. . . to write imitations of forensic, deliberative and ambassadorial speeches. In addition to this, other imitations of speeches must be made to deceive people into thinking that this implants the political faculty, i. e. to demonstrate that it is an art. For not without system could one persuade the majority that he knows what he does not know.

I, 137, col.  
XXXIII,  
l. 21.

Certain arts have been transmitted to men in writing, e. g. architecture, ship-carpentry, navigation, painting. All these arts had methods in olden time.

I, 139, col.  
XXXIV.

No man was able, whether induced by philanthropy or vain-glory, to impart to his contemporaries or to posterity [the principles of politics] unless he employed the political τέχνην of the philosophers.

I, 144, col.  
XXXIX.

[One] oftentimes advises a man to be just and rich or poor and humble or magnificent or beautiful, matters in which it is madness to speak of art; and the statesmen probably are better guessers than others. Why not? They have more access to the people.<sup>23</sup>

#### FRAGMENTS OF BOOK II.

The very considerable disconnected fragments of Book II are collected by Sudhaus in vol. II pp. 65-130. A certain grouping is possible, and has been worked out by Sudhaus in the introduction to vol. I pp. XXVII ff., which I have used as a basis for my own arrangement. In the case of most of the groups it will be apparent to what part of the book they belong, and what relation they bear to the larger continuous fragment. I have thought it wise to indicate in case of the obscurer passages my own conjecture as to their position. The meaning of most of the passages, however, will be clear to one who has read the preceding pages of the second book.<sup>24</sup>

II, 67, col.  
III.

If some say that the faculty of speech comes by practice, the majority say that practice alone produces poor speakers.

<sup>23</sup> Reading with von Arnim (Hermes XXVIII (1893) p. 153) in l. 16 *ἔοικεν εἶναι* l. 20 *σπανίως ἢ πρόσσδος*.

<sup>24</sup> The following fragments are so inconsiderable that I have not attempted to include them in this abstract:

"The technical element they [i. e. rhetoricians] borrow from other arts e. g. from dialectic, and adorn themselves with borrowed plumage." But [the philosopher] borrows from many sources, for according to Euripides one can get his proofs out of the air without toil.

It is absurd to agree with Diogenes that rhetoric is not an art, and unworthy of a freeman. On this principle he would have to exclude many arts.<sup>25</sup>

. . . proves that politics and sophistic are the same. He may have proved that politics and sophistic do not produce statesmen, but he does not realize that sophistic is not practice, but that every artist has his theoretical principles. II, 70, fr. VII.

Some speak without having had the benefit of instruction, but this does not prove that rhetoric is not an art.

He<sup>26</sup> says clearly that Demades did not study rhetoric, and the same applies to Aeschines. All of Demosthenes' opponents claim that he was an artist and Critolaus does not deny it. In addition to this, our statement that they gained little from the art supports [the theory]. For hit-or-miss methods succeed only rarely; no one will say that the continued success of Aeschines and Demades is a proof that there is an art of rhetoric. II, 93, fr. XXII.  
II, 97, fr. VIII.

If he instances Aeschines and Demades as good orators, this does not prove that sophistic is not a science.

"Rhetoric is not an art, for every art aims at a correct (or successful) procedure; now hit-or-miss methods do not produce correct results, but we know that rhetors have been successful without instruction."<sup>27</sup> II, 69, fr. V.  
II, 71, fr. VIII.

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II, 65, fr. I	II, 76, fr. I	II, 96, fr. VI	II, 117, fr. XIII
65, fr. III	76, fr. II	98, fr. IX	121, fr. II
66, fr. V	76, fr. III	99, fr. X	122, fr. III
66, fr. VI	84, fr. VIII	99, fr. XI	126, fr. X
67, fr. I	86, fr. XII	99, fr. I	128, fr. XIV
67, fr. II	87, fr. XIII	99, fr. II	128, fr. XV
72, fr. IX	91, fr. XIX <sup>b</sup>	104, fr. X	129, fr. XVI
73, fr. X <sup>a</sup>	93, fr. I	108, fr. XVII	
73, fr. X <sup>b</sup>	96, fr. V <sup>a</sup>	117, fr. XI	
73, fr. XI	96, fr. V <sup>b</sup>	117, fr. XII	

<sup>25</sup> Cf. II, 95, fr. IV.

<sup>26</sup> This is aimed at Critolaus or Charmadas; v. Excursus, p. 371.

<sup>27</sup> This argument is like that which proves that there is no art of

II, 77, fr. IV  
= II, 111,  
fr. XXII

Probably all that Homer meant was that they surpassed the other heroes in charm of conversation.

II, 119, fr.  
XVI, 8 ff.

Speaking of heroes who were able to speak, and kings able. . . .

II, 115, fr.  
VI.

This argument assumes that sciences are the same in different localities, but that rhetoric differs in different countries and cities.

II, 74, fr.  
XII = II,  
106, fr.  
XIII, XIV.

The sense of the following passages runs somewhat as follows: Rhetoric has been criticized for being all things to all men, so that it could be compared to the polypus which adapts its color to the rock on which it rests.<sup>28</sup> Philodemus' answer is an analogy drawn from medicine; the rhetor must consider the needs and character of his audience, just as the physician must take into account differences of climate and constitution in regulating the diet of the patient. Fr. XIV, p. 106 views the same subject from a different angle. A rhetor cannot be expected to be equally successful in all countries. A great Italian physician if transferred to Egypt would "send many mighty souls to Hades," through failure to understand all the local conditions.

II, 127, fr.  
XII.

. . . art does not vary with locality, and does not adapt itself to different peoples, consequently he demands that rhetoric shall not change.

II, 127, fr.  
XIII = II,  
75, fr. XIII.

. . . demands that the perfect orator be also a good man and a good citizen.<sup>29</sup> But such a combination is not required in the case of any other art; a good musician may be a villain.

II, 83, fr.  
VII.

"Every art receives suitable pay; rhetoric does not." But dialectic does not receive large fees, nor does medicine; so by this reasoning these should not be considered arts.

II, 85, fr.  
XI.

Grant that the artist alone attains the end, or does so more than anyone else. If the rhetor is said to succeed alone or more than anyone else, that does not prove the sophist a rhetor. But this does not prove that politics is not an art, but the point would be proven if in law court and assembly no one of them succeeded more than those not rhetors. If it said that one skilled in trials attains the end, this remark is ridiculous. For in some arts, those untrained can attain the end.

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rhetoric because the heroes were rhetors before any treatises on rhetoric were written. Cf. I, 27, 6 = Suppl. 15, 17. Also II, 76, fr. III. Philodemus seems to be arguing with a Stoic; cf. Sudhaus I, p. XXX.

<sup>28</sup> Cf. Theognis, 215 f.

<sup>29</sup> This is the Stoic position. Probably he is quoting Diogenes of Babylon; cf. Radermacher, Rhein. Mus. LIV (1899) p. 290.

They will say that the art is independent, but requires much natural superiority,<sup>30</sup> and practice in actual political life in which the art is deficient; and that those who are acquainted with the principles of the art are impotent if they do not have these external aids. II, 87, fr. XIV.

Having considered the arguments of this philosopher, we must next take up those of the Cyrenaic Theodorus and his followers. II, 116, fr. IX.

"If the rhetors deceive, they are themselves deceived by their own instruments, just as in the case of sight and hearing. For if one deceives he can be deceived; therefore they deceive no more than they are themselves deceived." First, how does this prove that rhetoric is not an art? I do not see why he says that the rhetors are deceived, and that they do not merely deceive.<sup>31</sup> II, 90, fr. XVIII = II, 121, fr. I.

When the rhetors deceive they deceive with a deception of others, not of themselves; as when a soldier strikes down his opponent, and says that he defeated him with defeat, he means his opponent's defeat, not his own. II, 89, fr. XVII

When a man sees, he is not therefore seen; the same applies to hearing. Therefore rhetors are not deceived because they deceive. II, 88, fr. XVI.

One who deceives is also deceived himself; consequently capable rhetors are deceived in trials fully as much as they deceive. I wonder if Theodorus did not frequently deceive many; he had the power to deceive, and does not acknowledge that he was led astray. II, 113, fr. IV.

The third syllogism is more endurable but no less absurd. For the physician can cure even if he uses barbarisms and soloecisms, and does not speak in rhetorical style. II, 88, fr. XVI, 7.

Persuasion is purely a matter of guesswork.

He says that the end of rhetoric is to persuade the hearer.

We shall say nothing to those who say that the end of rhetoric is to be able to find possible arguments on questions; or as some state it, to find the arguments for every question, and to refute the opposing arguments.<sup>32</sup> II, 91, fr. XIX = II, 116, fr. VIII. II, 92, fr. XXI = II, 124, fr. VII. II, 103, fr. IXa.

<sup>30</sup> *πρωτέρημα* means 'superiority' as in Polyb. III, 89, 9: *ἦν δὲ τὰ πρωτερήματα Ῥωμαίων, ἀκατάτριπτα χορήγια καὶ χειρῶν πλῆθος.*

<sup>31</sup> Quintilian has a list of examples to prove that the deception practiced by the orators does not involve self-deception. II, 17, 18-21.

<sup>32</sup> Cf. Aristotle's definition of rhetoric, I, 2: *δύναμις περὶ ἕκαστον τοῦ θεωρησῆσαι τὸ ἐνδεχόμενον πιθανόν.*

- II, 94, fr. II  
= II, 129,  
fr. XVII. (A refutation of an argument against rhetoric based on the mutual recrimination of orators.) If Aeschines charges Demosthenes with using *θαύματα* instead of *ρήματα*<sup>33</sup> of what use is that as an argument? Do not the philosophers revile one another?<sup>34</sup>
- II, 97, fr.  
VII. This fragment yields nothing of importance except the distinction between practical orators, Demosthenes and Lycurgus, and sophists, Isocrates and Matris. Cf. II, 233, 15.
- II, 100, fr.  
III. This deals with the argument that rhetoric is not an art because it has been excluded from some cities.<sup>35</sup>
- II, 102, fr.  
VI. Phocion studied the political art with Plato or Aristotle, and became a statesman.
- II, 102, fr.  
VII. Rivalry between Critolaus and the rhetors.
- II, 105, fr.  
XI. The next argument is: "All practice and observation and training has some end to which all the parts ought to tend; rhetoric has no such end."
- II, 105, fr.  
XII. [Rhetoricians] were not in good repute at the very beginning, in Egypt and Rhodes and Italy.
- II, 107, fr.  
XV. We shall next consider the statement that every art is invented for some useful purpose, but rhetoric tends [to deceive].<sup>36</sup>
- II, 108, fr.  
XVI. [I think that he wishes to] say that they do not have theoretical acquaintance with all subjects, but only with some; that the speakers in actual debates discuss many political problems, and, therefore some are able to speak to the point, others not; and that those who have a theoretical acquaintance with all subjects are good speakers.<sup>37</sup>

<sup>33</sup> Aesch. III, 167.

<sup>34</sup> For *θανμασιουργίαν* l. 6 Fuhr, Rhein. Mus. LVII (1902) p. 431, proposes to read *θανματοποιίαν*.

<sup>35</sup> Cf. I, 16, fr. IX.

<sup>36</sup> Cf. I, 2, 6, ff. = Suppl. 4, 4, ff. Possibly this is the opinion of Critolaus; cf. Sext. Emp. Adv. Rhet. 10-12.

<sup>37</sup> It is impossible to determine the identity of the person from whom Philodemus quotes this opinion. It may be of interest to note, however, that a similar opinion of the need of universal knowledge in oratory was warmly supported by Cicero. The most striking passage for purposes of comparison with Philodemus is in the *De Oratore*, I, 5, 17: *Est enim scientia comprehendenda rerum plurimarum*; but the thought is elaborated in a large number of passages which I have collected in my dissertation—*The Influence of Isocrates on Cicero, Dionysius and Aristides*, pp. 20 ff. It would be rash to make the claim that Philodemus was aiming at Cicero, for Philodemus in spite of his long residence at Rome, and his close connection with a prominent Roman family is entirely Greek in his literary

They do not show that rhetoricians were contemporary with the physicists. The fact that there were political rhetors before the technical treatises of the sophists were written, does not prove that political rhetoric is not an art. II, 109, fr. XIX.

The same form of argument could be used with damaging effect against its author; there were certainly statesmen before Plato and Aristotle wrote on politics, and it can be proven that philosophy is not an episteme, for there were good men before Zeno, Cleanthes, Socrates and Aristotle. II, 110, fr. XX.

If we consider that he (i. e. Homer) was the founder (εὐρέτης) of philosophy, as he is held to be not by the Critics alone but by the philosophers of all sects, it is just as reasonable to hold that he was the founder of rhetoric.<sup>38</sup> II, 111, fr. XXI.

Does rhetoric help body or soul? II, 112, fr. I.

Let us now take up the statement of these same people that political rhetoric is an art, but less so than others; for they agreed that a few who had reached the top would be capable speakers. II, 113, fr. III.

He who says that the end of rhetoric is to persuade, does not persuade himself but his neighbor. II, 114, fr. V.

He holds the art to blame for the mistakes of those who are only partially acquainted with it. II, 119, fr. XVI.

If many are able to attain an easy end, oftentimes better than the artist, still artists are to be admired, and are able to attain difficult end. For a physician who can cure ten out of a hundred difficult cases cannot be said to succeed in the majority of cases, yet we might call him a good artist. II, 119, fr. XVIII.

There is no method by which one can persuade the multitude, either always or in the majority of cases. II, 120, fr. XIX.

. . . and they say that Isocrates and Gorgias and Lysias acknowledged that they did not possess science. This is incredible and impossible, since they professed to be artists, and to II, 122, fr. IV.

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references. Cicero's opinions, however, were not unique but merely representative of the revival of the 'philosophic rhetoric' of Isocrates, which is represented on the Greek side by Dionysius, and, as we know from the introduction to his Attic Orators, by many others, some of whom may have been in the mind of Philodemus. Furthermore, any reference to Cicero is excluded by the probability that the Rhetorica of Philodemus antedates the De Oratore.

<sup>38</sup> Wilamowitz, *Hermes* XXXIV (1899) p. 636, reads I. 10 οὐχ ὑπὸ I. 13 αἰρέσεως and explains κριτικῶν as the school of Crates.

teach others. Isocrates left technical treatises, and so did many other sophists, and declare it to be a wonderful art.

II, 123.  
fr. V.

But [the rhetoricians] do not know how to make laws, or govern according to their manuals.

II, 123, fr.  
VI.

Inasmuch as rhetors persuade some people by kisses, let us not say that others are artists who do not possess the rhetor's faculty. He demands that every science have its own subject matter with which it is concerned, and tries to show that rhetoric has no such subject matter.<sup>39</sup>

II, 66, fr.  
IV.

. . . we use the principles of grammar; and using the same line of argument, if we are to heal we shall use the principles of medicine, and so in the case of the other arts.

II, 125, fr.  
IX.

We take up next the argument that every art attains the end either always or generally, but rhetoric falls into neither of these classes, but succeeds rarely, and then by the use of elements common to all men.<sup>40</sup>

II, 126, fr.  
XI.

(Summary of the arguments against the Stoics.) They use a poor definition which excludes all the conjectural arts; they make false accusations against rhetoric, which really accomplishes much by definite principles; many other criticisms might be made against them. We now pass to the next group, Ptolemaeus. . . .

II, 109, fr.  
XVIII.

How can one teach vocal culture unless one has a trained voice, or medicine unless one is a physician?

II, 95, fr.  
IV, l. 5.

Gladly would I learn why only occupations fit for a free man can be considered arts. How could rhetoric be called unsuitable, if . . . I pass by for the moment the statement that [the rhetors themselves] do not wish to have it considered an art; for Demosthenes and Pericles claimed [to possess] rhetoric, and usage [accepts it as an art].

II, 94, fr.  
III.

No less in error is the next argument which runs as follows; if the theorems of the art ought to be of such a nature, one must not do this. However one must not draw the conclusion which they direct. (What follows refers to periods.)

II, 91, fr.  
XX.

Epicurus has stated explicitly in his *Περὶ ῥητορικῆς* that their knowledge of sophistic does not give them theoretical knowledge [of politics].

<sup>39</sup> Cf. Sext. Emp. Adv. Rhet. 48 ff., Quint. II, 21; v. Excursus p. 374.

<sup>40</sup> Cf. Sext. Emp. Adv. Rhet. 13-15.

One who spells Dionysus is not more grammatical than one who spells Theodorus.<sup>41</sup> . . . The physician and grammarian attempt to impart certain things to others, and to instruct students of grammar and medicine; similarly, the rhetor . . .

II, 88, fr. XV.

Let us say that music and medicine and Epicurean philosophy are not arts. Consequently they will say that there is no characteristic exercise in the arts, and judge that the assistance that comes from the arts . . .

II, 82, fr. VI.

It is quite incredible that Isocrates accomplished any such result with this faculty.<sup>42</sup>

II, 70, fr. VI, 31-44.

If the Spartans and Romans manage their governments without the aid of rhetoric . . .<sup>43</sup>

II, 65, fr. II.

### BOOK III.

At the close of the second book Philodemus remarks: "Sophistic is not the knowledge of political rhetoric; this section we shall take up in the Hypomnematismus which is to follow. In that it will be demonstrated that political ability cannot come from these sophistical schools any more than from the common schools or the philosophical schools; that oftentimes the possession of it is responsible for no small mischief, and does not bring success in actual law cases."

This is the only certain indication that we have of the contents of the third book. Sudhaus thinks that some of the fragments of the Hypomnematicon may belong to this book, but the two works overlap so much that the question cannot be settled with certainty.

### BOOK IV.

The contents of this book may be deduced from the closing paragraph, I, 222, col. XLIIa, 4. Ἀποθεωρημένων τοιγαροῦν, ὦ Γάϊε παῖ, ἀπάντων ἃ μέρη φασὶ τινες καὶ διδάγματα τῆς ῥητορικῆς ὑπάρχειν, ὅτι τὰ μὲν κατέψευσται, τὰ δ' οὐδὲν χρησιμεύει τοῖς μὴ τὰ ῥητορικὰ σοφιστεύουσι, δῆλον ὅτι πομπεύεται παρ' αὐτοῖς τὸ μητέρα τῶν μαθημάτων καὶ τῶν τεχνῶν εἶναι καὶ τιν' ἐνθήκη καὶ ἀφετήριον τὴν ῥητορικὴν καὶ μᾶλλον ἔτι μετὰ τῆς πειθοῦς λαμβανομένην. It was a criticism of rhetoric, following the divisions of the ordinary rhetorical technē. All that remains is the treatment of λέξις or φράσις, and ὑπόκρισις, with a short digression on the province of the orator. The study of the book

<sup>41</sup> I. e. different words have different spellings, and different arts have different principles, but one is an art just as much as the other.

<sup>42</sup> Isocrates is representative of sophistic. The sentence means: It is incredible that sophistic trains for practical rhetoric.

<sup>43</sup> Cf. the use of the same argument in the larger fragment, I, 14, fr. V.

may be facilitated by prefixing a short outline of its present contents to the detailed treatment of the fragments.

The main body of the book is devoted to λέξις. The first two columns however, do not have any connection with this subject. Column I, vol. I, p. 147 deals with φύσις, column II with the meaning of φιλοσοφία. The connected fragment begins with column III. III-X discuss the meaning of καλή as applied to λέξις. XI-XIX treat of faults of style, solocicism, barbarism and obscurity. The second group of fragments (I, p. 162 ff.) begins with a discussion of homoioteleuton (col. I) and collision of vowels (col. II). Col. III outlines the following discussion of φράσις dividing it into τρόπος, σχῆμα and πλάσμα. The first part of the discussion of τρόπος is too fragmentary to permit of any restoration. X-XXII criticizes the rhetorical treatment of metaphors, XXIII introduces the subject of allegory, and there the fragment ends; the sections on σχῆμα and πλάσμα are entirely lost. The next group of fragments, continuing the criticism of text books of rhetoric, denies that rhetoric can claim the credit for teaching men to avoid faults of speech (col. I<sup>a</sup>-XI<sup>a</sup>). XI<sup>a</sup>-XIX<sup>a</sup> makes a similar criticism of the rhetorical claims to teach ὑπέκρσις. XX<sup>a</sup>-XXX<sup>a</sup> attacks the rhetorician's claim of ability to speak on all subjects. XXX<sup>a</sup>-XL<sup>a</sup> criticizes the sophistical use of epideictic, denying that the sophistical encomia possess moral value. XLI has a brief remark on Demetrius' peculiar fourfold division of oratory. The book concludes with a summary (XLII-XLIV).

I, p. 147.  
col. I.

They agree with us regarding what is naturally and truly advantageous. Therefore he who has learned what is naturally good and bad, and intermediate and indifferent, and has acquired the practical and theoretical means of producing this . . .

I, 147, col.  
II.

The restoration of this column is very uncertain. I cannot understand the use of εἶπον (I. 7) with ἐκάλουν following in I. 11 without a connective. The meaning seems to be that the rhetoricians, claiming that their profession was a philosophy and an art, meant that it was a philosophy in the sense in which Isocrates used the term, i. e. the study of the whole of human activity from the standpoint of the orator, and not with the intention of parallelling the Peripatetics and Stoics by propounding a peculiar system of thought. This claim that rhetoric is the most comprehensive of studies is noticed again at the end of the book, I, 223, 11 quoted above, p. 37.

I, 148, col.  
III.

This fragment is part of a discussion of the meaning of καλή as applied to λέξις or φράσις. One possible definition is that καλή λέξις is one which can present proposals which shall seem advantageous<sup>1</sup> in such a way as to win the audience. This definition is mentioned only to be rejected.

<sup>1</sup> For the thought cf. Sext. Emp. Adv. Rhet. 56: διόπερ ὅταν λέγεται ὁ ῥήτωρ καλῆς λέξεως εἶναι κατασκευαστικός, ἥτοι κατὰ τοῦτο λέγεται καθὸ τὴν τὰ συμφέροντα πράγματα δηλοῦσαν λέξιν κατασκευάζει . . . οὔτε δὲ καθὸ τὴν τὰ συμφέροντα πράγματα μνηνύουσαν· οὐδὲν γὰρ ἴσασι περὶ τούτων τῶν πραγμάτων οἱ ῥήτορες.

*καλή φράσις* belongs to the Epicurean philosophers, but is not even remotely connected with the rhetoricians or sophists. For if by *καλή* one means the use of words in their proper meaning, why should the philosophers take second place?

I. 149. col. IV.

Any "imitation" of things by words is impossible. In the beautiful style of Isocrates, or the grand style of Demosthenes we do not find this attempt to fit sound to sense.

I. 149. col. V.  
I. 150. col. VI.

If there were no naturally beautiful style, it might be necessary to be content with one established by arbitrary authority. But as there is a naturally beautiful style it is a shame to seek for another. For the arbitrary style is not accepted by all, nor is it always the same in the same author; some imitate the style of Isocrates, others that of Thucydides.<sup>2</sup>

I. 151. col. VII.

Whom then shall we imitate, especially since it is so formidable a task? Perchance we might imitate all who have been successful at any time or place. One cannot even say that all rhetors adopt one style.

I. 152. col. VIII.

Only two or three at the most imitate Isocrates, and some say that the style of Isocrates is not uniform in all his works.

I. 152. col. IX.

Therefore the grammarians and philosophers who refuse to follow these rules, but write in simple style and not in the ridiculous style prescribed by the manuals [write better than the sophists]. We have now discussed every possible phase of the subject.

I. 153. col. X.

Now in regard to a correct use of the Greek language which some say consists in observing the local peculiarities of speech (dialectal peculiarities), and in the avoidance of soloecism and barbarism<sup>3</sup>—some call the failure to observe the local peculiarities soloecism, still others make a distinction between barbarism and incorrect pronunciation, e. g. a mistake in aspiration or accent—it is not convenient to speak at present.<sup>4</sup>

I. 154. col. XI.

<sup>2</sup>Radermacher, Rhein. Mus. LIV (1899) p. 365, quotes Maximus Planudes, Schol. Hermog. vol. V, p. 440, 25W; ὁ δὲ γὰρ Ἐπίκουρος ἐν τῷ περὶ ῥητορικῆς ἀθαδέστερον οἶμαι λέγων φησὶν αὐτὸς μόνος εὐρηκεῖν τεχνὴν πολιτικῶν λόγων· τοὺς δὲ ἄλλους ἀποσκορακίζων ῥήτορας ἐαυτῷ πως μαχόμενα λέγει· φύσις γὰρ ἐστὶν ἡ κατορθοῦσα λόγους, τέχνη οὐδεμία. Apparently he thought that Epicurus was a rhetorician!

<sup>3</sup>Reading in I. II μηδὲ for οἱ δὲ as suggested by von Arnim, Hermes XXVIII (1893) p. 153.

<sup>4</sup>The distinction between barbarism and soloecism which is given by the later grammarians when the theory had become crystallized was that

I, 155, col.  
XII.

The sophists commit more soloecisms than anyone else. There is no art of style, such as they desire, and as is found in other lines of study. To sum up the question of style—one style is common to all. (I. e. the natural.)

I, 156, col.  
XIII.

Obscurity is of two kinds, intentional and unintentional. It is intentional when one has nothing to say, and conceals the poverty of his thought by obscure language that he may seem to say something useful. [Connected with this] is the use of many digressions, poetic images, recondite allusions and archaic language. Soloecisms prevent the hearer from understanding many things. Only the true philosopher is free from these faults. Unintentional obscurity arises from not mastering the subject, or not observing the proper formation of periods either in writing or speaking, and in general from failure to use pure Greek, and from believing that words are in harmony with things.<sup>5</sup>

I, 157, col.  
XIV.

I, 157, col.  
XV.

I, 158, col.  
XVI.

barbarism was a mistake in a single word e. g. in the use of a wrong ending, while soloecism was a mistake in syntax. The two overlapped somewhat, and it remained a question whether to use *hanc* meaning a man, was a soloecism or barbarism. (Cf. Quint. I, 5, 34 ff., Diomed. 455K.) Quintilian with his usual good sense decides that this is a soloecism.

Quintilian and later authorities include under barbarism mistakes in the use of the aspirate and in accent, which some *teste Philodemus* preferred to make a separate class. (Quint. I, 5, 19; I, 5, 22; Donat. p. 392K.) The definition of *ἑλληνισμός* here given is paralleled in Herodian, De Soloecismo et Barbarismo, Nauck, Lex. Vindob. p. 311, 9; *Ἐρωτηθεὶς τις τί ἐστὶν ἑλληνισμός, ἔφη, 'τὸ πάσαις ταῖς διαλεκταῖς ὀρθῶς χρῆσθαι.* In their origin there seems to have been no distinction between soloecism and barbarism. Aristotle uses the terms interchangeably (Soph. El. III); Hegesias has the same confusion (ap. Dion. Hal., De Comp. Verb. 18, p. 82, 5 U. et R.). The first clear statement of the distinction which afterwards became fixed is in Diogenes of Babylon ap. Diog. Laert. VII, 1, 59. But the question was far from being settled by his dictum, as this passage from Philodemus shows.

<sup>5</sup> Reading *σύμφ[ωνα]* for *συμφ[ανή]* lines 24, 25. Does he refer to the doctrine, elaborated by the Stoics though not originated by them, of the onomatopoeic origin of language? Cf. Arist. Rhet. III, 1, 8; Plato Crat. 423A; August. Princ. Dialect., VI (I, 1412M). Of the Stoic position the latter says: *Stoici autumant, quos Cicero in hac re irridet, nullum esse verbum, cuius non certa ratio explicari possit. Et quia hoc modo suggerere facile fuit, si diceres hoc infinitum esse; quibus verbis alterius verbi originem interpretaveris, eorum rursus a te originem quaerendam esse*

[Obscurity also arises] from ignorance of the proper meanings of words, their connotation, and the principles on which one word is to be preferred to another. I, 159, col. XVII.

In addition to these there is a fault treated separately by the theorists, namely the too frequent use of hyperbata, and failure to make the gap between the separated words short enough when it is necessary to use this figure; and the separation of correlated conjunctions by too large an interval.<sup>6</sup> I, 160, col. XVIII.

One should use ordinary expressions appropriately, and not express oneself inaccurately, nor vaguely, nor use expressions with double meaning.<sup>7</sup> I, 161, col. XIX.

They (the sophists) have not explained the intricacies of subject matter. [This belongs to the philosophers.]

(A discussion on the choice of words has preceded.) The most important of the rhetorical sophists err in their too great devotion to homoioteleuton and similar figures, and pay little heed to the use of words. I, 162, col. I.

Collision of vowels is rather frigid, but sometimes not inopportune. However they (the sophists) do not define each case (i. e. when it is to be avoided and when permitted), but they depend entirely on subjective tests. . . . If, then, the observation of the principles laid down by them involves anything extraordinary, and there are present *πάθη* and *ῥθη* and the other characteristics of artificial speech, I wonder if a satisfactory form of expression has not been moulded from the vulgar speech. This artificial speech they divide into three parts: *τρόπος*, *σχῆμα*, *πλάσμα*. *τρόπος* includes metaphor, allegory, etc.; *σχῆμα*, periods, cola, commata and the combinations of these; *πλάσμα* refers to I, 163, col. II.  
I, 164, col. III.

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donec perveniatur eo ut res cum sono verbi aliqua similitudine concinat, ut, cum dicimus, aeris tinnitum etc. . . . Sed quia sunt res, quae non sonant, in his similitudinem tactus valere, ut si leniter vel aspere sensum tangunt, lenitas vel asperitas litterarum ut tangit auditum, sic eis nomina peperit. . . . Lene est auribus, cum dicimus, voluptas, asperum est, cum dicimus, crux. . . . Haec quasi cunabula verborum esse crediderunt, ut sensus rerum cum sonorum sensu concordarent. Hinc ad . . . similitudinem . . . processisse licentiam nominandi. . . . Inde ad abusionem ventum est. . . . Innumerabilia enim sunt verba, quorum ratio reddi non possit; aut non est, ut ego arbitror, aut latet, ut Stoici contendunt.

<sup>6</sup> Cf. Arist. Rhet. III, 5, 2.

<sup>7</sup> Cf. Arist. Rhet. II, 22, 12.

the distinction between grand and plain and middle or smooth style.<sup>8</sup> It is foolish to apply the term *πλάσμα* to everything which transgresses the bounds of plain speech.

I, 166-169. Cols. V—IX are too fragmentary to permit a restoration of a complete sentence. It is evident from such phrases as *μεταφέρειν τὰς ὀνομασίας* (167, col. VII, 6), *πλείστας ἐν τοῖς πράγμασιν ὁμοιότητος ἐννοεῖν καὶ διαφορὰς* (168, 24), *μεταφοραῖς* (169, 16), that they are devoted to a discussion of *τρόπος* (cf. col. III). Apparently in col. VIII there was some discussion of the propriety of metaphors in deliberative oratory. Col. X sub fin. and col. XI discuss some plan for a scientific classification of metaphors, the details of which are not clear. He continues (coll. XII, XIII) with a criticism of the common rhetorical doctrine of metaphors. The rhetoricians are content to classify and describe metaphors, e. g. animate objects are compared to animate, or animate to inanimate, inanimate to animate etc., but they give no practical working instructions.

I, 171, 2, col. XII. They will ridicule a metaphor without explaining why it is faulty or how a good metaphor is to be invented. While they divert the attention of young men from philosophy they do not give specific instructions when to use metaphors and allegories, for they consider that the use of metaphors is of advantage only to teachers, but to one engaged in the intercourse of active life they are superfluous baggage. If the use of literal expressions is extended over so wide a field, every art will be silent because deprived of the helpful assistance of metaphors. Some even apply opprobrious epithets to those who call in the aid of figurative language.

I, 175, col. XVI, I, 176, col. XVII. The language again becomes fragmentary. Apparently the charge is made that the sophists use metaphors even more freely than the poets, not to mention the other writers of prose. Other fragments of these two columns are almost too small to notice.

I, 177, col. XVIII. Some say that they use metaphors for the sake of the comparison or resemblance; not however resemblance *per se*, but . . .

I, 179, col. XX. This column deals with the far-fetched metaphors of which two examples are given. These were criticized by persons whose own use of metaphors was not above reproach on this score.

I, 180, col. XXI. Many who have received an education, and who are acquainted with the sciences, use metaphors nearly as much as the sophists.

<sup>8</sup> For *μέγεθος* l. 4 read *μεσότητα* with Radermacher, Rhein. Mus. LIV (1899) p. 361, n. 1.

It is strange then if we are to avoid metaphors, wholly, or in part, while the sophists use them constantly. I, 180, col. XXII.

Col. XXIII is the beginning of a discussion of allegory, dividing it into three parts, *ἀνιγμα, παροιμία, εἰρώνεα*, disregarding for the present such subdivisions as *γρήφος* and *ἀστεισμός*. I, 181, col. XXIII.

The first five columns of this section are disconnected fragments. The subject is the avoidance of faults of style. In column IV<sup>a</sup> the thought is, "But the avoidance of these faults is not the result of technical training in rhetoric." Various faults to be avoided are mentioned in column III<sup>a</sup>; viz. the use of rhythm in prose, obscure use of metonymy, and omission of the second of two correlating particles. The continuous section begins with column IV<sup>a</sup> l. 5a. I, 182, col. I<sup>a</sup>—I, 186, col. V<sup>a</sup>.

The sophistic training does not prevent faulty speech. Those who compose these technical treatises would have us believe that nobody observed these errors in speech before they wrote, and that they speak more correctly than other people.

How can he (i. e. some rhetorician whose statement of the above tenor has just been quoted) say that these faults were not observed by the famous statesmen and philosophers who preceded Zopyrus and Antiphon, who avoided most if not all of them? He did not allow himself any loophole for escape, such as allowing "rhetoric" in his statement to be interpreted as meaning such instruction as Phoenix is reputed to have given Achilles, for he will not allow natural ability in speaking to be called rhetoric. And he made his statement more emphatic by saying, "before the study of rhetoric became firmly established." I, 186, col. V<sup>a</sup>, l. 8.

Consequently both Thucydides the son of Stephanus<sup>10</sup> and Thucydides the son of Olorus were guilty of these faults of style. For the systematic study of rhetoric began in their day, but can hardly be said to have been firmly established. And yet the introduction of these studies has made no difference in the way people speak. I hesitate to say that no one except a ditch digger and Maison talks in the way which he criticizes, but I think that such language as he condemns is characteristic not of an uneducated man, but of one lacking in common sense. Therefore let us not wonder at his statement that the technical I, 188, col. VII<sup>a</sup>.

<sup>9</sup> It is probable that col. IV<sup>a</sup> should precede col. III<sup>a</sup>. Then col. III<sup>a</sup> and col. V<sup>a</sup> are continuous reading; *ἐγὼ μὲν τούτων πολλὰ κάγαθὰ πεποίηκ', αὐτὸς μοι χάριν οὐκ ἀποδέδωκεν*, thus illustrating the omission of *δέ* after *μέν*. This is the suggestion of Sandys, *Class. Rev.* IX, p. 359.

<sup>10</sup> Apparently a slip for Melesias.

I, 189, col. VIII<sup>a</sup>.

I, 190, col.  
IX<sup>a</sup>, I, 191,  
col. X<sup>a</sup>.

treatises on rhetoric are the sole standard of correct speech. If he called rhetorical speech the only correct speech, his statement would be consistent. And that is what he actually appears to mean when he says that at the time poets and educated men flourished in Greece all were inferior to the sophists in correctness of speech. He does not permit us to understand him to be speaking of ordinary conversation, because he cites examples of faults in diction, and corrects them. If he said that the rhetors were successful in rhetoric he was speaking either with reference to the dialectician (a position which we refute) or with reference to other educated persons or artists, each of whom understands the principles of his profession better than a layman, as for example he himself has represented Philo the architect addressing the people about the arsenal.<sup>11</sup> But study of technical rhetoric has never advanced anyone.

I, 192, col.  
XI<sup>a</sup>.

## SECTION II.

### *Delivery.*

I, 193, col.  
XI<sup>a</sup>, l. 12.

Of the six, or as some say seven, parts of rhetoric, Athenaeus says that the most important is delivery,<sup>12</sup> and we agree that a good delivery lends dignity to the speaker, secures the attention of the audience and sways their emotions. But if<sup>13</sup> it is more the task of rhetoric to teach this than it is the task of dialectic or grammar one would desire to learn it. One teaches how to argue, the other how to read. If they claim that delivery in drama comes under the head of rhetoric, we congratulate them on their sense. But if actors do not need assistance from the rhetorician why do they not allow us, too, to decide on the delivery proper to our own sphere? The fact that, uncertain in the

I, 194, col.  
XII<sup>a</sup>.

<sup>11</sup> On Philo the architect cf. Cic. De Orat. I, 14, 62. The use which the rhetorician made of Philo may be estimated from the words of Cicero, Neque enim, si Philonem illum architectum, qui Atheniensibus armamentarium fecit, constat perdiserte populo rationem operis sui reddidisse, existimandum est architecti potius artificio disertum quam oratoris fuisse. Is οὔτος αὐτός Demetrius of Phalerum? See the discussion by Fuhr in Rhein. Mus. LVII (1902) p. 434.

<sup>12</sup> I adopt the emendation of Gomperz, Sitzungsber. d. k. Ak. in Wien, vol. CXXIII, p. 33, quoted in Sudhaus' apparatus.

<sup>13</sup> Reading in l. 25 *ei* for *oû* with von Arnim, Hermes XXVIII (1893) p. 153.

beginning, they take refuge in this, that the actors try to rival the delivery taught by the rhetoricians, is not consistent with their magnifying the art of rhetoric because of delivery, and claiming that for this reason it is better than philosophy. If they say that they are the only ones who have formulated an art of delivery, they do violence to the plain fact that the poets and writers of prose have a theory of delivery even though they have not committed it to writing.

Much of delivery is the natural and unconscious bodily expression of the emotions. Delivery depends, too, on natural endowment, beauty of voice, grace of body, selfpossession, qualities the lack of which caused Isocrates to refrain from public appearances. But Demosthenes said that delivery was the first thing in oratory, and the second and the third, and actors say that it is everything in their art. However it was ridiculous to say that this element which is of assistance to all is of more account in rhetoric than in other forms of prose. Although Demosthenes was in the first rank of rhetors, still he is criticized by Aeschines for his shrill voice, and again for loudness,<sup>14</sup> and by Demetrius of Phalerum for being too theatrical, and not simple and noble in his delivery. Moreover most of the sophists, judged by their writings, seem to have had a poor delivery. Their long periods are hard to pronounce, *teste Demetrio*.<sup>15</sup> Hieronymus also criticizes Isocrates. His orations he says are easy to read, but hard to deliver in public; there is no fire in them; everything is monotonously smooth. He sounds like a boy speaking through a heroic mask. Sophists of the present day have somewhat improved in delivery.

I, 105, col. XIV<sup>a</sup>, 8.Col. XV<sup>a</sup>.I, 108, col. XVII<sup>a</sup>, 23.I, 200, XVIII<sup>a</sup>, 18.

The formal instruction in delivery is a product of recent foolishness; however many of the heroes had an excellent delivery. What the technographers have done is to make plain what had been kept secret before by the statesmen, viz. that they have a system for making themselves appear dignified and noble, and for misleading their audiences. This system is not needed by any other artist, certainly not by the philosopher. The fact is, each profession has its own peculiar delivery.

<sup>14</sup> Aesch. 2, 157: ἐντεινόμενος τὴν δέξιαν καὶ ἀνόσιον φωνήν. 106, ἀναβοῶ παμμεγέθες Δημοσθένης. Cf. 86; In Ctes. 218.

<sup>15</sup> For Isocrates' own opinion on the way people delivered his orations v. Panath. 17, Phil. 25-29.

I, 201, col.  
XX<sup>a</sup>, 12.

Sophists with common sense confine themselves to a discussion of political questions, and do not claim to discuss the form of introduction, narration etc. suitable to every question.<sup>16</sup> The latter is reserved for the thick-witted crew who fail to distinguish whether 1) only political questions can be treated in these divisions, or 2) all questions can be so treated, and that they are the only ones who outline methods adapted to all questions, or 3) they are the only ones who have published such treatises. All three positions are unsound, for 1) almost all questions are treated according to this division. 2) the technographers have given us no treatises on philosophy or music, 3) other professions have laid down rules for presenting their subject matter.

I, 202, col.  
XXI<sup>a</sup>.

The same confusion of thought is found in the claim that the end of rhetoric is to find the possible arguments on any subject, and that rhetoric is alone or almost alone in doing this.<sup>17</sup> In the first place this is nothing more or less than "invention." In the second place if rhetoric can discover the possible arguments in questions relating to medicine, music, etc. the rhetoricians are immediately put into rivalry with the experts in each of these professions. As it is impossible for a philosopher to discover the best possible arguments for some other sect, how can one in a totally different line of activity discover these arguments?

I, 204, col.  
XXII<sup>a</sup>, 16.

I, 204, col.  
XXIII<sup>a</sup>.

Each profession has its own facts and principles, and is alone competent to argue about them. But grant that the end of rhetoric is to find the possible arguments on every rhetorical subject; the phrase "on every" needs restriction.

I, 206, col.  
XXV<sup>a</sup>.

Besides let us say that no good can result from being able to discover arguments, even if it is valuable to have the state of mind which could discover them. For it is clear that he who

I, 207, col.  
XXVI<sup>a</sup>.

<sup>16</sup> This paragraph is an attack on followers of Isocrates such as Cicero, who claimed for the orator the right to speak on all subjects. Cf. *De Oratore*, III, 20, 76, as an illustration of the principle, although Philodemus probably wrote before Cicero: *Illa vis autem eloquentiae tanta est ut omnium rerum virtutum officiorum omnisque naturae, quae mores hominum quae animos, quae vitam continet, originem vim mutationesque teneat, eadem mores leges iura describat, rem publicam regat, omnia quae ad quamcumque rem pertineant ornate copioseque dicat.*

<sup>17</sup> This is substantially Aristotle's definition, *Rhet.* I, 2, 1: *ἔστω δὴ ῥητορικὴ δύναμις περὶ ἕκαστον τοῦ θεωρηῆσαι τὸ ἐνδεχόμενον πιθανόν.*

discovers the inherent arguments must know those which are cogent, and those which are only plausible; but they are far from knowing what is plausible and what is necessary. Nor do they know what is possible and impossible; their natural philosophy is of no help to them. Then they need a criterion of truth, and it is folly to think they possess this. If they say that what appears true to the crowd is true, they say nothing more than that the statesman can discover the inherent political arguments; secondly, the majority does not always abide by the same standard of judgment. Perhaps some one will say that a happy life has no need of politics and rhetorical sophistic. I assert that the sophists can, at least as far as their technical treatises are concerned, discover not the slightest argument pertaining to politics.

I, 208, col. XXVII<sup>a</sup>.

I, 209, col. XXVIII<sup>a</sup>.

I, 210, col. XXIX<sup>a</sup>.

Again another will object that the great sophists have no ability in sophistic, as is shown by the published treatises. I say that the arguments of the sophists and statesmen are mostly false. To discover all the arguments requires a deeper and more philosophic understanding.

Rhetoricians divide their subjects into three parts: forensic (*δικανικά*), deliberative (*συμβουλευτικά*), and encomiastic (*τὰ περὶ τοὺς ἐπαίνους καὶ ψόγους*). We will omit for the present, discussion of the first two, except to say that some use the term *δικαστηρικόν* instead of *δικανικόν*, and that deliberative oratory gives advice only on matters affecting the common welfare, and that this advice is not the product of the sophistic art, but of quite a different art.

I, 211, col. XXX<sup>a</sup>, 19.

In regard to the encomiastic branch of oratory, let us say that political orators frequently employ passages of praise and censure but they do not use them after the fashion of the sophists, nor do they claim to be the only ones able to praise or censure. That is the pretension of the sophists whom we now proceed to answer referring directly to their published works. If they mean that they alone have the power to praise or censure all things, it is right to inquire whether they praise or censure the same object indifferently, or only praise what is praiseworthy, and censure what is blameworthy. If the former, aside from the impossibility of praising that which is blameworthy, there are some things which do not admit of either praise or censure;

I, 213, col. XXXII<sup>a</sup>, 6.

if to the second, they arrogate to themselves the knowledge of what is useful or harmful. If they profess to write encomia of gods and heroes, and to praise some men and censure others, we say that the gods do not need any praise of men, especially not the unseemly praise of the sophists. Their praise of brute beasts does no good, for one can not change the nature of animals by this process.

They say that men are turned to virtue by their encomia, and dissuaded from vice by their denunciations. But the sophists by their praise of Busiris and similar characters, persuade men to become villains. And when they do praise a good man they praise him for qualities considered good by the crowd, and not for truly good qualities. If they had real philosophic insight into the nature of virtue and vice, they would seek virtue and avoid vice themselves.

Not only do they fail at times to praise anything useful, but they frequently praise bad things, and by lavishing praise on matters of small account they incline us to treat all subjects lightly, and by their praise of men to their faces lead to great confusion. They are ignorant, too, of the proper time to praise, which we discuss in our work *Περὶ ἐπαίνου*.

Furthermore, no one can believe the encomiasts, because they praise bad men, and often praise and censure the same person.

The sophists do not excel the poets in their ability to praise, nor even some of the philosophers. In fact any one can do what they claim as their sole possession. We grant that they may have a monopoly of such encomia as are in common circulation. That they do any good thereby, we deny.

Demetrius adds a fourth class to those mentioned. This he calls *ἐντευκτικὸν ἅπασιν*. (obtaining favor with all).<sup>18</sup> If he means that which obtains favor with the multitude, and with potentates, let him have his point for the present; later we shall see what comes of it. But he errs in assigning this and the sophistical branch of rhetoric to the same individual. If he takes the search for truth from the philosophers and gives it to the rhetoricians

<sup>18</sup> Crönert, *Kolotes und Menedemos*, p. 69, refers this to Demetrius of Phalerum. Diogenes Laertius gives among the works of Demetrius (V, 5, 80, 81) *δημηγοριῶν τε καὶ πρεσβειῶν . . . συναγωγαί*, and *Πρεσβευτικός*, and his fourth class may be speeches of ambassadors.

I, 215, col. XXXIV<sup>a</sup>.

I, 216, col. XXXV<sup>a</sup>, 14.

I, 218, col. XXXVII<sup>a</sup>, 19.

I, 220, col. XXXIX<sup>a</sup>, 4.

I, 220, col. XL<sup>a</sup>.

I, 222, 6.

he is transferring the power he once had in political affairs to investigations which require proof.

After considering all the divisions of rhetoric and its claims, Gaius, and recognizing that some are false, and others are of no use to one who does not make a profession of rhetoric, it is plain that their claim that rhetoric is the mother of the arts and sciences is a vain pretense. In another place we shall discuss the charge that it is based on deceit, and therefore harmful. We differ from them when they say that the students of rhetoric become better than their contemporaries. If they mean that they become better in their private lives they are utterly wrong.<sup>19</sup> If they claim that it gives them more practical power than other arts, we retort that all do not obtain power, but some are banished and hated. Gorgias' statement <sup>20</sup> that the rhetorician is more artistic than any other artist we shall consider later.

I, 222, col. XLII.

I, 223, col. XLIII<sup>a</sup>.

#### BOOK V.

This book consists of three groups of fragments. The first group is contained in vol. II pp. 131-143, and is designated as A by Sudhaus in his introduction; the second group is in vol. II pp. 143-167, designated as B by Sudhaus; the third group, vol. I pp. 225-270, comprises eight unconnected fragments, and a more or less continuous series designated as C. The contents of this book are foreshadowed at the close of the fourth book by the statement, "We postpone to another time the discussion of the claim that rhetoric is harmful because based on deceit." A large portion of the fifth book is occupied with a presentation of the disadvantages of rhetoric. This is, however, only a foil to the praises of Epicurean philosophy which are given in the form of a comparison of rhetoric and philosophy. In a portion of the book, at least, Philodemus discusses a treatise in praise of rhetoric, the statements of which are taken up and refuted one by one.

Briefly stated the contents of the book are:—Rhetoric is harmful, and useless in actual practice in public life; it is no protection against sycophants, but a trained speaker is even at a disadvantage before a jury because they expect to be deceived by his specious arguments. If a man expects to use it as a means to public preferment he should remember that

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<sup>19</sup> The claims of rhetoric here refuted are perhaps the common claims of Philodemus' own day. However they are at least as old as Isocrates, whose statement of them is perhaps the best; v. the chapter on Isocrates in the author's, *The Influence of Isocrates on Cicero*, etc.

<sup>20</sup> Cf. Plato, *Gorgias*, 456C. I. e. better able to discuss medicine than the physician.

statesman suffer death, exile and dishonor from the people they try to lead, and that if they succeed in avoiding popular displeasure, very few attain eminence; the toils of rhetoric more than counterbalance its advantages. The rhetorician's claim that the promises of rhetoric are possible of fulfillment, and those of philosophy, impossible, can hardly be meant seriously; if rhetoric promises to satisfy all one's desires, the philosopher replies that most of these desires are unnatural and impossible of satisfaction; the true way is to apply the teachings of philosophy and so limit one's desires. If it be asked what benefit philosophy confers on a state, we reply, it makes men good citizens, content with their lot; philosophy is the only true benefactor.

Rhetoric claims to be able to "sail the deep seas" i. e. to speak at length on any subject, while the philosophers use the dialectic method. But the philosophers can use both methods when they desire; the real difference between the two is that the philosophers use strict logic, while the rhetoricians use only probabilities and guesswork. But moral questions cannot be settled by guesswork.

The rhetoricians say that there is no morality except that established by popular opinion, and that the philosophers try to establish a new morality, like a new coinage. This is not true of the Epicureans. They agree with the people that the end of all conduct is pleasure, but they differ on the means to be employed to attain the end. It is really the statesman who differs from the popular conceptions.

The rhetoricians say that a virtuous man unable to defend himself from malicious attacks is a miserable sight; rhetoric defends a man, virtue does not. But the disgrace falls on the attackers not on the virtuous man. Philosophy provides everything necessary for a happy life.

II, 131, fr. I. (Quoting from some Epicurean? author)—he adds that the training given by the sophists does not prepare for forensic or deliberative oratory.

(Frgs. II and III are hopeless.)

II, 133, fr. IV. To tell the truth the rhetors do a great deal of harm to many people, and incur the enmity of powerful rulers, whereas philosophers gain the friendship of public men by helping them out of their troubles. Ought we not to consider that men who incur the enmity of those in authority are villains, and hated by both gods and men.

II, 134, fr. V. [Those trained in other arts, without training in rhetoric] can speak, not, to be sure rhetorically, but as laymen or dialecticians or philosophers. What is the loss incurred by inability to speak rhetorically? I do not mean to say that one trained to be a soldier, a gymnast or a dialectician could not possess a

knowledge of rhetoric, but that many would not. If they did not abandon the deceit involved in practical rhetoric they would not be able to acquire such rhetorical ability as even philosophy provides. . . . Sophistic style is suited to epideictic oratory and written works, but not to actual practice in forum and ecclesia.

More men are acquitted because of the lack of rhetoric than by means of it; nay even stammering is more persuasive than any other form of speech. For it is well said that the juryman is not affected by any form of speech as much as by the just and prudent actions of the uneducated, and in trials they fear being misled by the rhetor. In speaking one should not resort to ignoble rhetorical tricks; these have less effect than a straightforward character. . . .

Speeches of this sort are no disgrace, if the object of forensic oratory be to set forth the facts, and not to show one's power.<sup>1</sup> It is certainly not true that rhetoric is a weapon to be used against sycophants. . . .

Suppose one to have an abundance of delicate food and drink, but to be suffering great physical or mental torment, could one enjoy them? The implied comparison is: one cannot enjoy the power and wealth which are the prizes of rhetoric, if one has to endure its toils. It is this thought, apparently which is worked out in fr. X.

If they spend all their time about the courts, and start many lawsuits because of their knowledge of that sort of life, when they are brought to trial themselves they are ruined (because of the prejudice against professional speakers); if they make a sparing use of their professional knowledge in order to appear modest, they lose some of their power, and at the same time forfeit that peace of life and solidity of character which contribute most to success.

Every good and honest man who confines his interest to philosophy alone, and disregards the nonsense of lawyers, can face boldly all such troubles, yea all powers and the whole world.

We do not claim that rhetoric is bad in itself, even if it furnishes weapons for wicked men, but it does not indicate what use is to be made of the power it gives, so as to fit in with our

<sup>1</sup> Cf. Arist. Rhet. III, 1, 5; I, 7, 36-37.

principles of justice and honor. Rhetoricians are like pilots, who have a good training but may be bad men.

II, 142, fr.  
XIV.

Those who are troubled with the itch make it worse by scratching. If they would only endure the annoyance of the itch, and think less about it they would get better. So with those who suffer from sycophants.<sup>2</sup>

II, 143, fr. I.

[Giving everyone rhetorical ability with the idea that he will use it only in self-defence] is like giving a brigand or slave a sword, and bidding him strike only those who attack him.

II, 144, fr.  
II.

But this does not apply any more to philosophy and the Epicureans who refrain from such things, than the remarks of those who combine contradictory principles in their instruction affect medicine.

II, 145, fr.  
III.

[Men are lured away from their home towns; the small towns have to sacrifice their best to the large cities.] Many are attracted by Athens with its enthusiasm for philosophy, and the opportunity to enjoy the siren song of the philosophical schools; some are detained by great capitals, Alexandria and Rome, either by necessity (as hostages?) or by the fact that they can derive therefrom some great advantage for themselves or their country. This I say in excusing philosophers [for going to live in great cities]. But perchance, some one else might be rude enough to pray that many of the rhetors be compelled to reside the rest of their lives in a foreign land, because the cities they leave will be better off than those to which they go.

Let us now take up the comparison of rhetoric and philosophy in another fashion. One statement—that the promises of rhetoric are possible of fulfillment, whereas the promises of philosophy seem to be made only in jest, and are so far from actuality that few have ever followed them. . . .

II, 147, fr.  
IV.

Many rhetors have been banished or executed for many strange reasons, even for insignificant reasons. All this risk they run, and yet only two or three of them can speak brilliantly, the majority disgracefully. There follow examples of rhetors who met with disaster, Themistocles, Alcibiades and Callistratus.

II, 148,  
fr. V.

This remark praises rhetoric because it strengthens the wicked,

<sup>2</sup> I should read in l. 14 *συκοφαντίας*. The thought then parallels that of fr. VII. Sycophants are not to be fought by their own weapons, but by paying no attention to them.

on the assumption that it would not deserve praise if it merely tried to hinder them and punished them if they did not obey.

Fragment VI is not substantial enough to enable us to form an opinion of its meaning. Fr. VII and VIII answer the argument that rhetoric gives men higher pleasures and greater power than ordinary people possess.

It is not necessary or even possible to satisfy unnatural and cultivated appetites. But the natural desires can easily be satisfied in all pure men—not merely in great rhetors like Pericles; consequently philosophy which teaches us how to limit our desires is better than rhetoric which helps us to satisfy them. II, 150, fr. VII.

I do not believe that even the greatest rhetors can accomplish all they wish even in their own cities, for then they would be tyrants. Rather it is true that men held in great honor by the people, when they try to restrain them from following their own pleasures are humiliated, fined and killed.<sup>3</sup> II, 151, fr. VIII.

From the mention of players on the cithara, and physicians and painters I judge that this is part of a comparison of the value of these professions and sophistic to a city. The passage, however, is sadly mutilated. Fragments X and XI are hopeless. II, 152 fr. IX.

Rhetors find their public friendly until they have received civil honors at their hands, and then find it hostile. For the mob is envious of those whom it has honored, and always thinks that its heroes make an inadequate return for the honors they have received. Consequently it is better not to receive public preferment. II, 154, fr. XII.

It is objected (by the rhetoricians) that philosophers do not help their country. That is the reason why Critolaus' advice to a philosopher not to join a colony was not regarded as ridiculous. But if philosophers do not enter politics, yet they help their native land by teaching the young to obey the laws; nay more, by teaching them to act justly even if there are no laws, and to shun injustice as they would fire. II, 154, fr. XIII.

[They say] that not only Lycurgus and Pittacus, but also those who established constitutions were of this nature (i. e. rhetors?). But not even those who had rhetorical ability were like these, II, 155, fr. XIV.

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<sup>3</sup> Fuhr, Rhein. Mus. LVII (1902) p. 431, proposes these emendations in fr. VIII: l. 21 *κακώσεων* or *ἀτιμώσεων*, *δημείσεων* or *φυγαδειῶν*.

but with different intent, and with varying experience they turned to managing the public revenues and other matters of administration, and were quite inferior to Callistratus and Demosthenes.<sup>4</sup>

(Fragments XV and XVI are hopeless.)

II, 157, fr.  
XVII.

It is better to learn (from philosophy) to care for oneself, than (from rhetoric) to care for the multitude of common people in all sorts of conditions. A rhetor is like a magician; able to bring down the moon, but what good does he get from it?

II, 157, fr.  
XVIII.

[An opponent says] "No philosopher *qua* philosopher could benefit anyone." If he had added that the philosophers refrain from speaking their mind freely whether at home or in exile, he would have brought his impudence to the proper conclusion. For by their lives, their conversation (they benefit their followers).

II, 158, fr.  
XIX.

A complete investigation of the causes destructive of friendship would reveal that politics is the worst foe of friendship; for it generates envy, ambition and discord.

II, 159, fr.  
XX.

If we throw them (the philosophers) some small change we find them satisfied, not affecting a proud and haughty attitude like the rhetors. If we are right in considering externals of little importance, and the soul more important than anything else, then philosophy is the only true benefactor. Moreover the rhetors charge for the help they give, and so cannot be considered benefactors; the philosophers give their instruction without cost.

II, 160,  
XXI-XXV,  
II, 162, fr.  
XXVII.

(Fragments XXI—XXV are hopeless.)

Furthermore we must add that philosophers are not really hated by all men, for they live in peace and justice and tried friendship; those whom they find opposed to them they quickly soften.

II, 163, fr.  
XXIX.

They acquired the inability to speak rhetorically from the ability. You can not rightly say that anyone acquired inability in war from rhetorical ability. That one derives the inability to speak rhetorically from the ability is not correct, nor merely that he acquired that as being able to accomplish something in

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<sup>4</sup>The meaning would be plainer if we had the beginning of the first sentence. Apparently Philodemus is combating the claim that rhetoric produces *great* statesmen. Many, he says, have to content themselves with menial tasks.

contests of speaking, but that he acquired the inability to speak rhetorically.

(First part obscure.) It is impossible to check up the relative success of speakers rhetorically trained and those not so trained. No one has ever counted all the cases, not even those in his own lifetime, or in a single year; and yet you have the confidence to say that more persuade by rhetorical means than by the simple processes of nature. II, 164, fr. XXX.

There remains the subject of "proof," of which Anaximenes says . . . "Speech is the best means to persuade the soul." In the first place this is false, for money and a thousand other things persuade more powerfully than speech.

In a picture all is light and shadow; painting cannot produce a living being. II, 165, fr. XXXI.

Epicurus has this in dialogue form; "First let us agree on the end for which we do everything, in order that we may know. . . ."

It is worth our while to consider what sort of a life those have lived who have spent it all in prosecution and defence. Even when priding themselves on their profession they admit that it is well not to pass one's whole life in such occupation; but just as it is possible not to have any experience in law courts, so it is desirable not to be idle, or to see children or friends suffer, or suffer misfortune in marriage, or lose money, or suffer similar misfortune. II, 166, fr. XXXII.

Philosophy is more profitable than epideictic rhetoric, especially if one practice rhetoric in the fashion of the sophists. . . . I, 225, fr. I.

The philosopher has many *τόποι* concerning practical justice and other virtues about which he is confident; the busybody (i. e. the rhetorician) is quite the opposite. Nor is one who does not appear before kings and popular assemblies forced to play second part to the rich, as do rhetors who are compelled to employ flattery all their lives. I, 226, fr. II.

The instruction given by the sophists is not only stupid but shameless, and lacking in refinement and reason. I, 223, fr. III.

(Fragments IV—VIII and col. II are hopeless.)

He makes an incredible statement when he claims that one skilled in such subjects (viz. philosophy) could not be of noble III I, 231, fr.

character, and that such studies bring no one happiness, and that no one except a madman would be interested in them. For apart from the knowledge an educated man ought to have, he should obey the laws, realizing that they apply to him. . . .

I, 234, col.  
IV.

If the goodwill of one's country is esteemed the fairest crown of victory, the defeated also ought to fare well. A common country should bestow benefits in common. But as we see in one country a rhetor neglected rather than crowned, and in another country one is banished, tortured and insulted, let us without claiming a share in the ability to manage a city by persuasion, be content [to live the quiet life of a philosopher].

I, 234,  
col. V.

Very few if any of the [tyrants] have been overthrown by their mercenaries, whereas many statesmen have been rejected by their fellow citizens, and slaughtered like cattle. nay they are worse off than cattle, for the butcher does not hate the cattle, but the tortures of the dying statesmen are made more poignant by hatred.

I, 235, col.  
VI.

It is claimed for rhetoric that it protects property like a strong tower. First if we are not rich we do not need rhetoric. Secondly it is much better to lose one's wealth if one can not keep it otherwise, than to spend one's life in rhetoric.

But Cephenides (Drone) the rich man is a prey to slaves and prophets as well as to sycophants.

I, 236, col.  
VII.

. . . they are unable to make the multitude friendly to them, as the crowd of politicians can.

I, 237, col.  
VIII.

The philosophers are not vexed if people, like foolish sheep or cattle, attend to an inferior, but are satisfied that what they say, particularly about the attitude of the common people, shall please the few; and in action they are most blameless, nor do they as slaves of all, try to rule everything for themselves. For they do not expect to satisfy their wants at the expense of the public. But those philosophers who envy other's property while they pretend to need nothing, and are detected being coy, these men the people despise, but consider them less wretched than the rhetors, because so many obtain the same result that the rhetors obtain.

I, 239, col.  
IX.

It is numbered among the glories of rhetoric that it can "sail the deep seas"<sup>5</sup> while those who speak briefly are rejected like

<sup>5</sup> *πελαγίζειν* = *μακρολογεῖν*. Cf. the discussion of *μακρολογία* in Plato, *Gorgias* 449B; *Prot.* 334C—338B; *Cic. De Orat.* III 36, 145; *Quint. XII* proem.

small boats unable to sail far from shore, because they accomplish nothing brilliant. If by "sail the deep seas" they mean "make long speeches," then rhetoric is a crazy profession.<sup>6</sup> If by "sail deep seas" they mean treat at length a subject needing detailed treatment, and arrogate to themselves alone this power, not even then are they in their right minds; for the philosophers, or any one else with sense can treat a subject in this manner. However if they examine a subject minutely by their "deep sea" method, then the rhetors are mistaken in thinking they speak only about large subjects. . . . l. 26. They borrow the dialectic method from the philosophers, and pride themselves on something which they reject as a principle.

I, 240,  
col. X.

For the method of question and answer is necessary not only in philosophy and education, but often in the ordinary intercourse of life. The method of joint inquiry frequently demands this style. Moreover this method is adopted by the rhetor in the assembly as well as in the court of justice. "Rhetoric enables a man to be a guard of metics, a friend of citizens and a protector of those of lesser rank."<sup>7</sup> Therefore one could not say that a rich man does not possess happiness unless he knows rhetoric, but that he is much better off without it. For he ought not to fortify himself, but to free himself from paying ransom to speechwriters.

I, 241, col.  
XI.

Consequently though both methods are useful, they neglect one of them. Those who say that the rhetors use the method of question and answer in its highest degree cannot prove that this method is peculiar to them, nor that they rather than the philosophers wrote technical works about it. Neither the modern sophists in their teaching, nor the ancients in their published works attained such distinction in dialectic as have the philosophers.

I, 242, col.  
XII.

They say that the rhetor does not seek pleasure from such foolish subjects as geometry, but producing arts and sciences of daily life, he directs men to that path which leads to the city and place of assembly, which they themselves follow. It is ridiculous for them to say that geometry produces pleasure and glory. Certainly we do not claim to devote our whole life to

I, 244, col.  
XIII.

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<sup>6</sup> Col. IX 21-34 is a dittography of col. X, 1-14.

<sup>7</sup> Cf. Schneidewin, *Studia Philodemea*, p. 10, n. 26.

it. . . . The philosopher<sup>8</sup> is versed in the characters and methods of living which result in faction and exile, through a knowledge of which it is possible most correctly to govern the city and the assembly. The sophists have unawares, made a simile which applies to themselves; for it is their profession which does not enter into the civil life and the assembly, and is of no help to human life. So it is reasonable that some do not care at all for what they say, but refuse to accept rhetoric and sophistic and politics even cursorily, considering one foolish, the other most inimical to peace of mind.

I, 245, col.  
XIV, l. 13.

If the remarks following directly after these were intended to apply to the dialecticians—they are no concern of ours; if they apply to us they are mere chatter, because when we claim to speak accurately as the rhetors cannot because their speeches are composed of probabilities, they proceed to say that spider webs are finer than cloth but less useful; similarly the finespun subtleties of the philosophers are useless for practical purposes because no one in deliberating uses syllogisms, but probabilities. So that if we use syllogisms, what appeared advantageous at one time would not remain so; whence there is no one possibility which will be advantageous if brought to pass, but the only thing left is to guess on a basis of probability. . . . After assuming that speeches can be made according to strict logic, they proceed to use in both deliberative and forensic oratory, nothing but probabilities, and often the less probable rather than the more; besides they seek broad effect rather than accuracy and systematic treatment, as is natural since they have no *method*, but depend entirely on observation, and quickly discard their observations because of the changes of the populace which are quicker than those of the Euripus.<sup>9</sup> But the philosophers do not restrict themselves to rigidly logical argument. . . .

I, 249, col.  
XVII.

The nature of justice and injustice—that one is always advantageous and the other never, can be settled entirely by strict logic. Anyone who applies guesswork to such subjects is simply

<sup>8</sup> For the emendation v. Schneidewin p. 12 f.

<sup>9</sup> On the Euripus as a type of fickleness cf. Plato, *Phaedo*, 90C; *Rhet. Gr.W.* I, p. 591, 21.

foolish. Then their talk about spider webs, bits and saws for cutting millet seeds is nonsense.<sup>10</sup> . . . It is clearly proven that the art of the rhetor is of no assistance for a life of happiness.

[The sophist says] it is better to estimate roughly on large subjects than to treat accurately of some small subject of no importance. Perhaps we can add to the accomplishments of rhetoric that it can talk in a general way about subjects of no importance. The comparison of great and small subjects is kept up at the end of the column in the reference to fishing for tunnies and sprats.

I, 250, col. XVIII.

. . . to one who wonders why they can see clearly into a dark and difficult subject, and are unable to see what is in plain sight of all, they apply the figure of the owl. Such remarks as they made about oaths and counsels, not only no philosopher but not even a man of ordinary taste would. . . . The doctrines of the philosophers are not too finespun for practical life, and the doctrines of the rhetors are not suitable, so that having demonstrated that the doctrines of the politicians are like one or the other—they compare us to owls.

I, 252, col. XIX.

Their next statement is that there is no distinction between justice and injustice except that commonly accepted by the people, and that those who assume a different standard are like those who seek to substitute a coinage of their own for that established by the state; the new coinage is useless, for it will not pass current and the maker's life would not be safe.

I, 253, col. XIX, l. 35.

By rhetoric neither [is accomplished] as it seems, but political science is not investigated or taught by the rhetoricians, either exclusively or to a higher degree than by others.

The philosophers of our school agree with οἱ πολλοί on a question of what is just and good, differing from them only in this that they arrive at their conclusions by logic as well as by feeling, and never forget these conclusions, but always compare the chief good with things indifferent. They do differ from οἱ πολλοί about the means to attain happiness, and do not think that offices, power, conquests and the like are proper means

I, 254, col. XXI.

<sup>10</sup> Following the restoration of Schneidewin, p. 14; . . . τρυπάνων καὶ περιβίων οἰστισιν κέγχρους καὶ τὰ τοιαῦτα τρυπῶσι καὶ διαπρίουσι.

to the end. Similarly the principles derived by them from "notions" we judge to be just and noble; but we differ from the common opinion as to what corresponds to the "notion." (I. e. what produces the end—pleasure—which is perceived by all.)

I, 256, col.  
XXII.

Not only *some* philosophers differ from the popular ideas of right and wrong, but *all* statesmen do. For in their period of office they are wholly concerned to change popular opinion on questions of right and justice and advantage. If this is so, how do we resemble those who scorn current coinage, and seek for substitutes? Apart from the fact that we do not despise theories based on "notions," how could we be said to be acting in this way if we assume the true principles of right and wrong? For some of these are helpful to them as well as to us whether they grant it or not; others are really established customs, and will not allow themselves to be used unless we assume them in keeping with the former principles. For if they do not have the true idea of hot and cold, it is not our authority which they oppose. It is possible for a fate to befall them like that of those who differ (with their states) about coinage—and how can their search be called useless if there is really anything better—if the cities will not accept the innovations, and the inventor's life is not safe. For it makes no difference to those truly well if others will not adopt hygienic measures, nor to those who avoid fire or snow, if others refuse to acknowledge the natural qualities residing in them. It is astounding for them to say that the natural means of safety will not protect them.

I, 257, col.  
XXIII.

I, 258, col.  
XXIV.

Some things are just or unjust by nature and never change, others vary according to locality and condition. Laws which are not of this nature, but are established for various reasons ought to be obeyed, or if the philosophers do not think that they can live well under these laws they ought to leave the country. They can be social to a high degree by observing those principles which make for likeness and not for difference; we can do this without being observed as well as with publicity; with pleasure and not under compulsion; steadily and not in an uncertain fashion.

I, 258, col.  
XXIV, l. 26.

I, 259, col.  
XXV.

If rhetoric imparts an experience of these things, so that it is the only road to the happy life, yet it does not lead to courts

and assemblies, where there are more wrecks than ever at Cape Caphereus.<sup>11</sup>

[Rhetoricians say that this art makes men good] for one will wish to seem prudent and just in order to obtain favors from the people.<sup>12</sup>

[It is strange that one would not endure to be taught virtue] whereas if he were sick he would endure being forced to undergo treatment. But their interjection of the argument that virtue cannot be taught is untimely. For Socrates showed that political virtue cannot be taught, proving his case by the inability of Themistocles, Aristides and Pericles to train their sons to be their equals. By the same means one could prove that sophistic rhetoric cannot be taught. I. 30 But "rhetoric would be able to benefit a man who by its help can persuade the people that he is of high character." Quite the contrary; even if a man be virtuous otherwise, he is considered a scoundrel because he is a rhetor. They say that we ought to believe that there is something better than truth which does not persuade, on the testimony of Euripides who says; "Mortals' coin is not only shining silver but virtue" (i. e. virtue in the commonly accepted sense). At any rate they purchase many things by character, as well as by money. But why should a philosopher pay attention to Euripides, especially since he has no proof . . . ? Some say they pursue virtue not expecting to receive anything from it; others desire safety for the sake of happiness.

I, 261, col. XXVI.

"Suppose a virtuous man made the object of a slanderous attack, and unable to persuade the jury of his innocence; he would be punished, not pitied and honored." Certainly. But worst of all is not to recognize exalted virtue, but to consider it wickedness. According to the argument of the rhetors one ought to study the reputable rather than the monstrous—and that when the greatest statesmen bring to the bema things which should be associated only with the vilest of men. The so-called virtuous men when they are called to account before the people refuse to stand trial. They think they are to suffer a treatment

I, 264, col. XXVIII.

<sup>11</sup> Cape on Euboea where a fleet returning from Troy was wrecked. Cf. Vergil, Aen. XI, 256-260: Propert. III, VII, 39-40. (Quoted by Gros.)

<sup>12</sup> Cf. Isoc. Ant. 278: ὅσῳ περ ἄν τις ἐρρωμενεστέρως ἐπιθυμῇ πείθειν τοὺς ἀκούοντας, τοσούτῳ μᾶλλον ἀσκήσει καλὸς ἀγαθὸς εἶναι καὶ παρὰ τοῖς πολλοῖσι εὐδοκίμειν.

much worse than that accorded to the sick, much less acquire virtue, just as if virtue were not a real good, or there were no real cure which the people apply when they judge a man in the wrong.

I, 265, col.  
XXXIX.

"Furthermore it has been said that we (i. e. the rhetoricians) fight not against external enemies at whose hand it is honorable to die, but against internal enemies at whose hands it is disgraceful to die; that we have nothing to do with virtue—for that did not save Socrates;—nor with medicine—that saves men from disease, not from prison; nor with any other profession than rhetoric which helps those who strive not only for their lives but to obtain money, and to prevent disfranchisement and exile."

I, 266, col.  
XXX.

However we shall repel our enemies with their own weapons. Virtue did not help Socrates because when he was led to court it was lacking in some people. Medicine and other professions help even in prison. If a philosopher falls a victim to such a death, it is not a disgrace to him but to those who kill him. However he does not live in fear of meeting such a fate. For the superstitions of the common people do not disturb one who is persuaded that he shall have no existence after death.

I, 268, col.  
XXXI.

If for these reasons persuasion was reasonably considered a good by them, she would have been deified by philosophy. The fact that through it no little harm is done is not true of philosophical persuasion, but of rhetorical which Pisistratus used; wherefore it does not belong to the category of the greatest goods as they perversely say,<sup>13</sup> nor to the special categories of power and wealth. If one does not use these well, he would receive much harm. Philosophy shows us how to find and use everything necessary for a happy life.

I, 269, col.  
XXXII.

## BOOK VI.

In the sixth book Philodemus attacks the philosophical schools which advocated the study of rhetoric. The extant portion discusses Nausiphanes and Aristotle. The attack was extended to others as we can see from II, 64, col. LVIII, but the identity of the persons attacked cannot be determined. In this book as in many others, Philodemus is merely para-

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<sup>13</sup> Reading for *καὶ ὡς* l. 15 *κακῶς* with von Arnim, *Hermes* XXVIII (1893) p. 154.

phrasing the works of earlier Epicureans; the criticism of Nausiphanes seems quite clearly to be based on Metrodorus' *ἰρὸς τοὺς ἀπὸ φυσιολογίας λέγοντας ἀγαθοὺς εἶναι ῥήτορας*. The fragments are of very uneven value; there are large sections of connected argument, in which the relation of the pages can be clearly demonstrated; but many of the pages stand by themselves, and the trend of the thought is not always clear. However by a judicious piecing together of the several parts we can at least gain an idea of the tenets of Nausiphanes. As the present arrangement of the fragments in Sudhaus separates ideas which belong together, it may assist the reader if a résumé of Nausiphanes' doctrine is given here with a brief statement of his position in the controversy over rhetoric.

Nausiphanes was a natural philosopher (*φυσικός*) of the latter part of the fourth century, a pupil of Democritus and teacher of Epicurus. Although Epicurus must have owed much of the foundation of his own system to Nausiphanes, he took pains to deny any connection with him, and even abused his master in no uncertain language. The feud thus instituted by Epicurus was continued by Metrodorus and is reëchoed in Philodemus. The chief tenet of Nausiphanes, that a study of natural philosophy (*φυσιολογία*) is the best training for an orator, sounds like an absurd freak. Absurd it may have been in the effort to connect natural philosophy and oratory, but it was a natural product of the educational tendencies of the time. The educators of his period were afraid of a divided authority. Some way must be found to enable *one* teacher to guide the higher studies of the youth. As the ideal of education was for the most part preparation for public life, and as oratorical ability was indispensable for the aspiring politician in the Greek state, Nausiphanes was compelled in self defence to show how a study of natural philosophy could train an orator. As presented in Philodemus he appears ridiculous; we may perhaps be justified in believing that here as elsewhere, Philodemus has not been too scrupulous in presenting the views of his opponents. Disentangled from the maze of Philodemus' polemic the principles of Nausiphanes may be stated as follows: the study of natural philosophy produces orators; the natural philosopher derives from his study of nature the knowledge of the causes of pleasure, and so is able to guide his audience toward the true end of all action. Contrary to the Epicurean view he holds that the philosopher should enter politics. The style of the natural philosopher is plain like that of the average man, and so is better adapted to explain a difficult case than the elaborate style of the rhetoricians. The orators use of logic is the same as that of the dialectician and the philosopher; *παράδειγμα* = *ἐπαγωγή*, *ἐνθύμημα* = *συλλογισμός*, the only difference is in the manner of presentation. Finally a study of science produces in the student a political state of mind, so that every natural philosopher is potentially an orator.<sup>1</sup>

The discussion of Aristotle begins with the well known parody of the

<sup>1</sup> For a full discussion of Nausiphanes and this portion of Philodemus v. von Arnim, *Leben und Werke des Dio von Prusa*, pp. 43-62.

verse from the Philoctetes; *ἀσχρὸν σιωπᾶν, Ἴσοκράτην δ' εἶν λέγειν*, by which Aristotle justified his excursion into rhetoric. It resolves itself into a comparison of philosophy and rhetoric, and a vilification of Aristotle for choosing the lower of the two professions. This polemic like the preceding is part of the inheritance of the Epicurean School; Epicurus, we know, was particularly bitter against Aristotle.<sup>2</sup> Perhaps the most remarkable part is his exaltation of Isocrates; "while Aristotle descended from philosophy to rhetoric, Isocrates rose from rhetoric to philosophy." This passage must rest on a misinterpretation of Isocrates' use of *φιλοσοφία*, a misinterpretation which must be deliberate on the part of Philodemus, and not due to any love of Isocrates, but to a desire to take a fling at Aristotle. Beside the general criticism of rhetoric which forms the bulk of the passage, Philodemus gives three reasons alleged by Aristotle for the study of rhetoric and politics: it wins friends, it helps produce a stable government which is favorable to philosophy, the present evil conditions in politics demand the help of the philosopher. The first two are answered and the third is under discussion when the fragment ends.<sup>3</sup>

I, 270.

Of fragments I-XVII the only parts that give even a gleam of meaning are fr. XI and XII. Here from the contrast of *διαλέγεσθαι* and *λόγον ἐκτεῖναι* it appears that the discussion is turning on the relative merits of rhetoric and dialectic, which we found discussed at some length in Book V (*πελαγίζειν*, κτλ. I, 239) and which appears below, col. XLIII. A little light breaks through in fr. XVIII. This is the end of a paragraph.

I, 276.

Philodemus sums up with "There is no art which treats of forensic eloquence, corresponding to the art of music. (From here to fr. XXX nothing consecutive can be made out.)"

I, 283,  
col. II.

It is evident that he<sup>4</sup> used the word 'rhetoric' with reference either to sophistic or to political rhetoric, or to the power to decide on an advantageous course of action. Grant that as many erroneously think, rhetoric is the ability to select an advantageous course of action. . . .

<sup>2</sup> Cic., *De Nat. Deor.* I, 33, 93: *Cum Epicurus Aristotelem vexarit contumeliosissime.*

<sup>3</sup> For details v. Sudhaus, *Aristoteles in der Beurtheilung des Epikur und Philodem*, *Rhein. Mus.* XLVIII (1893) pp. 552-564. Gomperz, *Zeit. f. d. öst. Gymn.* XXIII (1872) p. 31, holds that Philodemus may have had before him Aristotle's dialogue, *Politicus*. Philodemus also criticizes Aristotle in the *Περὶ ποιημάτων*, on which v. Gomperz in *Wiener Eranos* (1909) 1-8.

<sup>4</sup> Sudhaus, *Rhein. Mus.* XLVIII (1893) p. 334, thinks that Philodemus is quoting from Metrodorus *Πρὸς τοὺς ἀπὸ φυσιολογίας λέγοντας ἀγαθοὺς εἶναι ῥήτορας.*

If some of the rhetorical sophists because of their political insight or experience can choose an advantageous course, we must not assign the credit to rhetoric but to some other source. I, 284, col. III.

It is not plain how one is to pass from general truths to the application of these truths in particular instances.<sup>5</sup> I, 284, col. IV.

*ἐθνόμεματα* differ from *σημεῖα* and *πιστώματα*.

The relation between truth and its opposite is not the same as between two probabilities, one more probable than the other. We must have either truth or falsehood. Would one accept probability in place of truth except in cases where truth is impossible of attainment? I, 285, col. V. I, 285, col. VI.

A man should examine carefully and search for truth, and not use vain enthymemes. For it is clear that one who states the actual good points of which the accuser denies the existence, and thus lessens the exaggeration in the minds of the judges, would attain the useful result of expressing the full content of the argument which comes from a study of nature. I, 286, col. VII.

A study of nature does not give one a knowledge of the "good," the "true" or the "just." I, 287, col. VIII.

One who claims that a knowledge of what course of action to pursue comes from a study of the universe, ought to specify [how it is done]. I, 287, col. IX.

It is necessary to make choices with a view to happiness, and not with some vain hope. They ought to show that *φυσιολογία* leads to happiness, because most people think that *φυσιολογία* is far removed from what is useful in life. I, 288, col. X.

In the interval between the publication of the first and second volumes Sudhaus discovered that this papyrus formed the upper half of the original, and that the lower half was Hercul. Voll. coll. alt. tom. VII, fol. 44-67. He combined the two fragments in the second volume. From this point therefore I follow vol. II.

He (Nausiphanes) said that the natural philosopher and the "wise man" will persuade their audience. He left no doubt that by wise man he meant himself. But the essence of method lies in concealing the method. . . . II, 1, col. XI.

Certainly he will not expect such a task to belong to the rhetorical sophists or the statesmen. II, 2, col. 2.

<sup>5</sup> I. e. how a knowledge of the laws of nature derived from a study of science can enable one to decide a particular point of political policy.

II, 3, col.  
XII.

If the hearer comprehend with sufficient intelligence and zeal the one who knows how to lead the argument in any direction he chooses, there is a science and faculty [of guiding the argument] not whither the speaker, but whither the hearer wishes.<sup>6</sup>

II, 4, col. 3.

Who can persuade with the help of natural philosophy? Nausiphanes says, "Rhetoric strengthens and supports in time of trouble."<sup>7</sup>

II, 4, col.  
XIII. II, 5,  
col. 4.

A man blames his neighbor for his own troubles; consequently people will hate the rhetor for their political ills. Nausiphanes did not dodge this; for he says that the philosopher will practice rhetoric or statesmanship [if his audience is intelligent] [This method then applies] only to the intelligent and interested (cf. col. XII). The majority of people are not interested in all methods of persuasion, and they have not the patience to wait for the great blessing promised by the rhetor, but want something immediately.<sup>8</sup>

II, 6, col. 5.

Aside from this they are ill disposed to one who has such power, and fear that his tricks of reasoning will serve them ill. For he does not say, "I wish to persuade you to do what is for your good," but he merely says<sup>9</sup> that he can persuade his audience to do what *he* wishes.

II, 7, col.  
XV.

An audience to whom such an announcement is made would never be persuaded by the speaker. Even if he made a logical presentation they would distrust him. Again, how does a knowledge of human nature enable the natural philosopher to persuade? Does he know of what elements we are composed?

II, 7, col. 6.

How can it be that when one speaks of persuading the multitude one would persuade them by leading them to this (i. e. a condition of trustfulness) when after meeting with many misfortunes the people will refuse to be persuaded again?

<sup>6</sup> This is Philodemus' answer to the claim of Nausiphanes that the scientist can lead the audience whither he will—provided that the audience is intelligent.

<sup>7</sup> Von Arnim reads (p. 50) Βεβαιούται μὲν, φησὶν, ἐν τοῖς κατὰ προαίρεσιν μείναι ὀρθήν, ἐν δὲ τοῖς μεγίστοις κακοῖς κουφίζεται καὶ ἀναπνεῖται, ῥητορικῆς ἂν τι προσποηθῆι δυνάμει.

<sup>8</sup> Reading with von Arnim, p. 49, οὐδ' ἔστιν ὅπως τῷ σοφῷ κἀγαθῷ προσμείναι τι ποιῆσαι τὸ πόρρωθεν οὐχ ὅσον ἀμυδρᾷ συναισθήσει προσδοκῆσαι τι μεγαλείον, ἀλλ' ἥδη τι βούλοντ' ἔχειν.

<sup>9</sup> Reading λέγει for λέγειν I. 12, with Fuhr, Rhein. Mus. LVII (1902) p. 434.

- What does this sort of persuasion amount to except a knowledge of pleasure and pain in a given case? It means treating men like animals. II, 8, col. XVI.
- The persuasive element is the knowledge of the source of advantage. . . . II, 9, col. 7.
- What about desires in particular cases about which men plan well or ill? If you ask directly, "Do you desire pleasure or pain?", all will say, "Pleasure." The difficulty is to know their desires in particular cases. II, 9, col. XVII.
- They are vexed [says the natural philosopher] that the natural philosopher alone knows what nature desires, and is able to speak and argue relative to man's desires. II, 10, col. 8.
- One cannot know what to do to please the people, for there are many things to change their minds quickly. And if the natural philosopher always has the same end in view, why does he not [succeed] ? II, 11, col. XVIII.
- If their art is a power of persuasion, it cannot depend on arguments from physical facts. They however deny that it is conjectural; for then there is no need of presenting a case persuasively. II, 12, col. XIX.
- If they desire everything which the people wish, then it is impossible to ascertain the desires of the majority. II, 13, col. 10.
- He (i. e. the natural philosopher) cannot acquire any power to speak. For they will say that the rhetor speaks accurately and favorably if they will agree to obey him, or it is impossible to escape (the logic of his words). How can the natural philosopher know the opinion of his audience? II, 13, col. XX.
- Furthermore they will not listen to him even if he seem to speak according to their desire; much less will they follow whatever he says. For they will be troubled at the thought of recurring disaster because his advice has already resulted unfavorably. II, 14, col. 11.
- If he means that they try to say what the people wish, and what will not cause them to repent, he is foolish. For it is hard to know that the people will not repent, even if an action has been performed to suit them. They cannot see what serious mistakes we make in our own affairs. II, 15, col. XXI.
- They do not say that if they are fully persuaded in their own minds they will find many to agree with them; but simply that by the art of persuasion they can persuade an audience to do II, 16, col. XXII.
- II, 17, col. XXIII.

what they wish. Nor can one know what the populace rejoice in as they depend on opinion and not on the natural end or object; nor if we could know it could any one persuade them. For the mob changes and repents quickly.

II, 18,  
col. 14.

This column is practically hopeless. Von Arnim has a highly doubtful restoration on page 55.

Col. XXIV.

Their proposition to persuade reduces to a knowledge of justice and advantage which he (i. e. the natural philosopher) is best able to adapt to the common advantage.<sup>10</sup> In the first place he cannot observe the relations of the subject, but will be excelled by one who has been engaged in public affairs and has practiced pleasing the people and advising them to do things that are within their power. Yet this resembles the doctrine of Nausiphanes. . . .

II, 19,  
col. 15.

On the length of time one must spend with another in order to know him thoroughly.<sup>11</sup>

II, 19, col.  
XXV.

[And he seems to agree with us] for he says that persuasive power comes from knowledge of affairs rather than from personal investigation. But enough of him.

II, 20,  
col. 16.

Let us take up the next division. It is supposed that the natural philosopher is the best rhetor inasmuch as it is possible for a study of natural philosophy to give political experience and skill. "If," he says "he should add experience in political affairs, and learn the habits of the people as the philosopher studies natural philosophy." Does this art produce ability to make political speeches by giving experience from which one may deduce what is of advantage to the people, or do they think it produces immediately a state of mind, so that the natural philosopher needs no practice or further study? If the former is the case they ought to show that one can become a political rhetor by experience. But no one would grant that any one who had acquired a knowledge of natural philosophy can make political speeches. We must understand the statement as if we

II, 21, col.  
XXVI.

II, 22, col.  
XXVII.

<sup>10</sup> Cf. col. IV.

<sup>11</sup> "If one has a natural philosopher living with him for a year and associating with him for a considerable time each day, he will be able to acquire such a knowledge of affairs as to make him a rhetor." This is von Arnim's interpretation of an exceedingly obscure passage. I do not feel at all sure that the details are right, or that we can assert more about the meaning of the passage than is given above.

were examining some of the natural philosophers and not the art or products of the art. For we are not examining politics, but exhibiting what has been done by others; nor is his statement true that the natural philosopher will be best able to use the λέξις διδακτικὴ when that is needed to explain some difficult question to the people.<sup>12</sup> The political scientist (so-called) has no experimental knowledge of the peculiar facts of politics; so when he attempts to make a speech he [goes astray] because he does not take due account of ἡθῆ and πάθη. How can a natural philosopher become a politician and rhetor? He is exactly like a sophist who has no fundamental principles. Nausiphanes then . . .

II, 22, col. XXXVIII.

II, 23, col. XXXIX.

“How is it possible that if one has the power to govern the state he will not desire to do so.<sup>13</sup>

II, 24, col. XXX.

[The art of rhetoric] does not lead to ease nor does it produce the best in the life of its possessor, nor incline him to improvement.

II, 25, col. XXXI.

. . . partly from custom imposed from without, partly from the motions of the spirit within, there results a condition, which forces our language to say what is false and empty.

II, 26, col. 17.

“He did not imitate the common metaphors of those foolish men who have nothing better to do than listen to contests in the schools of oratory.”<sup>14</sup>

II, 26, col. XXXII.

Amazing is the style of the natural philosopher “composed for the delight of his audience, adorned with metaphors best designed for explaining the new subject, not in an empty style fixed by rule, but according to nature and sanctioned by custom,” a style which we found neither useful nor practicable, but vicious and almost deadly. Wherefore not even if the philosopher has something better to say will the people listen to him. For the speech of the philosopher does not differ from that of the statesman in its adaptation of the useful to the common needs of the city, but in its relation to the individual.

II, 27, col. 18.

II, 28, col. XXXIII.

The soul of the ordinary man is blind to it (the “natural” style of the natural philosopher) and so it has no power over the

II, 29, col. 19.

<sup>12</sup> I adopt the reading of von Arnim for l. 9; *καὶ μὴδὲ τὸ οὐδαμῶς διδακτικῆς λέξεως ἀπορεῖν.*

<sup>13</sup> This is the argument of Nausiphanes.

<sup>14</sup> A quotation from Nausiphanes.

multitude. : But this is no disadvantage, unless it can be called a disadvantage that they are not adapted by nature to receive the highest life.

II, 30,  
col. 20.

The philosopher does not choose his profession for the same reason that one chooses military or political power. The latter with a slowly acting mind is willing to accept any power, while the former by syllogisms and memory of resemblance and difference, and a consideration of consequences, and especially by the use of his sharpness of intellect, rejects everything that does not tend toward happiness, and shares in them only as he uses the necessary arts for the tasks that arise. For to say positively that military and political power is the result of geometrical reasoning is vicious and is the product of a system that cannot reason or produce happiness. The philosopher is not of such a character but in every matter uses his keen mind, with which he is able to see when the ambition or idleness of men goes wrong, and neglects everything which is not useful for happiness.

II, 31, col.  
XXXV.

The aforementioned makes a foolish argument because in asking if the philosopher is adverse to lawmaking or military life or political economy he sees none of the advantages of wisdom, nor considers for what evils a man is responsible himself, and for what his neighbor is responsible. Nor has he stated in what respect the philosopher is adverse to such subjects, nor distinguished how far the multitude can be helped, and in what way man is superior to the animals; but thinking that what the opinion of the people honors in political cleverness and virtue falsely so-called is the only thing to be sought, he considers that to have led one to that condition is the best proof of sound reasoning. On this assumption he tries to show that some advantage is contributed by the so-called politicians, and at the same time attacks the lawmaking of the ancients, which was the cause of men's living together justly. Moreover it is necessary to purify the desires; this cannot be accomplished by statement and patterns or guidance by political principles and laws, but by reasoning about wholes starting from the first clear evidence.

II, 31,  
col. 21.

II, 32, col.  
XXXVI.

II, 33,  
col. 22.

II, 33, col.  
XXXVII.

II, 34,  
col. 23.

On account of the various faults of mankind it is right for the rhetor to guide and correct the community . . .<sup>15</sup>

<sup>15</sup> On the phrase at the end of the column *οἱ τοὺς νόμους καὶ τὰς πολιτείας γράφοντες τῶν σοφιστῶν* Gomperz, *Zeit. f. d. öst. Gymn.* XXIII (1872) p. 32,

To sum up; by no means should the philosopher acquire political experience, or rhetoric of that sort. II, 35, col. XXXVIII.

It is evident that it is the height of folly to say that a study of nature produces a *ξῆς* of political oratory, especially since they introduce into the scheme of philosophy example and enthymeme, and in political speeches use syllogism and induction which the dialecticians pride themselves on using accurately. II, 36, col. 24.

If he thinks that philosophical and political arguments differ only in form why does he not show that the political rhetors who have learned the truth according to nature, agree with the philosophers in thought and differ only in the form of their arguments? What is the value of syllogism and induction if they are equivalent to enthymeme and example? Did they think that in a case in which one can properly use example and enthymeme, the philosopher will be able to use syllogism and induction equally well, or did they think that the geometrician is the best statesman since such forms of reasoning are used in geometry? II, 36, col. XXXIX.

But, as it seems, if one is to consider political questions, the first requisite is a knowledge of affairs; consequently he must add that the natural philosopher possesses a knowledge of statecraft. For even though he seems to himself to be acting like a statesman, he will not necessarily produce the same results as a statesman. He may use procedure analogous to geometry, but he will not be a geometrician. For everyone who studies some obscure problem by means of his senses, reasons out the obscure by means of the evident. Statesman, physician and geometrician use the same form of syllogism, but one cannot solve the other's problems. How then, if he has sense can he say that reasoning from the evident and existent to the future [and unknown] is always useful, and that the ablest political leaders use this form of reasoning. II, 37, col. 25.

II, 38, col. XL.

II, 38, col. 26.

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compares Isoc. Phil. 84; τοῖς νόμοις καὶ ταῖς πολιτείαις ταῖς ὑπὸ τῶν σοφιστῶν γεγραμμέναις, which is an attack on Plato. He thinks that Philodemus may have used the attack on Plato and Aristotle made by the Isocratean Cephisodorus; v. Numenius ap. Euseb., Prae. Ev. XIV, 6, 9-11, 270, 12-13 Dind. I am inclined to consider that Philodemus is referring to the activities of some of the followers of Isocrates who continued their master's practice of broadening their instruction in rhetoric by theoretical work on the science of government of which the works mentioned form a part.

II, 39, col.  
XLI, l. 14.

On investigation we shall find that what they call enthymemes are mere padding and provoke applause because the multitude is foolish (col. 27). How can he consider that reasoning from the evident to the obscure in political matters is the same process as interpreting the evident from the past, so that he has left no form of reasoning for any speech except strict induction.

II, 41, col.  
XLII.

How do they dare to say that they will interpret political facts better if we philosophers use example instead of induction.

II, 41,  
col. 29.

The *idéai* (i. e. the fundamental facts) are partly common to all partly different for each city and nation.<sup>16</sup>

II, 42, col.  
30, l. 12.

Something about the effect of division of speeches.

Therefore the rhetor is like the dialectician. For the one who is able to use successfully a long connected speech, will be best able to use the method of question and answer, and vice versa; for knowing how long to continue speech to make the idea clear to the audience is equivalent to being able to know how long to make the series of questions which lead the respondent to grasp the new idea.

II, 43,  
col. 31.  
II, 44, col.  
XLIV.

Experience is the only guide to forecast the future.

A philosopher (apparently Metrodorus v. infra col. 32) says that it is a nuisance to observe all these rules about divisions and length, and commends his own philosophy, the reward of which is not pay but freedom from false opinion, which will bring happiness to everyone.<sup>17</sup> Therefore Metrodorus considering the claim that the same condition enables one to be both (natural philosopher and statesman) and ridiculing those who consider the dialectic method more accurate, says, "In the case of statesmen and natural philosophers the difference is not the same but the statesman cannot solve the problems of the natural philosopher nor the natural philosopher those of the statesman."

II, 45,  
col. 32.

What! in accordance with that foolish change will the statesman make example become induction, or the philosopher do the same, if the subject matter is the same and only the words differ? But in their zeal for such things they laid claim to this, and at the same time they say that these men are not statesmen, so that

II, 45, col.  
XLV.

<sup>16</sup> On the meaning of *idéai* cf. the author's *The Influence of Isocrates* etc. p. 6 ff.

<sup>17</sup> This is largely imagination on my part. What is the antecedent of *ὧν* l. 21?

one wonders what state of political knowledge the philosopher has reached. We do not deny that we lead our pupils in a different direction from politics, but they are led astray by sophists and pay them money merely to get the reputation for political ability. For "effect" and "deduction from premises" must be subsumed under the knowledge of the wholes, and can come in no other way. Nor does he show how he can know to what extent the audience understands by means of experience, and to what extent by means of dialectic, the man having been previously wretched and obscure.<sup>18</sup> For all such things are derived from physics, and from a weighing of the obscure and reasoning from the existent, and by no other means; so that they travel along a regular route, and are not guided by the experience of some who have no knowledge of affairs. He did not analyze the next point. It should run as follows; "One may be potentially a rhetor if not actually one. For we say that the power of building resides in others besides the actual builders when we regard not the performance of the act but one's ability to use the builders' tools; the same is true of medicine and other professions. Consequently why should we not say that rhetoric is the attendant of the natural philosopher if when subjects are proposed he can speak as well as any statesman or rhetor?"<sup>19</sup> Perchance he might reason about them as well as the rhetors, but he could not make as good an appearance in public as an experienced rhetor. The experienced man can speak when he wishes, the theorist only after long practice. Furthermore the one does many things by the rules of his art—for one cannot learn the carpenters trade otherwise—the other does nothing by rule; for they say that the ability comes from philosophy, not from the political activity itself.

II, 46,  
col. 33.

II, 47, col.  
XLVI.

II, 48,  
col. 34.

II, 48, col.  
XLVII.

II, 49,  
col. 35.

II, 49, col.  
XLVIII.

After due consideration of the mad proposition of Nausiphanes we must conclude that he does not provide a proper philosophical introduction to rhetoric.

Now let us take up the story about Aristotle, that he taught rhetoric in the afternoon, saying, "'Tis a shame to be silent and allow Isocrates to speak." He showed his opinion clearly enough

II, 50,  
col. 36.

<sup>18</sup> Practically all the important words in this sentence are conjectures; the sense is, to say the least, obscure.

<sup>19</sup> The passage is much mutilated, and not at all satisfactorily restored.

by writing treatises on the art of rhetoric, and by making politics a branch of philosophy.

II, 51,  
col. 37.

II, 51, col.  
XLIX.

II, 52,  
col. 38.

II, 53,  
col. L.

II, 54,  
col. 39.

col. LI.

II, 55,  
col. 40.

col. LII.

II, 56,  
col. 41.

He alleged many reasons for engaging in politics; first, that one who has no knowledge of what is done in governments finds them unfriendly to him; secondly, that a good government will be favorable to the growth of philosophy; thirdly, that he was disgusted with most of the contemporary statesmen and their continual rivalry for office. One banished to a country where the people admire rhetoric but lack<sup>20</sup> the most necessary education (i. e. philosophy) if he had some experience in rhetoric might lead them in a short time to the realms of philosophy.<sup>21</sup> But we object that to practice rhetoric is toilsome to body and soul, and we would not endure it. [Rhetoric] is most unsuitable for one who aims at quiet happiness, and compels one to meddle more or less with affairs, and provides no more right opinion or acquaintance with nature than one's ordinary style of speaking, and draws the attention of young men from philosophy the true horn of Amalthea and directs it to the sophistical rhyton.<sup>22</sup> . . . If he knew that he could not attain the highest position or become a philosopher because of various hindering circumstances, he might propose to teach grammar, music or tactics. For we can find no reason why anyone with the least spark of nobility in his nature should become a sophist, as one *could* find reason for pursuing practical rhetoric; for the claim that the former leads to the latter is ridiculous. Consequently Aristotle's practice and his remark were not philosophic. Why is it more disgraceful to be silent and permit Isocrates to speak than to live in a city and allow Manes to dig, or to stay on land and allow the Phoenician trader to be tossed by the waves, or to pass one's life in safety as a private citizen and allow Themistocles to enjoy the perils of a general? He ought to have refused to rival Isocrates, in order that he might not seem to be acting from envy. Either he judged it disgraceful by the standards of the multitude, or by natural standards. If by the latter why did he not consider it naturally disgraceful to speak on the public platform like a hired rhetor, rather than to speak like the divine

<sup>20</sup> Reading 1. 4. 5, [δντας δὲ] τῶν ἀναγκ[κ]αίων [ἐ]νδεέ[ε]ς.

<sup>21</sup> Still the argument of Aristotle.

<sup>22</sup> The rest of the sentence seems to lack coherence.

philosophers. Why did he abandon his exhortation of the young, and attempt the road to ruin which was followed by Isocrates' pupils and by other sophists? Why did he prefer to make collections of laws, constitutions, etc., in short to be a polymath and teach all manner of subjects? In this he was less noble than the rhetors, in that the rhetors try to provide power, and offer rhetorical hypotheses not merely for the calm of the soul but also for the health of the body. In short he became a more dangerous and deadly foe of Epicurus than those who openly engaged in politics. If he was searching for truth, why did he choose Isocratean rhetoric rather than political rhetoric which he considered different from that of Isocrates? If it was the political branch that he was practicing, it was ridiculous for him to say that it was a disgrace to allow Isocrates to speak, if he did not intend to speak like him. I do not mention the fact that none of his pupils could succeed in either art, because Isocrates had forestalled him; and Isocrates after teaching rhetoric devoted himself to the quieter and as he said, more wonderful study—philosophy. He had strange reasons too for urging them to a study of politics. First that if they acquired experience and undertook a political career immediately, because of their occupation in it they would appear lacking in a proper philosophical training. But if they had no experience they could not be statesmen unless they studied a very long time, and if they waited for the state to become orderly they were neglecting the means of making it orderly (*viz.* philosophical politics).

II, 57, col. LIII.

II, 58, col. 42.  
col. LIV.

II, 59, col. 43.

II, 59, col. LV.

II, 60, col. 44.

Not even a woman would be so foolish as to choose the worse when the better is present. He urged Philip not to aspire to be king of Persia.

II, 61, col. LVI.

There is no use for one who rules badly what is near him, and can rule well what he is not permitted to rule. Of the reasons why he urges that one who has the ability to govern should go into politics, the first applies to himself rather than to one who takes no thought for the community. For if he thought that one who took no interest in current events would have no friend, as a matter of fact he had none, or could not keep a friend any length of time. Philosophy does not prevent a man's advance; it did not prevent Aristotle. If prevented from obtaining anything, philosophy is not brought into contempt, because it needs no help from any man.

II, 62, col. 45.

II, 63,  
col. 46.

His second reason was dissatisfaction with political conditions. But the golden age is past and sudden improvements are impossible.

col. LVIII.

We shall answer, if opportunity offers, his remarks on *λέξις* directed against us, dividing the problems about these subjects and all connected with them.

## BOOK VII.

This book offers little that is new to one who has perused its predecessors. Its theme is a comparison of rhetoric and philosophy, and after the fashion of Philodemus the discussion is largely a criticism of other works on rhetoric. Mention is made of Aristo (I, 328, fr. XII, 360, col. LXXI), and of Diogenes (Babylonius), (I, 346, col. XLVII, 347, XLIX, 355, LXIV) and a considerable portion of the book appears to be a discussion of the Stoic attitude toward rhetoric. Another section deals with the kinds of proof, those subject to the rules of art, and those not so subject, and this seems to be a criticism of Aristotle. But the fragments are too scanty to allow us to trace the details of the argument. In brief it is as follows: rhetoric finds its only field for usefulness in public, and there rhetors are of more hindrance to a state than advantage; philosophy, however, leads the way to a happy life in private, removed from the cares of politics.

I, 326, fr.  
VII.

He said emphatically at the beginning, "One must pursue that which produces a painless life."

I, 327, fr.  
VIII.

There is no art of persuasion.

I, 327, fr.  
XI.

. . . the former (i. e. questions of advantage and disadvantage considered abstractly) they will consider the task of philosophy, the latter (i. e. persuading the people) the task of rhetoric. However the questions of advantage which he mentions are questions of interest to the people if it is a question of turning the city over to the enemy, or of confiscating the goods of the powerful citizens, and this cannot be decided by a philosopher.

I, 328, fr.  
III.

. . . he appears to have spoken briefly and unsatisfactorily about rhetoric, and in treating of philosophy to have relied on some of the works of Aristo.

I, 329, col.  
III.

. . . to be able to praise persuasively a mode of life which we prefer, and again to censure the same mode of life if we see fit; so that the argument that the mode of life which we advise

is healthful persuades, or rather that mode of life persuades one who wishes to be well. Such power might be useful to one who is to practice medicine, but does not make one healthy.

. . . if few of the statements depending on opinion are true—we ought to say on vain opinion—his remarks are foolish, “not referring to clear evidence” and “the rhetors are not wholly lacking in this.” But for treating the subject under discussion his example from music seems of no value. I, 329, col. VI.

The arguments of philosophy are not conjectural but rigorous. Speeches may be pleasing and beautiful, but one would not care for them unless they are useful. I, 330, col. VIII.  
I, 331, col. IX.

Encomium may be a proper field for guesswork, but cannot be called a science. col. X.

All their training is directed toward speaking before crowds and courts. But none of them practices saying anything for himself or his kin. If they have an action involving five minas they study and strain to persuade; but the one who is going to spend a talent on evil pleasures because of vanity, and waste himself as well as the talent, [him they do not try to persuade]. I, 332, col. XV.

For they profess to make new statesmen, and useful to the state and their friends; in the same breath they defend their art by saying that the *art* is not bad, but errors come from those who use it badly, as if it were possible for men who fulfill the ideal of usefulness to city and friends to use the power of rhetoric unwisely. I, 333, col. XVII.

Imagine a general planning the strategy of the battle of Marathon. “You have visited Marathon?” some one asks. “No.” “You have a detailed description of the place?” “No.” “Then why do you try to plan strategy when you do not even know if the place exists?” Such are the counsellors who seem to be clever in cities. I, 333, col. XVIII.

[A rhetorician says] sometimes some wicked men use the art. But if they fulfil the ideal of being useful to city and friends, it is impossible for them to use it unwisely, nor can the unwise and scoundrels and receivers of bribes be useful to city and friends. I, 334, col. XIX.

Discusses whether or not a rhetorician is a philosopher. I, 335, col. XXI.

The rhetors never having served as generals are not thought likely to conquer, so that some speak more distinctly than . . . I, 336, col. XXIII.

I, 336, col.  
XXVII.

For we do not know of anyone very brilliant before Pericles and Callistratus and Demosthenes, unless he calls impressiveness brilliance.

I, 337, col.  
XXIX.

We insult the gods as Oileus did.

I, 337, col.  
XXX.

We must see that none of the young lose their desire for rhetoric.

I, 338, col.  
XXXI.

. . . they do not profess to put justice into operation but to be able to follow what anyone demands. Not only do the rhetors not profess this but many, both of former generations and the present, are not able though willing and conversant with what is just and true.

cols.

XXXII-  
XXXVI.

(Nothing intelligible.)

I, 340, col.  
XXXVII.

. . . by making the science subject to rules of art, and making similar concession to philosophy, not being able to help himself otherwise . . .

I, 341, col.  
XXXVIII.

If rhetoric produces bold, daring, shameless men, or teachings which lead to these qualities, he can find no occasion for the art, and is left in the lurch.

I, 341, col.  
XL.

. . . says that shamelessness is an important aid to rhetoric; this remark was not ironical.

I, 342, col.  
XLI.

In his speech about judges he mentions the man who appeared without pay for Aristippus, since he could not speak for himself; to one who asked Aristippus what good Socrates had done him he replied, "Enabled me to have such men appear in my behalf as will please my fellow philosophers."

I, 343, col.  
XLII.

[Many who have composed such treatises] are outdone, not only in action but in speech by laymen; nothing is so persuasive as truth and experience in affairs.

I, 343, col.  
XLIII.

It appears to me that the most ignoble thing of all is to persuade the weakness of the crowd, and concoct some reason for doing anything.

I, 344, col.  
XLIV.

The philosophers though able [to do these things] order them passed on to those who have toiled and danced,<sup>1</sup> to publicans and sinners. If he had said not to yield but to claim their results as our own . . .

I, 344, col.  
XLV.

Rhetoricians quarrel and philosophers are wicked.

I, 345, col.  
XLVI.

It is [not] proven that the art of medicine does not produce health when the physicians are outdone by laymen who have

<sup>1</sup> Referring to Aeschines says Sudhaus in the index, s. v. *χορεύω*.

discovered some specific for disease. The rhetors of marked ability are not often outdone in speaking by laymen, but are frequently outdone in action.

It is not rhetors but Diogenes and his like who say that only the philosopher is a rhetor. For they have seen what is truly advantageous to the state.

I, 346, col. XLVII.

Demetrius of Phalerum made a distinction between the acts of the two Philos.

I, 346, col. XLVIII.

Also on the difference between an experienced rhetor and an inexperienced political philosopher.

[Some] are deceived by Diogenes and others who speak in his style; the rhetors do not lead men astray but persuade them aright.

I, 347, col. XLIX.

Someone collected instances of failure [in rhetoric].

I, 347, col. L.

Speeches bolder than those of pathics, as Aristophanes says, expressing it lewdly, as was his wont. Therefore cities often make serious errors when they listen to such advice.

I, 348, col. LI.

The great ancient rhetors maintained their position by means of political intelligence.

I, 348, col. LII.

On the proper preparation for public office.

I, 349, cols. LIII, LIV.

Xenocrates says that the Athenians alone are able to be silent, and alone know how to speak. For it takes the same man to do both. Good heavens! We must certainly believe that Xenocrates spoke thus before Antipater as Demetrius of Phalerum has recorded in his *Περὶ ῥητορικῆς*.<sup>2</sup>

I, 350, col. LV.

The greatest of the practical statesmen, Pericles and Demosthenes for example, received assistance from philosophers; and to associate with Socrates was better for Alcibiades and Critias than to study an art.

I, 350, col. LVI.

The [sciences] introduce no reasoning which is aimed to deceive, but all the principles of the rhetoricians are aimed exclusively at that, and according to Heraclitus rhetoric is the prince of liars.<sup>3</sup>

I, 351, col. LVII.

<sup>2</sup> This passage is discussed by Crönert in *Kolotes und Menedemos*, p. 67f. comparing II, 173, fr. XII, and Papyr. ined. 453, fr. IV, also Plut., Phoc. 27: *ἔπειτα λέγειν ἀρξάμενον οὐχ ὑπομένων, ἀλλ' ἀντικρούων καὶ δυσκολαίων ἐποίησεν ἀποσιωπήσαι*. Xenocrates' speech displeased Antipater, and he was ordered to be silent, hence the taunt in this passage.

<sup>3</sup> On the meaning of *κοπίς* v. Gomperz, *Zeit. f. d. öst. Gym.* XVII (1866) p. 698.

- I, 352, col. . . . that each one be confused and excited; wherefore  
LVIII. Aristophanes compares them to pathics.
- I, 352, col. . . . to one starting to write history he seems to offer the  
LIX. history of an ignoble man. He roused not only Alexander, but the comic poet who began it all by mentioning this attack on rhetors.
- I, 353, col. . . . attacking unexpectedly and for the nonce adopting the  
LX. philosophic style, he presses the philosopher into a quandary. But we shall put a damper on such arguments if we are compelled by these people to answer them.
- I, 353, col. To say that there is no harm in knowing how to make the  
LXI. worn appear new, and how to cut purses, but that one should not use this power against men except when need arises, is the same as saying that there is nothing . . .
- I, 354, col. The [sciences] introduce no reasoning which is aimed to  
LXII. deceive, but all the principles of the rhetoricians are aimed exclusively at that, and according to Heraclitus rhetoric is the prince of liars. How is it possible to say anything apart from showing that all their arguments tend toward that end?
- I, 355, col. . . . perhaps it gives some an occasion to deceive the  
LXIII. audience. But, some one objects, arms do not give occasion to deceive. "We ought not, then," I shall say, "to claim that this is the characteristic of all the principles of rhetoric, but of some."
- I, 355, col. Many things such as wealth, strength, beauty, offer an oppor-  
LXIV. tunity for wrong-doing, but are honored for the good they do, and are called useful even by Diogenes.
- I, 356, col. How is it possible for the Stoics—not to mention all the phi-  
LXV. losophers—to claim to be of this character, and to demonstrate that some rhetors are not of this character?
- I, 357, col. [Rhetors are the cause of much trouble] as he charged that  
LXVI. rhetors were shown to be in Lacedaemon. I pass over the fact that he could show that some with philosophical training have been guilty as well as innocent of the same charges. They will be able to show that rhetors have replaced tyrannies by democracies, and performed similar good offices.
- I, 357, col. Nor if he says that at Athens rhetoric was a strong bulwark  
LXVII. against tyrants, where there were more rhetors than in the whole world put together, can it be said truly that no democracy has been replaced by a tyranny through the aid of a rhetor.
- I, 358, col. If Aeschines rebuked the Athenians because they did not treat  
LXVIII.

Demosthenes like the captain of a capsized ferryboat, but refused to try him for capsizing Greece, they will say that Diogenes is wrong in saying that the Athenians do not use the same rhetors repeatedly.

They will try to show that the statements of Demosthenes and Lycinus about the acts of Harpalus are false, and to copy their statements from the most trustworthy historians; and they will assert that he was insignificant and shameless. I, 359, col. LXXIX.

If some cities have forbidden the entrance of rhetors, not to mention receiving advice from them, yet others continually avail themselves of their services. And not all rhetors are boastful. I, 359, col. LXX.

But we have got more out of this than perhaps was fitting, even if the book of Aristo is longwinded. I, 360, col. LXXI.

He says that one should not abstain wholly from rhetoric, only from excess in it, nor wholly from politics. And he says that the rhetor should not pretend to be a pilot. His position is that of a boatswain. I, 361, col. LXXII.

He says that the whole system depends on deceit; consequently a veracious person should avoid it. In reply I say that leaving out of the question sophistical rhetoric, even if I could speak about it, and the Technae of Aristotle—and yet I could show that others of his followers have written against him with all the trickery of sophistical rhetoricians—the rhetoric of Pericles and Callisthenes and Demosthenes . . . I, 361, col. LXXIII.

If he meant “probable conjecture” or “an approach to truth,” he used the word *πιθανόν* to denote what could not be true. On which subject, as the rhetors say, I am ashamed of not producing a demonstration. I, 362, col. LXXIV.

Boldness and impudence are the offspring of rhetoric. I, 363, col. LXXV.

At least rhetoric is the ability to persuade the people in assembly and forum. I, 363, col. LXXVI.

Rhetoric provides the necessities of life; by means of rhetoric men become famous. I, 364, col. LXXVII.

Inasmuch as they think the philosopher should enter public life, on the principle that politics is philosophy he claims that rhetoric [is also philosophy]. I, 364, col. LXXVIII.

Their remarks are not consonant with their opinions concerning political activity; these they abandon and support their position by the other activities of philosophy. I, 365, col. LXXIX.

Prudent jurors are rare. I, 365, col. LXXX.

I, 366, col.  
LXXXII.

[This must be used] in general if the practical rhetors consider it opportune, but not immoderately; and in the eyes of those who know he urges to avoid generally that kind of pleasurable appeal in order to save exertion.

I, 367, col.  
LXXXIII.

[Adapting oneself to the refutation for which they say they have explained the details] the rhetor is able to praise and blame.

I, 367, col.  
LXXXIV.

Why should we not marvel at them? For they will not say that the statesman [gets his power from experience] or if they acknowledge this why do they not show that his experience differs from that of the rhetors.

I, 368, col.  
LXXXV.

[How can he say that the statesman who] speaks about advantage is master of others and the rhetorician master of none, if he is of the same character?<sup>4</sup> For he is acquainted with all such forms of advantage as is the thoughtful statesman, and with the popular ideas of honor and justice.

I, 368, col.  
LXXXVI.

The largest part of this depends on natural ability; what comes from study and instruction cannot be imparted "in the brief portion of a day." Of a like nature are the remarks about attention. And since the chief virtue of the narrative is clearness, and the clearest narrator is the one who has studied most, rhetoric [cannot be of] immediate [use] to the rhetor.

I, 369, col.  
LXXXVII.

The *πίστεις ἀτεχνοί* are common to all; of the *πίστεις ἐντεχνοί* probability, and sign, and necessary inference are not the property of the rhetoricians, but the sign is peculiar to one who has followed a particular calling; e. g. in diseases it is known by the physician, in storms at sea by the captain etc. Probability can be ascertained by one who has considered how . . .

I, 370, col.  
LXXXVIII.

In regard to *πάθη* and *ἡθη* which move juries, the most important part is to know how these emotions are aroused and allayed. This alone, judging that it is none of their business, the rhetors have not borrowed from Aristotle, though they have borrowed everything else.

I, 370, col.  
LXXXIX.

. . . like those who try to heal the sick by foolish means . . . not claiming to persuade all, since they do not add themselves or lover or friend, for these they say are friendly.

I, 371, col.  
XC.

. . . to a fitting character<sup>6</sup> which as a result of its peculiar

<sup>4</sup> Punctuating the sentence ending in 1. 8 as a question.

<sup>5</sup> πάντων for πολιτῶν; or should we read πολιτικῶν?

<sup>6</sup> Reading φύσιν instead of οὔσαν.

nature is with a person for all the rest of his life, and does not come "in the brief portion of a day."

. . . possible to say that he is going to make even the people understand him in a short time. We may wonder that if he knows this, he did not likewise see that there is a difference between the educated and uneducated in that a clearer statement must be made to the latter. I, 361, col. XCI.

Consequently, expecting to hear similar statements about other forms of expression when he says that the *πίστεις ἄτεχνοι* such as evidence, torture, are the common property of all, let us say that the knowledge of these belongs to laymen, but their use depends on opportunity, not on knowledge. I, 372, col. XCII.

For just as the physician knows what is probable in disease, and the pilot knows what is probable in weather, so the rhetor considers the course of political events, when something is going to occur in the state, and from this knowledge he says he is going to persuade the people. I, 373, col. XCIII.

The rhetor does not combine his proofs after the fashion of a dialectician or philosopher; for probably this would be displeasing to the multitude. I, 373, col. XCIV.

If they bring means able to rid them of many troubles they will have the philosopher in agreement with them. Making them such offers, those who give advice or plead before a court, then express pity and anger. . . . I, 374, col. XCV.

. . . with whom the majority wish to include the rhetor because of his cringing; for he says, "Let him persuade justly and wisely, let him divert their desires, calm their passions and persuade them individually as friends." I, 374, col. XCVI.

Rhetors prefer to live in a democracy, the worst form of government. I, 375, col. XCVII.

[A competent pilot] who did not know where or how or when to sail would be dangerous, fully as much so as the rhetor [who should try to sail a boat in a storm]. For he could not reason about advantage and harm, as such, even if some one has charmed him into thinking that power over all is teachable. I, 375, col. XCVIII.

[If instead of this] he claims that rhetoric is an art because the rhetor produces a certain effect on the emotions, then his shift is not honorable, because it is false that the rhetor possesses universal knowledge, since all poorer artists have wiser men to judge them. I, 376, col. IC.

I, 377,  
col. C.

It is idle to introduce the phrase "wiser men to judge them" whom the rhetor was unwilling to serve, and toward whom his faculty is useless. For he will introduce as a reply a similar remark applying to the statesman who has experience in these matters, alluding to the art which produced Themistocles and Pericles.

I, 377, col.  
Cl.

Potentates even more than democracies pity and almost admire those whom they subdue if they possess the charm of these virtues, e. g. Philip and Python,<sup>7</sup> Ptolemy and Demetrius of Phalerum.

I, 378, col.  
CII.

In addition let it be said that the most powerful speech is that with rigorous proof, i. e. with the characteristics of philosophy rather than of rhetoric, since "most powerful" seems to mean "most powerful in reference to some object."

I, 379, col.  
CIII.

. . . so that to exclude these [qualities] is to exclude politics, and like rhetoric few things, and these decisive, have these [qualities].

I, 379, col.  
CIV.

In regard to the third point let it be said that even if the speech be very persuasive, if the possessor of this power does not know how and whom and when to persuade, he is as useless as if he were a rudder.

I, 380, col.  
CV.

For even if Pericles easily persuaded the people to do what was lawful, another would not in turn succeed in currying the favor of the mob, and the populace would never endure philosophy.

I, 381, col.  
CVI.

For he says it is as if a runaway slave expelled the master of the ship, and let it drift down stream . . . with the boldest to serve as pilots and please the passengers.

I, 381, col.  
CVII.

Since he is like one who feigns grief for the loss of property he never possessed, no one would pity him. But we know of masters and pilots who have even been killed as well as banished by fugitive slaves.<sup>8</sup>

I, 382, col.  
CVIII.

. . . by the statute laws not of philosophers but of rhetors. But what sort of philosophers does he mean? If we urge him to indicate one of the political [philosophers] they cannot be considered statesmen.

<sup>7</sup> Probably the pupil of Isocrates and orator of distinction who acted as Philip's emissary to Athens in 343 B. C.

<sup>8</sup> Runaway = rhetorician; masters = philosophers.

. . . they guided states aright, and the philosopher could not rule these. I, 382, col. CIX.

. . . Philosophers are unable to help cities, nor have they ever framed any laws with all their virtue. I, 383, col. CX.

Power of persuasion is not helpful but destroys the persuader himself with his city. P. 385.

FRAGMENTA INCERTA.

The *fragmenta incerta* do not contribute much of Philodemus' thought that is new. I have deemed it worth while, however, to include a translation of the most important of them, as they contribute interesting bits of information, and have been the occasion for some of the most brilliant conjectures that Philodemus has brought forth.

a

(Nothing.)

II, 168, fr. I.  
fr. II.

According to the philosophers this ought to be known, but because of our ignorance, as they are always dinning in our ears, it is impossible and inconsistent with life for everything to be predestinate. . . . For the philosophers like to have their joke and imagine a community of cities and friends and goods and wives and children.

For one would not say with Anaxagoras that everything exists in everything, nor with the Chian Metrodorus<sup>1</sup> acknowledge that he knew nothing, nor even that he knew nothing, nor with Parmenides and Melissus that the universe is one, and because perceptions are false. . . .

II, 169, fr. III.

. . . exhorting to what is noble and of advantage . . . dissuading from what is shameful and harmful.

II, 170, fr. IVa.

Philosophers have been found flattering their states.

(Nothing.)

II, 170, fr. V.  
fr. VI.

For all these reasons, if they chance to be distinguished for any cause, one would not trust their statements; if through mistaken reasoning or under compulsion of a lover, they intrust such matters to children, certainly Persaeus and Eudemus and Lycon and the like. . . .

II, 171, fr. VII.

<sup>1</sup> In l. 5, Wilamowitz, *Hermes* XXXIV (1899) p. 636, restores *Μητρᾶς* a shortened form of Metrodorus, comparing Antiphanes p. 129, Meineke. A Metrodorus of Chios is mentioned in Diogenes Laertius IX, 10, 58, *ὅς ἐλεγε μὴδ' αὐτὸ τοῦτ' εἰδέναι ὅτι οὐδὲν οἶδε*.

- II, 171, fr. VIII. . . . it is an indication of fair speech; perchance that is the meaning of the wand or heralds staff. For he says, "golden, with which he charmeth the eyes of men whom he will, and others sleeping he waketh." Wherefore Amphiarus was one of the seven leaders against Thebes, Nestor of those against Troy.
- II, 172, fr. IX. A sophist at the games, catching sight of an idle rich youth, said to his companions, "There is my treasure chest." In a similar way, when Aeschines was an actor and a clerk he was poor, but when he took up rhetoric he became a great entertainer, and awfully rich.
- fr. X. (Nothing.)
- fr. XI. Some philosophers openly advise community of wives and children.<sup>2</sup>
- II, 173, fr. XII. . . . voted that he should speak among the first because of his age and rhetorical experience. But Xenocrates addressed Antipater in the same style that he was wont to use in a philosophical discussion in the Academy, and Antipater rejected his plea.<sup>3</sup>
- II, 174, fr. XIII. . . . punishing those who misappropriate public funds or do some other wrong, opposing even potentates on the most important matters.
- fr. XIV. Philosophers teaching in a corner.<sup>4</sup>
- II, 175, fr. XV. A hare cannot be safe among dogs, according to Aristotle, nor can one keep a surly and contemptuous attitude among men. Philosophers always appear like this; therefore they are liable to the attacks of sycophants and undesirable citizens.
- fr. XVI-XVII. (Nothing.)

## β

- II, 176, fr. I. If one should seize you and drag you to prison, claiming that you are guilty, though you are innocent, you could not help yourself, but would stand giddy and agape, not having a word to say; and though your accuser be a mean fellow and not good

<sup>2</sup> Cf. fr. II.

<sup>3</sup> I follow the restoration proposed by Crönert, Kolotes und Menedemos, 67; I. 2 διαψη]φίσασθαι. I. 3, ἐν πρώτοις, I. 9, διεξέρ]χασθαι καὶ τὸ [ν, I. 10, λόγον πρὸς τὸ]ν Ἀντίπα[τρον ὑπὲρ τῆς πόλεως οὐ δε]ξαμέ[νον δὲ ἀποτυχεῖν.

<sup>4</sup> Cf. Plato, Gorgias 486, Cic. De Orat. I, 13, 57, Fuhr. Rhein. Mus. LVII (1902) p. 436.

for much, you would die.<sup>5</sup> How is it wise if an art takes a noble man and renders him worse.

We should not hate and banish the teacher—for he taught with a proper object in view—but it is right to kill the one who uses it improperly. Polus in the rest of his defense explains about the art.<sup>6</sup>

(Nothing.)

II, 177, fr. II.

fr. III.  
fr. IV = fr. IV, II, 170.

γ

Isocrates received from the Cyprian twenty talents, and from Timotheus the son of Conon he received ten more.<sup>7</sup>

(Nothing.)

Rhetoric alone makes laws.<sup>8</sup>

They (rhetors) have been and are our counsellors in war and peace.

A slave on being scourged informed against Anaxagoras, and Cylon of Crotona had Pythagoras fined and banished, and burned his disciples in a body; and Socrates<sup>9</sup> . . .

II, 178,  
fr. Ia = fr. IX, II, 172,  
II, 179, fr. II.  
fr. III.  
fr. IV = fr. XII, II, 173,  
fr. V.  
II, 180, fr. VI = fr. XIV, II, 174, fr. VII.

Therefore let us pass over this unless there are more sensible comparisons to be made between philosophy and rhetoric. It is the height of folly to maintain that rhetoric is the science of choosing between what is advantageous and disadvantageous, and of deciding questions of music and geometry.

(Nothing.)

He was still more ridiculous in adding comparisons between rhetoric and philosophy.

II, 181, fr. II.  
fr. III.

Men persuade in a variety of ways; by beauty, by music . . . by appeal to the ear.

II, 182,  
fr. IV,

Some of the sophists would not allow rhetoric to be called a condition productive of success; and those who say they have political ability. . . .

fr. V.

(Nothing.)

fr. VI.

<sup>5</sup> Cf. Plato, Gorgias, 486A, B.

<sup>6</sup> Cf. Plato, Gorgias, 456D, 457B, 461B ff.

<sup>7</sup> Cf. Fuhr in Rhein. Mus. LVII (1902) p. 430; Hubbell in Class. Phil. XI (1916) p. 407.

<sup>8</sup> Cf. Isocr., Antid. 253 ff.

<sup>9</sup> This is part of a list of unfortunate philosophers compiled by some rhetorician. Cf. Radermacher in Rhein. Mus. LVI (1901) p. 214.

II, 182, fr.  
VII.

Therefore we must say that the rhetor is not a flatterer, and rhetoric is not flattery; for the statesman was said to practice what would help all the citizens.<sup>10</sup>

fr. VIII.

[Plato] showed that rhetoric produced pleasure, and shared this quality with cookery and personal adornment, and showed in addition that one produced something not noble, and another something disgraceful.<sup>11</sup>

II, 184, fr.  
I-III.  
fr. IV.

(Nothing.)

I pass over the fact that they criticize Gorgias, and ask him to submit to an examination on Greek usage, since all sciences depend on words for their power.<sup>12</sup>

fr. V.

(Nothing.)

fr. VI.

. . . he knows what weaving and music and medicine deal with, but inquires about rhetoric, because he does not know.

fr. VII.

(Nothing.)

fr. VIII.

Plato in the Gorgias. . . .

fr. IX—fr.  
XIV.

(Nothing.)

ξ

II, 187, fr.  
II.

Sardanapallus . . . deeds in war. And yet some mythographers introduce stories about him.<sup>13</sup>

II, 188, fr.  
III.

Themistocles<sup>14</sup> . . . that marvelous wall around the city as Sardanapallus surrounded Anchiale and Tarsus. For if they pride themselves on this, every man would be a statesman.

fr. IV.

One thing I do not think worthy of notice, that he considers it not to be the task of a statesman to make a small city great.

fr. VI.

This grammarian having observed what has escaped notice everywhere, has not failed to collect examples of cocks who

<sup>10</sup> Cf. Plato, Gorg. 463A, 464B.

<sup>11</sup> Cf. Plato, Gorg. 462C.

<sup>12</sup> Cf. Plato, Gorg. 450D.

<sup>13</sup> The phrase *ἡμέρα μίᾱ* which I have not translated refers to the building of Anchiale and Tarsus in a single day; Arrian, Anab. II, 5, 4; Strabo XIV, 5, 9, p. 672; Athen. XII, 530b quoted by Fuhr, Rhein. Mus. LVII (1902), p. 429, and previously by Gomperz, Zeit. f. d. öst. Gymn. XXIII (1872) p. 24.

<sup>14</sup> *Θεμιστο] κλέους*. He is also referred to in fr. IV infra *πόλιν ἐκ μικρᾶς ποιῆσαι μεγάλην*. The restoration was made independently by both Wilamowitz, Hermes XXXIV (1899) p. 636, and Fuhr, Rhein. Mus. LVII (1902) p. 429.

lower the crest and look at the tail. Let us praise him because he attends to the slanders of the opponents of Demosthenes who did not receive a fifth of the votes, and does not attend to the Athenians who disfranchised the accuser.<sup>15</sup>

η

- Beating his father or refusing him food or shelter. II, 189, fr. I.  
 The prolepsis of rhetoric is less limited. fr. III.  
 He did not make his investigation systematic, but either by II, 190, fr. V.  
 the lack of differentiation of the idea which he has subordinated to the names or . . .  
 They thought that most of the philosophical rhetors devote fr. VI.  
 their energy to this one part and the following part; that those who attack rhetoric insist that it is no art.

θ

- . . . art is the art of beautiful speech, by which they mean II, 190, fr. I.  
 persuasive speech; and the art was the art of beautiful speech, so that speech came by nature, but beautiful speech by art.  
 How when they have come thus far, can they profess to teach II, 191, fr. III.  
 that few arts involve imitation?  
 To speak in any random way is the work of nature; to speak fr. IV.  
 beautifully is the work of art. This seems true to me, and you also hold the same opinion. . . . All the so-called conjectural arts . . .  
 One may accidentally speak beautifully now and then; but to II, 192, fr. V.  
 attain this end frequently requires art.

ι<sup>16</sup>

- About the end of art, and whether it is theoretical or empirical. II, 192, fr. I.  
 (Nothing.) II, 193, fr. II.  
 Metrodorus teaches in regard to rhetoric that it does not arise fr. III.  
 from a study of science.  
 (Nothing.) fr. IV.

<sup>15</sup> Gomperz l. c. p. 25 suggests that the anonymous author here quoted had collected all derogatory passages in Aeschines, and that reference is here made to Timarch. cap. 23, 25 (about cock fights). Wilamowitz l. c. reads κλίνοντας for χαίνοντας quoting Phrynichus fr. 16 l. 5 ἔπτηξ' ἀλέκτωρ δοῦλον ὡς κλινὰς πτερόν.

<sup>16</sup> This section is erroneously designated by Sudhaus as ζ.

II, 194,  
fr. V.

Since this is so what do they mean by trusting to foreign . . . , or what has Anacharsis said on this subject? For we acknowledge that rhetoric is of foreign extraction.

fr. VI, VII. (Nothing.)

#### HYPOMNEMATICON.

For a statement of the relation of the Hypomnematicon to the *Περὶ ῥητορικῆς* see the Introduction p. VII.

II, 196, fr.

(Nothing.)

I, II.

No artist can perform the task of another artist; a commander of cavalry cannot command a ship, etc.

II, 197, fr.  
II.

. . . Theophrastus lived all his life in the privacy of philosophy, ignorant of the affairs of kings.<sup>1</sup>

II, 198,

[Rhetoric is] the best assistant for all the villainy in this world.

fr. V.

(Nothing.)

fr. VI—IX.

Advantage and disadvantage. . . . It is evident that we shall find that the argument amounts to this; "The wise man has knowledge of these and other things."

II, 199,

fr. X.

fr. XI.

(Nothing.)

II, 200, fr.

(Nothing.)

XII.

fr. XIII.

Critolaus, it seems, taught strategy, the duties of kings, equitation and navigation.

fr. XIV.

(Nothing.)

II, 201, fr.

XV.

If they search for the mighty rhetors, surpassing all others, they are carried back to the time of Corax in whose day Themistocles and Aristides flourished. The ability possessed by Odysseus, Nestor, Solon, Themistocles and Pericles we do not call rhetoric; . . .

fr. XVI.

(Nothing.)

fr. XVII.

. . . . they happened to have conversed intelligently, powerfully and nobly.

Coll. I-XXIV attack the Stoic doctrine that the philosopher is the only orator. Passages are quoted from Diogenes of Babylon and refuted in turn.

II, 202,

col. I.

According to Diogenes there has never been a perfect statesman, such as you<sup>2</sup> say they ought to be, not even Phocion whom Demosthenes called the pruning knife of his speeches.<sup>3</sup>

<sup>1</sup> Or, more probably 'of political affairs,' reading *πολιτικῶν* in l. 8.

<sup>2</sup> Addressing the Stoics.

<sup>3</sup> Wilamowitz, *Hermes*, XXXIV (1899) p. 637, reads in line 26 *σφ[αγίδα]*. For the anecdote cf. Plutarch *Phoc.* 5, *Dem.* 10: Demosthenes said of Phocion as he mounted the bema, *ἡ τῶν ἐμῶν λόγων κοπίς ἀνίσταται*.

The rhetor imagined by the Stoa has never existed, and will never exist. II, 203, col. II.

After this he<sup>4</sup> makes the following incredible statement: "We see that statesmen like Cimon did not waste time or money on such things, nor subject themselves to professors of such subjects." How this can be true I do not see. For the noble rhetors who have successfully held the preëminence in their states have spent time and labor and endured hardships to gain their positions. One could instance Themistocles who walked in front of the generals quarters at night,<sup>5</sup> and could not sleep for the trophy of Miltiades; or Pericles who in order to be a successful statesman spent much time, and studied with the philosophers of his generation; Demosthenes who was said to have studied with Plato and Eubulides, and set up a cheval-glass, and reproached himself because he slept until aroused by the sound of artizans, and turned his lisping into correct speech; many others might be mentioned who have toiled to become prominent. However success in some lines requires a suitable length of time, and expense and subjection to masters; others demand time only; now all require time, and not all require expense or subjection to masters—and one of these is politics. II, 204, col. III.

. . . that Demades took those who wished to study with him to the true teacher, i. e. the people. II, 207, col. V.

As for saying that the rhetors spend all their time in examining and being examined, and serving what is bitter in the character of mankind—we know that the distinguished rhetors have brought others to examination and submitted to examinations themselves, and such is the natural condition of political life. But the philosophers also examine one another in order to arrive at the truth.

If Diogenes said that no rhetor was ever systematic,<sup>6</sup> but acted strictly from a desire to please; distributing the public money in theoretic funds, he speaks as one who has never investigated the lives of the rhetors. Some of them have been as he II, 208, col. VI.

<sup>4</sup> Diogenes—from whom the following quotations also are drawn.

<sup>5</sup> Fuhr, Rhein. Mus. LVII (1902) p. 429, compares Cic. Tusc. IV. 19, 44, noctu ambulabat in publico Themistocles, and restores, l. 28, *νύκτωρ πρὸ τοῦ στρατηγίου*.

<sup>6</sup> I. e. no rhetor ever followed a definite consistent course of conduct, but simply strove to satisfy the momentary desires of the people.

describes, but the majority have given practical advice showing deep thought, and have acted with great boldness in opposition to those who favored such distributions, and history will bear us out.

After this he says, "The statesman ought to be able to fill the offices in the state; the rhetor cannot do this, and is not fitted for statesmanship."

II, 209, col.  
VII.

The term statesman, properly used, is not stretched to include the general or admiral; similarly, one able to advise, and plead causes receives his name from his possessing this particular form of experience, even if he is not able to speak well. But if, as oftentimes happens, one called a statesman in the narrow meaning, knows how to be a general, or fill other offices, he will not receive the power in this line, nor does the ability in this profession far removed from his own come to him as a result of his political ability.<sup>7</sup>

II, 211, col.  
VIII.

(Diogenes speaks:) "The philosopher is not only a good dialectician, grammarian, poet and orator, in short skilled in all arts, but knows what is useful to cities, not Athens alone but Lacedaemon. For in the philosophic state there is no law, but the divine precepts of the philosophers and truth prevail. The philosopher will be general and admiral, treasurer and tax-collector, and can fill all offices, since the statesman must have a knowledge of all these matters."

II, 212, col.  
IX.

But if we must express our opinion about this, the successful statesmen who have never studied the Stoic philosophy<sup>8</sup> seem possessed of rhetorical ability; Pisistratus and Clisthenes were orators, and Themistocles the greatest general of them all, and Pericles who made Athens powerful and rich and famous, and Pausanias who won the battle of Plataea, and Cimon who showed by his victories on land and sea how to increase the power of the state, and Alcibiades who defeated the Peloponnesians, and Timotheus the pupil of Isocrates.<sup>9</sup>

<sup>7</sup> The implication is that neither does rhetorical ability imply any military ability, a denial of the claim of Isocrates for rhetoric; cf. De Pace 54, Panath. 143.

<sup>8</sup> I should prefer to read at the beginning of col. IX, *τὴν Στωικὴν φιλοσοφίαν*, and make this Philodemus' reply to the Stoic argument of the preceding column.

<sup>9</sup> *Τιμόθεος ὁ μαθητὴς* was suggested by Fuhr, Rhein. Mus. LVII (1902) p. 430.

Some select the deliberative branch of rhetoric, others the forensic, others that which pertains to experience in principles, as is the case in medicine and other arts. Demosthenes and Demades worked out the deliberative and forensic branches.

II, 213,  
col. X.

They ought not to judge Callistratus and Pericles and other political rhetors by the technical treatises written by those who are also called rhetors.

II, 215, col.  
XI, l. 22.

“The Lacedaemonians,” he says, “expelled rhetoric, and managed all their affairs with the help of their natural ability in speaking.” In the first place one will not grant that the Lacedaemonians managed all their affairs with the help of their natural ability in speaking, nor were they successful ambassadors, nor for this reason would one grant they did not study rhetoric, but this is a careless remark of Diogenes. And if we grant that they were successful ambassadors, how does this prove that they did not study rhetoric?

II, 216, col.  
XII.

“Nothing is more puerile than the speeches of the ambassadors trained in the rhetorical schools, who still keep up the ancient pride in the Tyndaridae and Atridae. Rhetoric claims to be able to persuade in diplomatic negotiations by speech, not by power or bribes or dignities or anything else an ambassador might possess.” What if the Spartans possess natural aptitude with which they persuade in diplomatic negotiations? Shall we say that rhetoric is of no assistance to them in speaking as ambassadors?

II, 217, col.  
XIII.

If some who are not rhetors make good ambassadors, how does that prove that the art of rhetoric is not the art of politics?

II, 218, col.  
XIV.

“Even the Athenians, though fond of rhetoric are tired of periods, and those who savor of art and school rhetoric.” It is ridiculous to say that the Athenians are tired of this. Why are they more tired now?

“But not all of them savored of art and school rhetoric, Aristophan and Aeschines for example, and they did not use loose sentence structure.”<sup>10</sup>

[Since] there are philosophers who are accustomed to talk nonsense—men like you and Critolaus—listen to [Zeno?] saying; “The experience of political rhetors which depends entirely on opportunity, teaches one at one time to make a lengthy speech,

II, 219, col.  
XV.

<sup>10</sup> For *λελυμένας* Sudhaus made in the index *κεχυμένας*. Radermacher, Rhein. Mus. LIV (1899) p. 356, suggests *καταγυμένας*.

at another to make a short discussion (or dialogue), and again not to say anything." Therefore as he takes away from science and experience what they especially have to give, when one fails he himself is ridiculous." "Why! if they are able to reconcile cities and make alliances they ought to be better able to reconcile friends who have quarreled, or sundered families; for the same experience will serve to unite two individuals as well as multitudes; just as the same skill is required to tune one harp or many." How can they reconcile a wife to her husband, as they persuade the multitude? Only a man who knew little philosophy would think that the two tasks were the same.

II, 221, col. XVI.

II, 222, col. XVII.

II, 222, col. XVIII.

(Nothing.)

Quite the contrary; Socrates knew how to reconcile individuals, but could not win the multitude for one man;<sup>11</sup> neither could Antisthenes nor Zeno nor Cleanthes nor Chrysippus. If he says that [the rhetor] will be able to stop quarrels and wars between states, as the musician can tune one lyre to harmonize with many, we should say that the rhetors do not aim at abolishing war.

"Scarcely a single ambassador," he says, "has been of service to his state."

II, 224, col. XIX.

He slanders the Greeks—thousands of whom have been useful ambassadors, were prudent in their advice, were not the cause of disaster, did not speak with an eye to gain, and were not convicted of malfeasance in office.

"Why not one of them is recorded as having been a good citizen . . ."

II, 225, col. XX.

Not only many rhetors, but many private citizens as well have become good political rhetors without philosophy.

"Many, you say, if not all are wretched, not one is upright, kind, patriotic or distinguished by ordinary virtues, let alone the higher ones." Yet given natural endowment and training it is granted that one can become a political rhetor without philosophy.

"Not one," he says, "rhetorical . . ."

II, 226, col. XXI.

. . . men may become great artists. Whence they say that the rhetor cannot guide the state successfully without philosophy, even if he has experience. Pericles, who, he said, was the most endurable of the rhetors, studied under Anaxagoras and other

<sup>11</sup> Is he thinking of Alcibiades?

philosophers, but he never studied Stoicism, but principles contrary to these. According to Diogenes, only Stoicism makes good citizens.<sup>12</sup>

If we cannot call Pericles a tolerable citizen I do not know whom in the cities he called good. II, 227, col. XXII.

One should not attend to the doctrines of the Stoics, but study with good men. II, 228, col. XXIII.

Now that this subject is finished, perhaps some one will say . . .

. . . says that Demosthenes, Callistratus and Themistocles and all the other rhetors were not statesmen. After this he says that the Epicureans make clever speeches on many subjects, and these are they who have experience in leading cities; and he grants earnestness to the rulers of cities, and does not class them with the wicked. II, 229, VIII<sup>2</sup>, fol. 80, col. XXIV.

At the end of col. XXXI p. 230 is found a phrase which by comparison with I, 122, 17 can be restored to read, "From a study of political affairs we can discover what is of advantage to the multitude." In I, 122 this is part of a quotation from Metrodorus' work attacking the views of Nausiphanes. Nausiphanes' doctrine recurs in col. XXXII "The best rhetors are trained by a study of natural science," to which Philodemus (Metrodorus) replies: "It is foolish to say that natural scientists make the best rhetors." The name Metrodorus occurs again in col. XXIII, l. 20, coupled with Epicurus. A part at least of coll. XXV-XXXI dealt with Nausiphanes' principles, and an idea of its contents may be gained from Book VI, particularly vol. II, pp. 24 ff. What follows is fragmentary up to p. 240.

Demosthenes, Lycurgus and Demades are not classed as statesmen. II, 231, col. XXXII.

What is more violent than saying that rhetoric promises nothing except the power of speaking. It is plainly false that the power of speaking cannot include any of the other qualities which it professes to include. . . . rhetoric is better designed for the transaction of private than of public business. II, 232, col. XXXIII.

Power of speech can be considered from different standpoints. When he mentions Themistocles and Pericles he means statesmen like Phocion; if he named Isocrates and Matris he makes II, 233, col. XXXIV.

<sup>12</sup> On the relation of this theory to Cicero and Quintilian v. Radermacher, Rhein. Mus. LIV (1899) p. 290. Diogenes originated the idea of the orator as being *vir bonus dicendi peritus*, and so starts a succession which extends to Quintilian.

a partial error. For Themistocles and Pericles have always been considered consummate rhetors. If Matris and his school are called rhetors, as he said, he ought not to apply this term to the political rhetors but to the other class, just as we would confine the term rhetors to Demosthenes and Callistratus and others of their class, who are said to have possessed political power, of whom we spoke in another section.

II, 234, col.  
XXXV.

Now changing our subject we shall show that the so-called sophists seem to us to have more power in political rhetoric than the theorists in politics. Now we have already treated in a previous section the idea that sophistic or panegyric or whatever it may be called, by means of which some exercise the power of speech in assembly and forum, may easily be called rhetoric. That statement "He is a good rhetor" simply means that he is experienced and skilled in speaking. For as we say "good rhetor" we say "good artist" meaning "skillful"; "good rhetor" might also mean "morally good."

II, 236, col.  
XXXVI.  
II, 237, col.  
XXXVII.

(Nothing.)

. . . of those who were statesmen and had acquired this faculty, and of those who do not have it but succeed by dint of experience, of these many are better in character, many are very good, some have private virtues; some who have studied philosophy are justly considered more attractive than these.

II, 238, col.  
XXXVIII.

In examining political matters he is not accurate, as we have shown in the passages referring to his statements. And when he considers rhetoric and the rhetor equivalent to politics and the statesman, he is inaccurate.

II, 239, col.  
XXXIX.

We shall inquire whether rhetoric is politics, and if there is a faculty which produces rhetors and statesmen; and again whether politics is exactly equivalent to rhetoric; and we shall make a careful inquiry as to whether the art of rhetoric is also the art of politics. We meet these questions as follows; sophisticated rhetoric does not include a study of politics, and it is not political science; the rhetorical schools do not produce the political faculty or statesmen prepared for practical speaking and success in ecclesia and other public gatherings; and rhetoric *qua* rhetoric is not politics, and the rhetor is not a statesman and public speaker; and by no means do we agree with the statement made by some that rhetoric is politics; and we deny that the rhetor is always a statesman, not even in the

II, 241, col.  
XL.

narrower sense of the word among the ancients by which every one who spoke before the people was called a rhetor. Each of these topics we shall try to explain more fully.

Now it is made clear by Epicurus in many passages in his book *Περὶ ῥητορικῆς* written with reference to those who are able to persuade, and by Metrodorus in the first book *Περὶ ποιημάτων* that by rhetor the masters of the Epicurean school<sup>13</sup> understand a person possessing technical training who has political experience, and is able to discover what is of advantage to states. But we are content with the passage quoted just above (i. e. in the gap coll. XXV.-XXXI) against Nausiphanes, in which to a certain extent the word is used in accordance with accepted usage. For he divided the term rhetoric, and made it refer to panegyric, and to the faculty, "by which from experience and investigation of political events one could perceive well what is advantageous to the multitude." . . . the phrase "as such" is added, and besides the phrase "there is no need of much argument." . . . We shall prove that if by rhetor he considered one who has political experience, if he adds the sophist's art to his equipment, it is plain from mere examination that rhetoric possesses something over and above politics, and the rhetor something over and above the statesman—namely effectiveness of speech; he certainly possesses experience in politics.

II, 242, col. XLI.

According to Greek usage one does not call Demosthenes and Callistratus and the like statesmen more than rhetors, and in that they are called rhetors they are called statesmen; but those who deliver epideictic orations and speeches more charming than theirs are not called rhetors in the same sense that these are called rhetors, or if they are so called it is because one speaks after a common form of concept. Consequently why is it not possible to call all rhetoric politics, in so far as it is rhetoric, and to call the rhetor a statesman? Why not call a rhetor *quia* rhetor a *δημηγόρος*. For the phrase "in short he is a *δημηγόρος*" means in so far as he is called *δημηγόρος*, and not differently from the rhetor, in as much as the *δημηγόρος* is also called rhetor. Therefore Metrodorus says that Callistratus and Demosthenes, in so far as they possessed rhetoric were *δημηγόροι*; but in the first

II, 244, col. XLII.

II, 245, col. XLIII.

<sup>13</sup> By *τοὺς ἀνδρας* l. 18 he means the great Epicurean authorities particularly Epicurus, Hermarchus and Metrodorus.

book *Περὶ ποιημάτων* he appears to disagree saying, "There is no faculty and science of persuading the multitude."

The art of politics then is understood to be experimental knowledge of constitutions and laws, and a knack which enables one to accept the guidance of states. Rhetoric is considered to include along with this the equipment and faculty for speaking. Now whoever has this experience, but lacks effectiveness in speaking, evidently possesses the political faculty and is a statesman, but he cannot be a rhetor, because though they possess experience in government and much greater knowledge of constitutions and laws and revenues and other things which pertain to the management of states, than the rhetors have, and actually do govern their countries, many who possess this experience do not possess the rhetorical faculty or such equipment as do those who are properly called rhetors; many in fact have no rhetorical ability at all.

II, 247, col.  
XLIV.

The rhetors on the other hand would not seem to anyone to lack rhetoric, which is the proper possession of a rhetor. For none of those called by common consent powerful and noble rhetors can be found without political experience and faculty. But it is not one of the attributes of sophistical rhetoric *qua* rhetoric to be the art of politics, nor is the sophistical rhetor, *qua* rhetor, a statesman; nor is the statesman *qua* statesman, a rhetor, as is evident from what Epicurus says in his *Περὶ ῥητορικῆς* and Metrodorus in the first book *Περὶ ποιημάτων*, and Hermarchus in an epistle to Theophrides.

II, 248, col.  
XLV.

Now if every art has its own peculiar field, we shall not expect navigation to produce geometers and grammarians, nor is the knowledge of these sciences an attribute of a sailor. Why should we any more expect that statesmen or men prudent, courageous and highminded should be produced by this rhetoric *qua* rhetoric, and that such qualities are peculiar to rhetoric? For as we certainly would not say that the majority of people possess these qualities in so far as they possess the rhetorical faculty, but that they are good geometers and grammarians, brave and just, and philosophers in a greater rather than in a less degree than those who possess the rhetorical faculty; and that many who have the advantages of rhetoric plainly lack the abovementioned sciences; in similar fashion, since many who not only have not

II, 249, col.  
XLVI.

acquired the rhetorical faculty, but have not studied at all with the sophists, nor have acquired a technical knowledge through practical study with a rhetor, still speak powerfully in public, and to use the term in its common meaning are artists and possess technical ability [whereas many from the schools can not speak successfully]. . . . Many of those trained in sophistic after the fashion of Isocrates have no political capacity or experience, and are unable to speak in public. If they ever attempt it the audience die a-laughing; since this is true, as geometry and grammar have no need of rhetoric, and it cannot produce these sciences, so the art of politics is not the property of the rhetorical sophist, and they do not produce statesmen.

Some one will say, "If because some are able without study of rhetoric to speak ably, we separate statesmanship from rhetoric on the ground that it is not peculiar to rhetoric, take away too the panegyric style of rhetoric which the rhetoricians practice both in writing and in the spoken word. . . . For many could imitate this, though they have not studied with the sophists, but merely because they are talented; and without having the technical treatises composed in the schools, would imitate the work of some sophist."

"Charm really helps in public speaking. Some who have acquired a rhythmical style from these schools have become considerably more pleasing in public assemblies."

II, 252, col. XLVIII, l. 23.

The same is probably true of studies in poetry and philosophy. Some would certainly be harmed by rhetoric; certainly many sacrifice their natural gifts and character, and what they learn in the schools is not persuasive or successful with their audience.

II, 253, col. XLIX.

Such is our discussion of the subjects mentioned. If anyone reproaches us with poverty, we shall be content with what we have, and shall not take up rhetoric to make money.

But when they say, as Anaximenes does, that people would not pay the rhetoricians for instruction unless they acquired completely the power to speak in public they speak stupidly. For by this line of reasoning one could prove that soothsaying and . . . are arts, and have greater right to be called arts than philosophy because the professors of these arts receive larger pay than the philosopher. It is senseless to compare faculties in this way, nor does the fact that some pay money to

II, 254, III<sup>2</sup>, col. XLIX, 22 = IV<sup>1</sup>, col. II, I.

II, 256, col.  
IIIa.

rhetors<sup>14</sup> prove that statesmen are produced by rhetoric. One must not think that we have mentioned this proof merely for the sake of talking, but that it is true, and that those are mistaken who pay money to sophists. Epicurus says, "Whenever they listen to their displays and panegyric speeches, and are beguiled because the speech is not about a contract nor public policy as it is in assembly and court (for in these they pay close attention to the speaker, because they have something at stake in the assembly, and they are bound by an oath if they are sitting on the jury, whereas in the case of sophistical displays they care nothing for the oath, for they have not sworn to judge fairly nor do they care whether what is said is advantageous to the state or not, for it is not a question of war and peace, such as they have to vote on at times; and if the speech deals with war or peace or some other subject discussed in assemblies, it does not deal with a timely or pressing question, consequently they listen to displays without any feeling of anxiety) whenever they listen to such a speech they give no heed whether it is advantageous or disadvantageous, or even true or false, but are beguiled by the sound and the periods, *parisoses* and *antitheses* and *homoioteleuta*, and think that if they could talk like that they would succeed in assembly and court, failing to recognize that they would not endure anyone who spoke like that in assembly or court. That is why they spend money on sophists. Then immediately they recognize that they have lost their money, for they get no result but hard feeling and worry; hard feeling because they have been trained in rhetoric, and if their speech is successful they are thought to mislead the jury; but if they fail they think they have paid the sophist in vain; they are anxious about these very points, and still more how they will seem to come off with the speech, or about not misleading the jury by appearances. They have these troubles, and besides they have to attend carefully to conjunctions and cases, not abiding by their own rules but by those of others. For these and other reasons some study with the rhetoricians; in some of these they are deceived more than in others as we have stated above.

II, 257, col.  
IVa

II, 258,  
col. V<sup>a</sup>.

II, 259, col.  
VI<sup>a</sup>.

The rhetors among the sophists behave no better, not even when they say that one can prove that their art produces states-

<sup>14</sup> Here *ῥήτωρ* apparently is equivalent to *ῥητορικὸς* or *σοφιστής*.

men from the fact that some of their pupils are able to plead causes and conduct themselves properly before the assembly, in the same way that one could prove that the art of grammar produces people able to read and write from the fact that those who have attended the school can do this. Their argument works against them rather than for them, since everybody who studies the art of grammar learns to read and write, and no one learns without studying. But many who study rhetoric cannot speak in public, in fact this is true of the majority, and many who have not studied can speak—they outnumber those who have studied. Therefore we must agree that those who have studied and are statesmen, are such not by virtue of acquiring the faculty which the sophist professes to impart, but from other reasons. Such would be remarkable natural ability for acquiring the rhetorical faculty, and ardor in practicing in politics when once they have shown themselves desirous of rhetorical instruction, and have filled themselves with political speeches which involve a considerable degree of imitation, and, last of all, a spirit of meddling, which is the source of most political experience. There are many other causes, consequently their statement is unsound. And so, although there is such a connection between these studies, nevertheless rhetors skilled in swaying the passions are not produced by these studies any more than by such studies as grammar and philosophy. It thus appears vain to claim that these studies produce the political faculty; just because some statesmen come from these schools one cannot claim that rhetoric produces them. So much for that.

II, 260, col. VII<sup>a</sup>.II, 262, col. VIII<sup>a</sup>.II, 263, col. IX<sup>a</sup>.

When they ask, who is a statesman if we cannot call the rhetors statesmen, it is easy to answer, laymen, but they are not the only ones or the majority, but the rhetors are the statesmen, however these are not the panegyric rhetors, but those who engage in real contests; also many are statesmen who are not rhetors but possess the political faculty. But it is foolish and senseless to inquire what this faculty is, to say that it is the faculty which produces statesmen, and then to add that rhetoric is the art of politics, and produces statesmen.

When they argue as follows: "It is the task of the statesman to govern the state, to advise, to have experience in embassies, constitutions, decrees, etc., and the rhetor understands all this," grant that this can be proven, and let us allow for the sake of

II, 265, col. X<sup>a</sup>.

argument that rhetors *qua* rhetors possess knowledge and ability in these matters, yet it must be objected that some statesmen who are not rhetors possess all these qualifications. If by rhetors they mean those trained in the schools, we shall simply laugh at them; if they mean the practical rhetors, they will not find us opposing them. For they claim for themselves nothing ridiculous.

When they say that it is ridiculous to separate the political faculty from perfect rhetoric, for it is included in the concept of rhetoric, just as those skilled in the art of medicine possess a knowledge of what is healthful and harmful, they are exceedingly amusing. For how can that which is not acknowledged to include politics be granted to include politics by preconception? But the announced claims of rhetoric do not include this; only a confusion of thought includes this with rhetoric without proving that it belongs to rhetoric. There is no need of further argument in reply to the claim that states have been managed by rhetors. For even if we grant that it has been done by the political rhetors, *qua* statesmen, we shall not grant that it has been done by the rhetoricians, and if by them, not *qua* rhetoricians. It is the same way with the claim that it is the rhetors, not the philosophers, who have busied themselves with political affairs. They may use this argument against others, we grant that philosophy does not produce statesmen. Some babblers they produce who use the same words that the statesmen use, but not for that shall we grant that it produces the political faculty. If we worked on this principle we should soon be granting every thing which they profess to write about.

II, 266, col.  
XI<sup>a</sup>.

II, 267, col.  
XII<sup>a</sup>.

Now that we have finished this chapter, it remains for us to discuss the question whether the rhetor because of his rhetoric would become a *good* statesman. As for the rhetor produced by the schools, how could we say that *qua* rhetor he could become a good statesman, seeing that *qua* rhetor he is not a statesman at all? In regard to the political rhetor we think the case stands thus: the phrase "good statesman" means either a capable and experienced statesman, or one morally good. According to the former interpretation, *qua* rhetor, we say that he is a good statesman, just as we call the artistic flautist, *qua* flautist, an artistic flautist, and so a good flautist. According to the second interpretation we no longer say that the rhetor *qua* rhetor would be a

II, 268, col.  
XIII<sup>a</sup>.

good statesman. In the first place he is estimated according to his experience in what is advantageous to the state, and in speaking, just as the physician is estimated according to his knowledge of what is healthful and unhealthful. If he possesses this, no matter what his character is, there is nothing to prevent his being a rhetor. The same must be understood of one who is not a rhetor but a statesman. There would be objection if he had to be good, *qua* rhetor. For the expression *qua* rhetor means that in this he is a rhetor, and from the same condition and no other can a rhetor arise; but it is plain to all that many are capable rhetors, but bad morally. "*Qua*" is of this nature; if it is added it cannot be removed. Since this is so, we do not consider the political faculty by itself useful either to those who possess it or to the states, but that it is often the cause of irreparable dissensions in the sense that what gives the impulse is the cause. If it is accompanied by uprightness of character it often contributes great blessing to states, and sometimes greater good to its possessors than to private citizens, but oftentimes greater woe, as is proven by their lives. And if anyone says that the good statesman ought to have many virtues, and that states are saved not by rhetors *qua* statesmen, but by good statesmen, he will be right. It would be well if the statesman studied philosophy in order that he might be more actively good, and for this reason we say that philosophy if it were associated generally with the political state of mind and in individual cases made suggestions applicable to political management, would produce a wonderful improvement. He would be a good rhetor and statesman who possessed kindness, uprightness and temperance in his private life, education, wisdom which is the outgrowth of his natural ability, and combined with all these, astuteness.

II, 270, col. XIV<sup>a</sup>.

II, 271, col. XV<sup>a</sup>.

II, 272, col. XVI<sup>a</sup>.

*Fragmenta Hypomnematici*

a

(Nothing.)

When mentioning such a statesman he says that he is experienced in what is helpful and harmful, and possesses all virtues, and that the rhetors know none of these things, and do not claim to know them, but possess simply boldness and garrulity.

II, 273, fr. I.  
fr. II.

. . . by this line of argument how could Lycurgus, Demos-

II, 274, fr. III.

thenes and Hyperides be considered practical? In the first place not only was any appearance of order lacking in the speeches which they delivered, but it did not appear even in their writings, and it is plain that they did not avoid empty talk. Quite the opposite; if any have talked discreetly and powerfully. . . .

II. 275, fr. IV. The public speakers say that the political art is nothing but rhetoric. . . . Critolaus says that the art of politics demands only time.

fr. IX. (Nothing.)

II. 275, fr. X. Anyone with common sense would say that the rhetors wrote the laws, and that now states do not entrust lawmaking to philosophers, but to rhetors. . . . If any philosopher ever made any laws he must have been one of the old philosophers. He certainly had no connection with the Peripatetics.

fr. XIII, fr. XVII. (Nothing.)

II. 278, fr. XVIII. Sardanapallus (cf. II, 188).

fr. XIX. Separate politics and rhetoric (cf. II, 66, col. X<sup>a</sup>) . . . there is no use for it in politics; for persuasion is not needed for everything.

fr. XX, XXI. (Nothing.)

II. 279, fr. XXII. Many rhetors will be found who have performed proper and righteous acts.

fr. XXIII. (Nothing.)

β

II, 279, fr. I. If he takes from rhetoric experience in what is advantageous to the state, and assigns it to philosophy, let us not be vexed. Yet to turn to something with which they agree . . . that the rhetors have need of a knowledge of character, and acquire this from philosophy, which some said was to be acquired from the sophists . . . which Demosthenes. . . .

II. 280, fr. II. (With *παρωρικένοι τὰς ἐπιθυμίας* cf. II, 271, fr. I.)

fr. III. . . . nevertheless as such he is better than the majority of rhetors, by nature . . . however one who is called a good artist is not of this nature.

II, 281, fr. IV. . . . possessing one part of the science, but lacking the other. "According to these, and those who speak as befits themselves, rhetoric cannot produce men just and prudent."

fr. V—VII. (Nothing.)

II. 282, fr. IX. Justice is not peculiar to a state, but belongs to any association.

fr. XI. But experience, speaking plainly testifies that they do not wear

out states by selling their interests. Now states have recognized their ability, for the power of the state is increased under their rule.

The first is false. What he has not learned himself how could he teach another who has never studied the question of advantage? How could one refrain from accepting bribes, and from base gain and deceit? fr. XII.

γ

The rhetor ought to be earnest. The perfect statesman is acquainted with what is advantageous to the state. II, 283, fr. I.

(Nothing.) fr. II.

Demosthenes . . Aristodemus.<sup>15</sup> fr. III.

—Diogenes seems to have seen this; for all their attempts, so to speak, are reducible to this one demonstration, that the statesman always possesses all virtues. . . . fr. IV.

Thus they will try to say that rhetoric is the same as the art of politics, however it is not self-sufficient for successful statesmanship, but needs some assistance in calming the passions. II, 284, fr. V.

The huckster and the pilot ought to be vigorous and brave, even if one adds "good."<sup>16</sup> He will be in still greater error, and will run equal risk if he judges from the lives of those only partly trained in philosophy who have lived wickedly, that philosophy does not produce a happy life. fr. VI.

If it is advantageous and proper for the statesman to be just and brave, the statesman would wisely be just and brave and prudent. Likewise he demonstrated a third point, as follows: One cannot be a statesman, unless one is brave and just, and in the possession of all virtues. II, 285, fr. VII.

The rhetors executed Socrates, by making most wicked charges against him, as Plato says in the Apology— II, 286, fr. VIII.

(Nothing.) fr. IX—XI.

Management of states in the hands of cobblers. II, 288, fr. XIIa.

[Having shown] that rhetoric is not an art. . . . we shall now try to present the common faults found in most speeches, some of them perhaps in all. Our manner of refutation will be fr. XIIb.

<sup>15</sup> Gellius, XI, 9, tells the story of Demosthenes receiving a bribe from Miletus and boasting of it to Aristodemus.

<sup>16</sup> Cf. II, 233.

more methodical if we proceed from some principles in making our divisions.

II, 289, fr.  
XIIIa.  
fr. XIIIb.

No philosopher is able to speak in public.

The rhetor ought to possess Hermes' wand "with which he soothes the eyes of men whom he will, and others sleeping he awakes," and the embroidered girdle of Aphrodite "in which there is love," i. e. speech which is not without charm, which is the peculiar product of rhetoric. And he ought to be acquainted with constitutions, laws, edicts and customs, and in addition to this decisions reached in assembly and court.

II, 290, fr.  
XIV.

Rhetoric has said nothing to us about freeing us from love of glory, but rather increases it by praising its advantages, and holding out glory as a prize.

II, 291, fr.  
XV.

. . . the aforesaid logographers and the comic poets of their day, and the writers of biography. They demonstrate that these men have been servants of their own states and of the rest of Greece.

II, 291, fr.  
XVI.

If the rhetor cannot guide his own household, consisting of wife, children, slaves and free servants, how can he control the greater ship, the state, consisting of more children and women?

fr. XVII.

(Nothing.)

II, 292, fr.  
XVIII.

It takes the same skill<sup>17</sup> to tune one lyre as to tune many in unison, and the results are evident. Scarcely one of these is recorded to have served his country well on an embassy, some are convicted of malfeasance, and others, if they accomplish anything, do not accomplish anything useful.

II, 292, fr.  
XIX.

In order that some may not think that we pass over in silence what has been written, matters of no importance or small points savoring of Stoic toil, we shall present the arguments on both sides.

fr. XX.

(Nothing.)

II, 293, fr.  
XXI.

He will say what is advantageous; and will agree that what is advantageous is good, and the same for private citizens and communities; contrariwise, what is harmful is evil. But only philosophy possesses the knowledge of these subjects, and it must be said that this is not productive of statesmanship.

fr. XXII.

(Nothing.)

<sup>17</sup> Cf. II, 221, 223.

But one who cannot guide his own skiff successfully, would not be able to pilot the triremes of the state.<sup>18</sup> II, 294, fr. XXIII.

(Nothing.) fr. XXIV.

When they write as if there were need of both we shall make the proper reply when we think the explanations given by the other worthy of fitting answer. II, 295, fr. XXV.

(Nothing.) δ fr. III.

Constitutions and laws and customs and the like. For it is clear that some of them manage their states by means of their acquaintance with these things. Many are willing to depend on mere sham, as will be evident when we come to that section. . . . II, 296, fr. IV.

While they say that the political faculty is not the political art unless it is conjoined with philosophy, they do not deny that there is need of philosophy, but you do not disprove that rhetoric involves the political faculty. In another way they will not be at a loss even according to Stoic principles to give a characteristic answer. fr. V.

Neither physician nor pilot nor painter is an artist, for they have no proper (special) knowledge, nor do they possess the faculty, because often they do not attain their desires: the pilot does not save but wrecks his ship, the painter does not produce beautiful but ugly pictures. II, 297, fr. VI.

Just as a physician can be good, and so can an architect and a pilot, so a statesman can be good. fr. VII.

(Nothing.) fr. VIII.

ε

Just as we speak of inexperience and ignorance in relation to philosophy, so we speak of people as good in relation to character. II, 298, fr. II.

If he wishes to consider that statesmanship is not a part of philosophy, he will be right. We agree with him. fr. III.

He says that philosophy does not produce artists. II, 299, fr. IV.

As among the Gauls those unable to bear arms became trumpeters, so those who cannot manage political affairs become sophists, and blow their trumpets in the midst of crowd. fr. VI.

Pericles is said to have been the disciple of Anaxagoras. fr. VII.

(Nothing.) fr. VIII, IX.

<sup>18</sup> Cf. II, 291, fr. XVI.

## ζ

- fr. II—VII. (Nothing.)  
 II, 302, X<sup>2</sup>, “The Athenians though fond of oratory are offended by peri-  
 fol. 67-70, ods, and those who savor of scholastic rhetoric.”<sup>19</sup> There is  
 fr. III. need of opportunity in diplomacy.
- fr. V. Since every virtue, not that which existed in the time of the  
 heroes, but in the time of Pythagoras and men of earlier gen-  
 eration. . . .
- fr. VI. (Nothing.)

## EXCURSUS.

The rise of teachers of the art of oratory in Greece marks the beginning of a movement in Greek literature which is of the highest importance in determining the course of Greek thought for the succeeding centuries; in fact through its influence on Rome and those modern literatures which derive largely from Rome it has shaped much of the thought and expression of the modern world. The movement seemed destined from the very first to be unusually significant. The enthusiasm with which the new study was welcomed by the youth of Greece showed that the sophists had accurately judged the needs of their public. The importance of the new teaching is shown no less by the violent opposition which it encountered. It was an unerring instinct which led the enemy of Athenian democracy and Euripidean tragedy to direct one of his most vigorous attacks against the teaching of the power of speech which was so intimately connected with the other objects of his aversion. Aristophanes is our sole extant example of a feeling which was general in the latter part of the fifth century among conservative classes that the teaching of the sophists was a detriment to the community. Tricky and even lying speech there had always been, and would always be, but it seemed incredibly monstrous that men should undertake to train others in the art of deception.

At first the attack was couched in general terms, and was aimed at the immorality of the new profession without attempting to analyze its principles or methods. But the growing skill and subtlety in argument, and a more precise limiting of the spheres of the professions by specialization gave to the con-

<sup>19</sup> Cf. II, 218.

troversy a technical character which it was not soon to lose. It is to Plato that we owe the origin of this as of so many other lines of thought. In attempting to set off for himself the field of "philosophy" he is led in the process of defining the limits of his field to exclude rhetoric. In doing this he introduces a new turn to the attack by denying that rhetoric is entitled to be called a τέχνη. We may suppose that the sophists had referred to their occupation as a τέχνη, in the broad use of the word which is nearly equivalent to the English "occupation." Certainly their written works on rhetoric were styled τέχναι or "systematic instructions." The tacit assumption in all this is that speaking proceeds by certain rules and can be reduced to a system in the same manner that stone cutting or carpentry can. Plato, therefore, goes to the heart of the matter by declaring in the *Gorgias* and *Phaedrus* that rhetoric is not τέχνη, but ἐμπειρία or τριβή. He does not define "art" in the precise fashion of his successors, but implies clearly enough that the prerequisites for art are a knowledge of the nature of the "materials"—whether animate or inanimate—treated by the art, and of principles of action based on scientific acquaintance with cause and effect<sup>1</sup>; to this he adds that an art always aims to produce a beneficial result. Tested by all of these principles rhetoric is found wanting. At the same time he grants the possibility of a true rhetoric which aims to produce justice in the souls of the people.<sup>2</sup> In a sense Plato merely continues the old popular prejudice against rhetoric as a pursuit detrimental to the best interests of the community; but by introducing the question whether rhetoric deserves to be called an art, he opened the way for a controversy which extends through several centuries. It is a controversy in which some of the philosophical schools are at times found on the side of rhetoric, but in the main, the division between philosophers and rhetoricians, initiated by Plato, remains throughout the life of the philosophical schools. In all its ramifications it is an interesting and oftentimes puzzling chapter in the history of human thought, on which much has been written; much more however waits on the discovery of a new papyrus, or a new interpretation of an old fragment. It is my purpose in

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<sup>1</sup> *Gorgias* 501A.

<sup>2</sup> *Gorgias* 504D.

this excursus to discuss merely certain phases of that part of the controversy which deals with the question whether rhetoric deserves to be called an "art."

Aristotle's attitude toward the question of "art" admits of some dispute. True in his extant work there is no doubt that he regards rhetoric as an art; in fact the *Rhetorica* is a scientific treatise on rhetoric along the lines laid down by Plato; it rests on a study of psychology, and discusses the means of arousing the emotions and convincing the intellect. It differs from Plato in that it takes little account of the question whether the art is beneficial; a natural difference since Plato regards rhetoric as the art of persuasion; one who professes to persuade his people makes himself responsible for their welfare; whereas Aristotle extends the field of the art only to include the discovery of the persuasive elements in any case. So far the position of Aristotle is plain. But in his lost dialogue, *Gryllus*, he attacked the right of rhetoric to be called an "art." Quintilian, who is our authority for the contents of the dialogue, suggests that it was a mere tour de force, an attempt to maintain a paradox.<sup>3</sup> This seems somewhat improbable, and I should suggest three possible explanations of the inconsistency between the *Gryllus* and the *Rhetorica*. 1) The *Gryllus* may have been a dialogue in which both sides of the question were presented, with the conclusion that rhetoric is an "art." This seems hardly deducible from Quintilian's words, which imply that Aristotle's position in the *Gryllus* needed to be harmonized with that of the *Rhetorica*. 2) The *Gryllus* may have been an attack on certain phases of the contemporary teaching of rhetoric, certain perversions of the art, as Aristotle may have thought. Here again Quintilian's words might mean this, but are more naturally taken to mean that the attack was unqualified. 3) The *Gryllus* may be from the earlier period of Aristotle's teaching. We know that rhetoric was a relatively late addition to the curriculum of the Lyceum, whether or not we credit the story that he was driven to adopt it by the competition of Isocrates. It may well be that in his early career, while still under the influence of Plato, he wrote against rhetoric, and later adopted the position which he holds in the *Rhetorica*.

<sup>3</sup> II, 17, 14; Aristoteles, ut solet, quaerendi gratia quaedam suptilitatis suae argumenta excogitavit in *Gryllo*: sed idem et de arte rhetorica tris libros scripsit, et in eorum primo non artem solum eam fatetur etc.

The post-Aristotelian schools differed somewhat in their attitude toward rhetoric. The Peripatetics followed the lead of Aristotle until Critolaus broke with the tradition of the school, and ranged himself with the Academics who had remained true to the Platonic position. The Epicureans consistently opposed rhetoric, with a slight inclination to favor the epideictic branch with the honor of being an art. The Stoics from the very beginning regarded rhetoric as an art, but with a Stoic reservation which nullified much of their concession. The hundred and fifty years following the death of Aristotle were, however, not productive of much controversy on this point. The most influential of the philosophical schools had included rhetoric as a part of their philosophical system; men were more interested in the novel tenets of new philosophical sects than in the rehearsal of old controversies. But a more important reason for the lack of conflict was the decline of the rhetorical schools. The effort of Isocrates to maintain rhetoric on a par with philosophy had been in vain, and the rhetoricians sank into mere declaimers, scarcely deserving an attack. It is not until rhetoric begins to assume once more its old vitality that the controversy begins again, this time conducted with even more subtlety and much greater animosity. The period is the second century before our era; the Rhetoric of Hermagoras is only one, though perhaps the most influential one of many works which placed rhetoric once more in a position to be considered a worthy successor of the "philosophy" of Isocrates. As soon as rhetoric raised its head once more, the philosophical schools opened fire. The old arguments are furnished up, and the Platonic method of definition is pressed to its limit. The dispute turns largely on the old question whether rhetoric is to be regarded as an art. The addition which two centuries of philosophy have made is that the definitions of art are much more precise, and that the debate is very largely a series of quibbles. Verbi enim controversia iam diu torquet Graeculos homines contentionis cupidiores quam veritatis.

The history of this later stage must be gained by piecing together notices in many later authorities, of which there are four of prime importance: the rhetorical fragments of Philodemus, particularly the first and second books; Cicero's *De Oratore*, Quintilian's *Institutio Oratoria*, and Sextus Empiricus *Πρὸς ῥήτορας*. The material here presented was discussed some

years ago by Olivier in his dissertation *De Critolao Peripatetico*, and more systematically by Radermacher in the preface to Sudhaus' *Supplementum Philodemi*. My excuse for a renewal of the discussion must be found in the fact that Radermacher did not take into account the notices in Cicero, and was thus led to assign to Critolaus a share in the debate which is larger than he seems to deserve. It is with the idea, therefore, of supplementing the work of Radermacher rather than of joining issue with him on his main thesis that I present the following pages. A comparison of the arguments used by our four authorities will reveal that they drew from common sources, some of which can be identified, but most of which must be classed as part of a store of commonplaces which were familiar to all educated people. So well known was the general form of argument employed that as Radermacher acutely observed, Lucian could base one of his richest parodies—*Περὶ παρασίτου*—on the old lines of the discussion whether rhetoric was an art.

At first sight the discussion appears more than unusually futile. Of what account was it whether rhetoric was *τέχνη* or *τριβή*? But the question was evidently felt to be of vital importance, and we may not be far from wrong in assuming that the bread and butter of many a philosopher and rhetorician was at stake. So long as the rhetorician was a mere declaimer, there was little danger that he would attract any considerable portion of the student class. But the rejuvenated rhetoric of the last days of the Roman republic claimed to be a complete education in itself, supplanting philosophy, or at least reducing philosophy to the position of a handmaid of rhetoric. To combat the new rival philosophy put forth its utmost strength. The question of "art" was of vital importance, for it was assumed that only "arts" can be taught; once it was proven that rhetoric was not an art, it followed that the rhetoricians had nothing to offer the prospective student. The situation offers some parallels to certain educational questions much debated a few years ago, and still, I believe, not entirely settled. It was once the fashion to claim that certain studies offered exceptional "mental discipline," or general training of the mind. Investigations in psychology have tended to show that there is no "general" discipline, but only special disciplines. Mathematics, for example, does not increase the ability to study law, but only improves the

mathematical faculty. This theory, whether correct or not, was seized by the opponents of certain studies to claim that in the new light of psychology these studies could no longer claim a place in the curriculum. Substitute "mental discipline" for τέχνη, and many of the arguments of Philodemus have a remarkably modern sound.

Those who denied that rhetoric was an art took two positions. The milder group granted that there were some principles of rhetoric which could be imparted from teacher to pupil, but that they were the result of the teacher's observation and experience, and needed the supplement of the pupil's own observation, and were thus subjective and individualistic, and did not possess that generality which characterized the arts. This is the position of Philodemus toward the forensic and deliberative branches of rhetoric.<sup>4</sup> This is the view which Cicero puts in the mouth of Antonius when he wishes to represent him as all but granting that rhetoric is an art.<sup>5</sup> On the other hand the more severe critics of the art termed it a *κακοτεχνία* or perversion of art.<sup>6</sup>

Philodemus and Quintilian have in common the well known argument from design: the perfect product implies the existence of the artist and the art. If a vase is evidently the product of an art, much more must the sublime products of the orator be the result of art.<sup>7</sup> There is no indication in either author of the source from which they drew.

<sup>4</sup> I, 40, 18 = Suppl. 21, 7. Some unnamed rhetorician is arguing that in rhetoric there is a transmission of knowledge from teacher to pupil; "Ὡςπερ ἐμ μουσικῇ καὶ γραμματικῇ παραδόσεις τινῶν εἰσιν ἀγνοουμένων. οὕτως καὶ ἐπὶ ῥητορικῆς, καὶ οὐκ ἀμέθοδος ἢ μελέτη γίνεται." Philodemus replies, *Παραδόσεις ἀγνοουμένων δύνανται τινες εἶναι, κὰν μὴ κατὰ τινὰ τέχνην ἐγγίνωνται, κατὰ δὲ ἱστορίαν ἢ παρατήρησιν ἢ τινὰ τοιοῦτον τρόπον.*

<sup>5</sup> De Orat. II, 57, 232; *Observatio quaedam est earum rerum quae in dicendo valent.* Cf. I, 23, 109; *Sin autem ea quae observata sunt in usu ac tractione dicendi, haec ab hominibus callidis ac peritis animadversa ac notata, verbis definita, generibus illustrata, partibus distributa sunt—id quod video potuisse fieri—, non intellego, quam ob rem non, si minus illa subtili definitione, at hac vulgari opinione ars esse videatur.*

<sup>6</sup> Sextus Emp. 12, 49, and 68. It is ascribed by him to Critolaus and Plato. The same expression was used by Epicurus *teste* Ammiano Marc. 30, 4.

<sup>7</sup> Quint. II, 17, 3; Philod. I, 44, 16 ff. = Suppl. 23, 5 ff. Quintilian repeats the idea in summing up the arguments for rhetoric, II, 17, 42.

An argument was based on the relatively late appearance of formal treatises on rhetoric. There were orators, they said, before Corax and Tisias, and better orators, too. The implication, carried out somewhat fully by Quintilian, is that if there were orators without the so-called "artistic" training, men might still become orators without studying with a rhetorician, or reading any of the manuals of rhetoric. If a speech can be produced without the "art," then the pretensions of the "art" are false, there is no art. This appears in Quintilian and Philodemus, and is answered by both in the same way. I give the passages in parallel columns.

Phil. I, 27, 6

Πρὸ τοῦ καταβληθῆναι τὰς τέχνας  
βέλτερον ἐρητόρενον, ἐφ' οἷς δὲ συν-  
έστησαν χεῖρον.

Τούτῳ μὲν γὰρ τῷ τρόπῳ καὶ τὴν  
ποιήτικὴν καὶ τὴν ἰατρικὴν καὶ  
πολλὰς ἄλλας οὐκ εἶναι τέχνας  
λέγωμεν.

Quint. II, 17, 7

Deinde adiciunt illas verborum  
cavillationes, nihil quod ex  
arte fiat, ante artem fuisse;  
atqui dixisse homines pro se et  
in alios semper; doctores artis  
sero et circa Tisian et Coraca  
primum repertos . . . aut  
tollatur medicina . . . nec  
fabrica sit ars . . . nec  
musica.

Such must have been the original kernel of the argument, and the regular reply of the rhetoricians. Philodemus, however, almost obscures the reply by interpolating his favorite argument that rhetoric is the product of natural ability plus experience, hence one might expect the ancients to be better than the moderns. For Philodemus is an enthusiastic *laudator temporis acti*.

An argument of similar nature is drawn from the fact that there have been successful orators who have had no rhetorical training. This occurs in Philodemus, Quintilian, Sextus, and Cicero, with just enough suggestion as to its ultimate source to make a puzzling problem. I give in parallel columns the passages from Philodemus, Quintilian, and Sextus, reserving Cicero for a separate discussion.

Quintilian  
II, 17, 11

Quo illud quoque excluditur, quod dicunt, non esse artis id, quod faciat, qui non didicerit: dicere autem homines et qui non didicerint. ad cuius rei confirmationem adferunt *Demaden* remigem et *Aeschinen* hypocriten oratores fuisse.

Philodemus  
II, 97, fr. VIII

Σαφῶς γὰρ λέγει ὅτι Δημάδης οὐκ ἔμαθεν, ὡς δ' αὐτῶς Λισχίνης ἦτοι καὶ παρ' ἄλλων ἢ δι' αὐτῶν τὰ μεθοδικὰ τῆς ῥητορικῆς οὐτ' ἄπλατα τὸ πλῆθος ὄντα προσκαρτερήσεως τε πολλῆς οὐ δεόμενα. τὸν μὲν γὰρ Δημοσθένην πάντες κεκράγασιν οἱ κατ' αὐτὸν τεχνίτην εἶναι, καὶ Κριτόλαιος οὐκ ἀπαρνέεται.

Sextus  
Adv. Rhet. 16

Εἴπερ τε ἐνδέχεται γέσθαι ῥήτορα μὴ μετασχόντα τῆς ῥητορικῆς τέχνης, οὐκ ἂν εἶη τις τέχνη ῥητορική. ἐνδέχεται δέ γε ἰκανῶς καὶ κατὰ τὸν τρόπον ῥητορεύειν μὴ μετασχόντα ῥητορικῆς, ὡς καὶ περὶ Δημάδου παρειλήφμεν. κωπηλάτης γὰρ ὢν ὁμολογεῖται ἄριστος γεγονέναι ῥήτωρ, καὶ σὺν τούτῳ ἄλλοι παμπληθεῖς. τοίνυν οὐκ ἔστι τέχνη ἢ ῥητορική.

The similarity of thought is striking, and the employment of Demades as an example by all three, and Aeschines by two of our authors makes it almost certain that we are dealing with material drawn from a common source. There are two possibilities to be considered. Philodemus mentions Critolaus in the sentence following the reference to Demades and Aeschines. This sentence is to the effect that Critolaus did not deny that Demosthenes was an artist. This seems to imply that Critolaus did deny that some orators owed their success to art, and hence it is a plausible conjecture that the preceding statement that Demades and Aeschines were self taught is also part of the argument of Critolaus.

The situation is somewhat similar in regard to the passage in Sextus. Critolaus is not specifically mentioned as the author of the argument, but he is mentioned shortly before (10) and immediately after (20). This in itself is not sufficient ground for supposing that the argument under discussion is also derived from Critolaus, but the combination of the references in Philodemus and Sextus led Radermacher to infer that he was the source from which they both drew. But the occurrence of the name Critolaus in section 20 of Sextus does not lend as much

support to his view as appears at first sight, for Sextus adds the names of two Academics, Clitomachus and Charmadas. The case for Critolaus is thus to some extent weakened. If the argument from juxtaposition means anything, the thought we are considering might derive from Charmadas as well as from Critolaus. And this possibility receives support from the passage in the *De Oratore* alluded to above. The passage is the long speech of Antonius beginning at the eighteenth section of the first book. He narrates a debate which he had heard at Athens between the champions and opponents of rhetoric. The incident may be true, or more likely, merely a fiction designed to establish a personal connection between Cicero and Charmadas from whose published works he is drawing the material for his argument.<sup>8</sup> Cicero represents Charmadas as making the principal attack on rhetoric. His argument that we are so constituted by nature as to be able to be orators without the assistance of "art" was supported by examples of successful orators who had never studied in the schools of rhetoric. The argument is the same that appears in Sextus, Philodemus, and Quintilian; the only point we miss is the reference to Demades and Aeschines. I suspect that the lack is due to a definite purpose of Cicero's in adapting his sources. Antonius is represented as one who looks with mild contempt on the learning of the Greeks. Hence the scornful *nescio quo* with which he dismisses Corax and Tisias (91). It is in keeping with this assumed indifference that he sums up the examples of Charmadas with *innumerabilis quosdam*. In place of these Greek examples he makes Charmadas substitute a Roman example, Antonius himself. This is Cicero's trick of working over his Greek source so that it appears as if it were really composed for a Roman audience. This method may be illustrated, and our conjecture on this passage supported by comparing a passage in the long digression in the third book of the *De Oratore*. Cicero is developing the thought that before the rise of the Socratic schools the term philosophy was not confined to abstract speculation, but covered the whole field of intellectual activity, so that the oratorical power of a Pericles,

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<sup>8</sup> This method is used more than once by Cicero; for other instances see Hendrickson, *Literary Sources in Cicero's Brutus and the Technique of Citation in Dialogue*. *Amer. Journ. Phil.* XXVII (1906) p. 184.

or the shrewd statesmanship of a Themistocles were as much the products of "philosophy" as the mathematical subtleties of Pythagoras. Cicero is drawing from a Greek source which ultimately goes back to Isocrates. From this source he derives a triad of Greeks who combined deep speculations with power of speech. They are Lycurgus, Pittacus, Solon. (De Orat. III, 15, 56.) He parallels these by a list of Romans, Coruncanius, Fabricius, Cato, Scipio, thus clothing the thought in Roman dress. This same method he has followed in the passage in the first book, by putting into the mouth of Charmadas a Roman example, Antonius, instead of the Greek examples, Demades and Aeschines which Charmadas really used.

Cicero thus distinctly points to Charmadas as the source of this thought; Sextus may be interpreted to favor either Charmadas or Critolaus; Philodemus is slightly in favor of Critolaus, but not enough so to outweigh the definite statement of Cicero. The possibility must be considered, however, that both Critolaus and Charmadas may have used the same line of thought and the same illustrations; Quintilian implies that the kernel of the thought "*rhetoricen . . . observationem quandam esse, non artem*" is as old as Lysias, hence it would be common property by the time of Critolaus and Charmadas. Moreover the rapid rise of Demades from a common seaman to a position of political leadership was well enough known to pass into a proverb. At least this is the most probable origin of the expression, Ἄπὸ κώπης ἐπὶ βῆμα, From the oar to the rostrum, found in Apostolius III, 65. I am inclined to believe, however, that whatever may have been the ultimate origin of the idea, the form in which it appears is due to its use in an attack on rhetoric published by Charmadas. It is quite likely that this was in dialogue form, and that the chief persons were Critolaus, Diogenes, and Carneades, the master of Charmadas. Such a debate would be highly natural, suggested perhaps by their association on the embassy to Rome. Moreover the assumption of such a dialogue removes any difficulty that may be felt in regard to the references to Critolaus in our Greek authorities, which have given some color to the claim that some work of his was the source of this argument. Cicero refers to Charmadas, because he was known to be the author of the dialogue, and the ideas might be assumed to be his also; Sextus and Philodemus mention Critolaus because these argu-

ments had been put into his mouth in the dialogue. It is possible, also, that the quotations from Diogenes in the second book of Philodemus come from the same work of Charmadas. The two detailed accounts of the embassy are in Cicero, *De Oratore* II, 37, 155 ff., and Gellius VI, 14. Both deal with the rhetorical aspect of the embassy, and discuss the three styles as exemplified by the three philosophers. Cicero and Gellius evidently draw from a common source, and a source which contained technical discussions of style. This fits in with our hypothesis that Charmadas used the philosophical embassy as a setting for the presentation and discussion of current views on rhetoric.

After proceeding to a certain length in his discussion of this question Quintilian attempts to confine himself to the most general forms of argument; the opponents of rhetoric, he says, are many, Critolaus, Athenodorus, Agnon, Epicurus; their arguments are numerous, but reducible to a few general lines of thought. At the head of these arguments he puts the question of the subject matter, or "raw material" of rhetoric. In brief this is that every art has some definite material with which it works; the carpenter works in wood, the smith in metals; the orator, say the critics, has nothing which is peculiarly his own; if he discusses medicine he is invading the field already occupied by another art; if he discusses either politics or ethics he is met by the claim that these belong to the philosopher. Quintilian dismisses the subject with a curt "*quod esse falsum in sequentibus probabo,*" a promise which he fulfills in the twenty first chapter. He follows Cicero in holding that the field of rhetoric is all subjects which at any time arise for discussion; not that the orator is by virtue of his rhetorical training acquainted with the subject matter of all arts, but that if he has to speak about music, for example, he can acquire the necessary facts from the musician, and present them in a form which will be more persuasive than the crude statements of the unlettered musician. So much for the main outlines of the thought. It is, as Quintilian says, a commonplace of the rhetorical controversy; we have seen it in Cicero from whom Quintilian derives his main arguments; it appears in Philodemus, quoted from an unnamed philosopher; II, 123, fr. VI. ἤξίωσε πᾶσαν ἐπιστήμην ἔχειν ἰδίαν ὕλην, περὶ ἣν στρέφεται, τὴν δὲ ῥητορικὴν ἐπειρᾶτο δεικνύειν οὐδεμίαν ἔχουσαν ὕλην. In Sextus it is given one of those queer twists which were the

result of the intensity of controversy. From the very beginning of the discussion there had been a division of opinion as to whether words or things were the subject matter of rhetoric. But the rise of the sceptical philosophy made it more advantageous for the purposes of polemic to assume that rhetoric dealt with words. Accordingly Sextus disregards all phases of the question except this. He assumes that rhetoric deals with words (48), and on the lines of the sceptical philosophy he proves that as words are composed of syllables, and syllables do not exist, therefore words do not exist, and as there can be no art of a nonentity, there is no art of rhetoric. (*Adv. Grammaticos*, p. 131 ff.)

In the collection of arguments which Philodemus has assembled in his second book there is one which appears also in Sextus, and which is confused by Quintilian with another similar but different argument. In Philodemus it runs as follows: "In other arts the rules are true, in rhetoric they are false"; to which Philodemus replies that the same phenomenon occurs in medicine or music which every one grants are arts; and even in philosophy men sometimes enunciate principles which prove to be false, but that does not vitiate all philosophy.<sup>9</sup> This passage may be illustrated by comparison with Sextus 10-12, who gives the reason why rhetoric cannot be an art if its rules are false. He adopts the Stoic definition of art; *Πᾶσα τοίνυν τέχνη σύστημα ἐστὶν ἐκ καταλήψεων συγγεγυμνασμένων καὶ ἐπὶ τέλος εὐχρηστον τῷ βίῳ λαμβανόντων τὴν ἀναφορὰν* (10). The second part of this definition, that an art is useful, agrees in thought with Plato's requirements given in the *Gorgias* 501B, and was recognized as fundamental Academic doctrine (Sextus 43). Sextus continues to argue that rhetoric is not an art because it is not a *σύστημα ἐκ καταλήψεων*, for there can be no perception of the false, but the rules of rhetoric are false—*ψευδῆ δὲ ἐστὶ τὰ λεγόμενα τῆς ῥητορικῆς εἶναι θεωρήματα*. He then gives examples of the false rules *οὕτω παραπειστέον τοὺς δικαστὰς καὶ ὄργην κινήτεον ἢ ἔλεον καὶ μοίχῃ συνηγορητέον ἢ ἱεροσύλῃ*.

The other argument occurs in several places in Philodemus,

<sup>9</sup> I, 22, col. III = Suppl. 12, 18; "κατὰ τὰς ἄλλας τέχνας τὰ θεωρήματα ἐστὶν ἀληθῆ, ψευδῆ δὲ κατὰ τὴν ῥητορικὴν." Διὰ τοῦτο οὐδὲ τὴν φιλοσοφίαν τέχνην ῥητέον οὐδὲ τὴν ἰατρικὴν κτλ.

all in fragments of the second book. The sense of them all is as follows: rhetoric aims at times to deceive; but the rhetorician is just as liable to be deceived as he is to deceive. A single example will illustrate: II, 90 fr. XVIII, 1. 12 πῶς οὐχὶ τὸν ἐξῆς ἐπιθωμάσεις τοιοῦτον ὑπάρχοντα; "εἴπερ ἀπατῶσιν οἱ ῥήτορες, καὶ αὐτοὶ φῆτι ἀπατῶσιν, ἀπατῶνται, ὡσπερ οὐδ' ἄλλως γίνεται ἐν δράσει οὐδ' ἀκούσει· εἰ γὰρ ἄλλω συμβέβηκεν ἢ ἀπάτῃ, καὶ αὐτὸς ἀπατᾶται· οὐ μᾶλλον τοίνυν ἀπατῶσιν ἢ ἀπατῶνται". For the answer to this argument cf. II, 88, fr. XVI. . . . ἀλλ' ὅτι συμβέβηκεν τὸ δρᾶν, οὐχ ἕνεκα τούτου καὶ αὐτὸς δρᾶται· τὸ δὲ αὐτὸ καὶ ἐπὶ τῆς ἀκοῆς οὐδ' ἄρα διὰ τοῦ τοὺς ῥήτορας ἀπατᾶν καὶ αὐτοὶ ἀπατῶνται. So much for the argument in Philodemus; it does not occur in Sextus, and appears in Quintilian in combination with the preceding argument. This "contamination" will now require our attention.

Quintilian starts by quoting the first argument that no art rests on false principles, because there can be no "perception" of what is false. Section 18 is a close parallel to Sextus 10.

## Quintilian II, 17, 18

altera est calumnia nullam artem falsis adsentiri opinionibus, quia constitui sine perceptione<sup>10</sup> non possit, quae semper vera sit; rhetorice adsentiri falsis, non esse igitur artem.

## Sextus 10

Πᾶσα τοίνυν τέχνη σύστημα ἐστὶν ἐκ καταλήψεων. . . ἢ δὲ ῥητορικὴ οὐκ ἐστὶ σύστημα ἐκ καταλήψεων, ὡς παραστήσομεν· οὐκ ἄρα ἐστὶν ἢ ῥητορικὴ. τῶν γὰρ ψευδῶν οὐκ εἰσὶ καταλήψεις, ψευδῆ δὲ ἐστὶ τὰ λεγόμενα τῆς ῥητορικῆς εἶναι θεωρήματα.

The proper sequence to this argument in Quintilian is a discussion of the *θεωρήματα* or *opiniones* of rhetoric to prove that they are true. This would be parallel to the claims of Sextus that such principles as οὕτως ὀργὴν κινητέον (II) are false. But Quintilian replaces this by the reply to the argument which we found in Philodemus that rhetoric deceives and is therefore deceived. His general reply is (19) ego rhetorice nonnumquam dicere falsa pro veris confitebor, sed non ideo in falsa quoque

<sup>10</sup> *Perceptio* is the translation of *κατάληψις* as is shown by Quintilian's translation of this definition later in the chapter, section 41; *artem constare ex perceptionibus consentientibus et coexercitatis ad finem utilem vitae*; and by Cicero's equation in *De Fin.* III, 5, 18. *Rerum autem cognitionem quae vel comprehensiones vel perceptiones, vel si haec verba aut minus placent aut minus intelliguntur, κατάληψις* appellemus licet.

esse opinione concedam, quia longe diversum est ipsi quid videri et ut alii videatur efficere. This he supports by several examples: Hannibal tricked Fabius into believing that the Carthaginians were retreating, but he did not deceive himself; Theopompus put on his wife's clothing and passed his keepers without being detected; Cicero befogged the jury in the Cluentius case, but he saw the truth clearly enough himself. These are all answers to the claim that rhetoric is not an art because it deceives; but by a confusion arising from the use of *falsa* to represent the Greek words *ψευδῆ* and *ἀπατώνται* Quintilian has been led to combine what were originally two separate arguments.

Quintilian cites and discusses several arguments which are found in the De Oratore. The first two are closely related; (30) nullam esse artem contrariam sibi, rhetoricen esse contrariam sibi; nullam artem destruere quod effecerit accidere hoc rhetorices operi. Both of these are alluded to in passing by Antonius in rejecting the claim that rhetoric is an art (II, 7, 30). The argument is utilized by Sextus (68) who reduces it to the question whether rhetoric can decide between the true and the false; (71) ἀκολουθεῖ τὸ καὶ ἐπιστήμην αὐτὴν ἀληθῶν τε καὶ ψευδῶν γίνεσθαι, τοῦ πράγματος μὴ οὕτως ἔχοντος. In none of these three discussions is there any indication of the ultimate source of the argument.

Quintilian next quotes from Cicero the rest of section 30 of the second book of the De Oratore in which Antonius adds to the statements previously quoted the claim that an art must depend on knowledge, whereas rhetoric is concerned wholly with opinion. This claim is treated at greater length by Cicero in the first book (I, 20, 92). Artem vero negabat esse ullam, nisi quae cognitio penitusque perspectis et in unum exitum spectantibus, et numquam fallentibus rebus contineretur. Haec autem omnia quae tractarentur ab oratoribus dubia esse et incerta etc. This is marked as a quotation from Charmadas. So far as I know, no trace of this line of thought occurs in Philodemus or Sextus.

Beginning at section 22 Quintilian discusses two charges which are closely related: 1) that rhetoric has no "goal" as all true arts have, and 2) that if it has a goal it seldom reaches it, whereas an art should reach it always or in the majority of cases. We have parallels to this in Philodemus in two small fragments of the second book.

II, 105, fr. XI, 1, 4 Πάσης τριβῆς καὶ παρατηρήσεως ἔτι δὲ ἀσκήσεως ἔστιν τι τέλος, ἐφ' ὃ πάντα τὰ μέρη συννεύειν ὀφείλει, τῆς δὲ ῥητορικῆς οὐδέν ἐστι τέλος". This corresponds to the first argument in Quintilian. The other fragment in Philodemus is evidently the second in a series of quotations unfavorable to rhetoric, and inasmuch as it is the counterpart of the second argument in Quintilian, it seems reasonable to suppose that it belongs after the fragment just quoted. It runs as follows: II, 125, fr. IX, Τοιαύτης δὲ τῆς πρώτης ἀποδείξεως πεφυκνίως βλέπεται τὸ διημηρτημένον ἤδη καὶ τῆς ἐκδεχομένης, καθ' ἣν ἐλέγετο πᾶσα τέχνη τυγχάνειν αἰεὶ τοῦ τέλους ἢ κατὰ τὸ πλείστον. ἢ δὲ ῥητορικὴ μηδετέρου γένους μετέχειν κτλ.

The same thought occurs in Sextus 13—15; in none of the three places however is there any hint of the source from which they come. The two illustrations which Quintilian uses to prove that rhetoric deserves to be called an art are drawn from navigation and medicine; the captain and physician as well as the orator have a definite end in view; whether they attain or not may depend on circumstances beyond their control, but they nevertheless work "artistically" when they do all in their power to attain the desired end. These illustrations occur again in Philodemus, I, 19=Suppl. 11, 1 Ἐνίοτε γὰρ οἰκοδόμος οἰκίαν καταφθείρει καὶ ζυγράφος πίνακα καὶ ναῦν περιτρέπει κυβερνήτης καὶ ἰατρός ἄνθρωπον ἀποκτείνει μεθοδικῶς κτλ. The close parallelism of examples suggests that they are replies to the same argument. Now the passage just preceding this in Philodemus is too fragmentary to prove anything. It is worth noting, however, that one of the few distinct words, *κατορθοῦν*, (I, 18, 28) might very well correspond to Quintilian's *praestabit (hunc finem)* (23). I am inclined to believe therefore that this passage in Philodemus follows II, 125, and that the three fragments thus put together form a complete parallel to Quintilian.

Sudhaus thought that Critolaus was the author of the argument which is answered in I, 19. He inferred this from Sextus 10—12. But Sextus refers there to Plato as well as Critolaus as author of the argument which he discusses; and furthermore it is very doubtful if the thought of Sextus 10-12 is a proper prelude to the answer given in Philodemus I, 19. Sextus argues that rhetoric is not a system of "perceptions," that its principles are false and deceptive. That does not seem to fit Philodemus' answer so well as the following paragraph in Sextus: 13-15

καὶ μὴν ἐπεὶ πᾶσα τέχνη ἤτοι ἐστηκὸς ἔχει τὸ τέλος καὶ πάγιον, ὡς φιλοσοφία καὶ γραμματική, ἢ τοῦ ὡς τὸ πολὺ ἐχόμενον, καθάπερ ἰατρική τε καὶ κυβερνητική, δεήσει καὶ τὴν ῥητορικὴν, εἴπερ ἐστὶ τέχνη, τὸ ἕτερον τούτων ἐπαγγέλλεσθαι. If it be assumed that Philodemus is answering this argument, as I think I have shown above is reasonably probable, then there is no indication of the source, for Sextus gives no hint of the authorship of this particular form of the argument.

Philodemus and Sextus supply us with the next argument. It is stated like so many others in the form of a syllogism. States do not expel those who practice arts; some states, notably Sparta and Crete, have banished rhetoricians, therefore rhetoric is not an art. This appears in Philodemus four times, in each case in a short and incomplete fragment.<sup>11</sup> But it is given at considerable length in Sextus (20-26) who reveals the course of the controversy. The argument originated with Critolaus, and was adopted by the academics Clitomachus and Charmadas. The rhetoricians countered by attacking the major premise; cities do banish artists says Philodemus. "The Spartans put the ban on perfumers and dyers; and physicians, musicians and even philosophers have been considered harmful enough to be banished." Sextus attempts to answer this, but has difficulty in making a plausible defence. It is not philosophy as a whole, he says, which suffers indignity, but only certain sects; for example the Epicureans are banished because they teach hedonism. But when he acknowledges that Socrates was the victim of popular judgment about the value of "arts," he practically destroys his own case.

Sextus in section 51 advances the argument which is based on the definition of rhetoric as *ἐπιστήμη τοῦ εὖ λέγειν*, a definition formulated by Xenocrates and adopted by the Stoics (Sextus 6). Every artist can speak well, he says, about his own art, but this speaking does not make him a rhetorician. The argument is an old one; it is hinted at in the Gorgias, but not fully developed. Just what was the history of the argument till the time of Philodemus we can only conjecture, for none of our authors mention

<sup>11</sup> I, 14, fr. V; I, 16, fr. IX; II, 65, fr. II; II, 100, fr. III; it occurs also in Quintilian II, 16, 4 in connection with the discussion of the usefulness of rhetoric, but without reference to its bearing on the controversy over *τέχνη*.

a source. At some time, however, the principle has been illustrated by the speech of Philo the architect on the arsenal at Athens. We know from several sources that this was erected during the administration of Lycurgus and that the speech referred to was in the matter of accounting for the work. Philodemus seizes this instance of a man apparently without rhetorical training who was capable of making a creditable speech on his special line of work, and uses it to back his claim that rhetorical training is not necessary for effective speaking.<sup>12</sup> Philodemus is quoting from an author whom he refers to as οὗτος αὐτός, who had introduced into his work this speech of Philo. Who this was we are not told, but as he states in another passage (I, 346, Col. XLVIII, 1) that Demetrius of Phalerum discussed a Philo in his treatise on rhetoric, it may be that he was the first to use Philo as an illustration. The turn which Philodemus gives to the argument must, however, be due to some philosopher unfriendly to rhetoric, and it can hardly be original with Philodemus, because the use of Philo the architect as an argument against the necessity of a knowledge of rhetoric was known to Cicero.<sup>13</sup> Now it is hardly to be maintained that Cicero was answering Philodemus; the case is rather that Philo had become a stock illustration to use when attacking the claims of rhetoric.

The definition of rhetoric as the power of persuasion which Plato ascribes to Gorgias contained an ambiguity which gave an opportunity for reply. Other things, the opponents said, persuade,—wealth, beauty, reputation. Hence rhetoric cannot be an art, for an art has an exclusive field (v. Philodemus I, 19, 12 = Suppl. II, 7). Phryne whose beauty did more to win her case than the pleading of Hyperides, became a stock illustration for this phase of the controversy. She is cited by Philodemus, Sextus and Quintilian,<sup>14</sup> who give the natural and normal

<sup>12</sup> I, 192, 15. Οὐ μὴν ἀλλὰ τοὺς ῥήτορας εἰ κατορθοῦν ἐν τοῖς ῥητορικοῖς ἔλεγεν, ἢ πρὸς τὸν διαλεκτικὸν, ἔλεγεν, οὐ τὸν ἔλεγον ποιοῦμεν, ὁ δ' ἔφη προσδεῖσθαι τῆς ῥητορικῆς, ἢ πρὸς τοὺς ἄλλους πεπαιδευμένους, μᾶλλον δὲ καὶ τεχνείτας ὄλως, οἳ τὰ τοιαῦτα καὶ πλεῖψ τούτων ἐν τοῖς ἰδίοις φυλάττεσθαι μανθάνουσιν, ὡς καὶ Φίλωνα τὸν ἀρχιτέκτονα περὶ τῆς σκευοθήκης οὗτος αὐτὸς εἰσήγαγεν δημηγοροῦντα.

<sup>13</sup> De Orat. I, 14, 62; Neque enim si Philonem illum architectum, qui Atheniensibus armamentarium fecit constat perdiserte populo rationem operis sui reddidisse, existimandum est architecti potius artificio disertum quam oratoris fuisse.

<sup>14</sup> Philod. I, 20, 4; Quint. II, 15, 6-9; Sextus, 4.

answer that it is not persuasion but persuasion by speech which is the end of rhetoric. In the absence of any indication of origin, we must regard Phryne with Philo as part of the common store of illustrations.

Philodemus quotes several arguments which appear in none of our other authors. They are of little interest or importance; none of them can be traced to a source, and they can best be classed with that mass of arguments which Quintilian assigns without distinction to Critolaus, Athenodorus and the other philosophic opponents of rhetoric.<sup>15</sup>

Both Quintilian and Philodemus devote sections of their discussion to proofs that rhetoric is an art. In a way this division of the discussion into refutation and confirmation is artificial, for most of the arguments in favor of rhetoric have been exhausted in replying to the attacks of its enemies. In fact it is hardly conceivable that any rhetorician was ever concerned to prove that he possessed an art until the philosophers began to question his position. Consequently all the pleas for rhetoric are colored more or less by the criticisms of it. For example Quintilian undertakes to show that rhetoric conforms to all definitions of art. It has "method," it is based on a body of perceptions applied to the attainment of a useful end, it involves investigation and practice. But all these definitions were formulated for controversial purposes if not for the express purpose of excluding rhetoric. It has been shown how Sextus employed the Stoic definition to refute the claims of rhetoric, and the same argument has undoubtedly been used before.

Philodemus carries the debate one step further than Quintilian, for while the latter aims to prove that rhetoric is an art, Philodemus is equally interested in refuting arguments pro and con; for his position is that all theories of rhetoric whether advanced by rhetorician or philosopher are false except those proposed by his group in the Epicurean sect. There is one line of thought which perhaps deserves more than cursory attention, as its course can be traced with some distinctness. That is the relation of rhetoric to dialectic. Aristotle had said that rhetoric was the counterpart of dialectic, and made the grouping, *συλλογισμὸς ἐν-θύμημα, ἐπαγωγὴ παράδειγμα*. The same idea underlies Zeno's

<sup>15</sup> They are Suppl. 12, 6; 13, 5; 13, 21; 14, 10; II, 83, fr. VII.

example; closing his fist and then opening it he said the first was dialectic, the second, rhetoric (Sextus, 7; Orator, 32, 113, and elsewhere). Quintilian, however, seems to have been the first to revert to the argument from the similarity of the two subjects, that if dialectic is an art, as all acknowledge, then rhetoric must be also.

In following the course of the debate as exhibited in our principal authorities, we have come upon a few names such as Critolaus, Charmadas, who can be safely designated as the originators of certain phases of the argument. More arguments are assigned to less definite sources, Academics, Stoics, Peripatetics, without any designation of persons. And still a larger share while common to several of our authors are entirely anonymous. The reason is as I have intimated before, that the chief points in the controversy were developed very early, and became commonplaces of literary discussion everywhere; the only room for originality was in varying the expression and illustration of the arguments, and as we have seen in the case of Phryne and Philo, these, too, soon became stereotyped.

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# The Principle of General Relativity and Einstein's Theory of Gravitation

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# THE PRINCIPLE OF GENERAL RELATIVITY

AND

## EINSTEIN'S THEORY OF GRAVITATION

Einstein's theory of gravitation has presented difficulties to many readers on account of the complicated analysis involved. The object of this paper is to present the mathematical part of the theory in as simple a form as possible, and at the same time to translate Einstein's tensor analysis into a notation more closely resembling the vector analysis of Gibbs, in the hope of making this very remarkable theory more readily intelligible to the average physicist.

### (a) THE PRINCIPLE OF GENERAL RELATIVITY.

A moving element is defined as a point—whether in a material body or at the head of a light signal—which can be continuously identified. Every physical measurement, when analyzed, is found to consist of observations of coincidences of two or more moving elements. Thus the measurement of temperature by means of the mercury thermometer consists in noting a coincidence between the top of the mercury column and a certain division on the scale beside it, or, more strictly, a coincidence between the light rays coming to the observer's eye from these two points. A *physical phenomenon*, then, may be defined as a coincidence in time and space of two or more moving elements. In order to specify the place and time of a physical phenomenon, it is necessary to have a set of *reference elements* each of which locates a point in space, and with each of which is associated a device for assigning numerical values to the times of occurrence of successive events at that point. A *reference system* is an assemblage of such reference points filling all space for all time. A physical phenomenon is specified relative to a given reference system by the identification of the reference point at which it happened, and the time at that point of the occurrence.

The determination of a physical law involves the measurement of space and time intervals between a number of phenomena. Consequently a device is needed for measuring the distance be-

tween two points in a reference system, and synchronizing time at these points. In order to be of value in comparing coincidences, this device must be subject to the following conditions, though otherwise its nature is quite arbitrary:

(a) Two points which are in synchronism with a third are also in synchronism with each other.

(b) The distance between two points is independent of the time at which it is measured.

Evidently the motion of a moving element may be described relative to an infinite number of reference systems, which are themselves in various states of motion relative to one another. However, these systems are not, in general, of the same significance. For let  $A$ ,  $B$  and  $C$  be three systems from which the motion of the moving element  $P$  may be observed. Suppose it is found that the motion of  $P$  relative to  $A$  is conditioned by that of  $B$ , but is independent of that of  $C$ . In such case the motion of  $P$  is said to be *related* to  $B$ , which is known as a *related reference system*.  $C$ , on the other hand, is an *unrelated* or *ideal reference system*. Thus for the motion of a shot, the gun from which it is fired constitutes a related reference system. The velocity of a sound wave is determined, not by the motion of the source, but by the characteristics of the medium through which it passes. Hence in this case, the source determines an ideal reference system, while the medium is a related one.

In the case of propagation of a disturbance through empty space it has been recognized for a long time that the source does not constitute a related reference system. The Michelson-Morley experiment has shown the same to be true of the "ether." Hence it may be inferred that

*For the motion of an effect which travels through empty space, such as a light wave or one of the moving elements which form an electromagnetic or a gravitational field, there is no related reference system.*

If this statement be granted, the question arises as to how the law connecting a group of related physical phenomena may differ when determined in terms of the space and time intervals of different reference systems. Evidently,

*If a law governing physical phenomena which are conditioned solely by those effects which travel through empty space, is deter-*

*mined from observations made in two different reference systems, the form of this law and the values of the constants entering into it can differ in the two cases only in so far as the geometry and the devices for measuring time and distance together with the units of these quantities may differ in the two systems. Their relative motion can in no way affect either the form of the law or the values of the constants involved.* This is the principle of general relativity.

Consider two reference systems which have the same geometry, devices of the same character for measuring time and distance, and interchangeable units of these quantities. Such systems may be called *reciprocal*. It follows that

*A law governing physical phenomena which are conditioned solely by those effects which travel through empty space, has the same form and its constants have the same values for two mutually reciprocal systems.* This is the restricted principle of relativity.

Consider two reciprocal Euclidean systems  $S$  and  $S'$ , such that all points of  $S'$  have the same constant velocity  $\mathbf{v}$  relative to  $S$ . Let light travel in straight lines in  $S$  with constant speed  $c$ . Then the restricted principle of relativity requires that light shall travel in straight lines in  $S'$  with the same constant speed  $c$ . Moreover, the laws governing physical phenomena must have the same form in terms of the space and time intervals of  $S'$  as in terms of those of  $S$ . Investigation shows that the coördinates and time in  $S'$  are related to the corresponding quantities in  $S$  by the familiar Lorentz-Einstein transformations.

As systems  $S$  and  $S'$  are entirely equivalent, and the only velocity of either which has any significance is that relative to the other or to a third system, the question arises as to whether acceleration is not also relative. Let  $S$  and  $S''$  be two reciprocal Euclidean systems in which light travels in straight lines with the constant speed  $c$ . Then investigation shows the only possible state of motion of  $S''$  relative to  $S$  to be that in which every point of  $S''$  moves with the same constant velocity relative to  $S$ . A system accelerated relative to  $S$  would have a non-Euclidean geometry if the velocity of light were constant relative to it. Hence the objectional terms "constant velocity system", and "un-accelerated system" may be avoided by describing the systems

involved in the original relativity principle as Euclidean systems in which light travels in straight lines with constant speed  $c$ .<sup>1</sup>

The simplest type of reference system is that in which light travels with the same speed  $c$  at all points, all times, and in all directions. A more general type is that in which the speed  $C$  of light is the same in all directions at any one point and time but differs from point to point and from time to time. Subsequent consideration will be limited to systems of this degree of generality, since no experiment has yet indicated the need of referring observations to a still more generalized type of system.

Let  $S$  and  $S'$  be two systems of the degree of generality just defined. Unprimed letters will refer to quantities in  $S$  and primed letters to those in  $S'$ . Let  $O'$  and  $P'$  be two nearby points fixed in  $S'$ . Let  $O$  be the position of  $O'$  and  $P$  that of  $P'$  in  $S$  at the time  $t$ . At this time let a light signal be despatched from  $O$  toward  $P'$ . Let  $P_1$  be the position of  $P'$  and  $t + dt_1$  the time in  $S$  when the signal reaches this point. At the instant of arrival of the signal at  $P_1$  let a return signal be despatched toward  $O'$ . Let  $O'$  be at  $O_2$  in  $S$  when the return signal reaches it, and denote the time of this event in  $S$  by  $t + dt_1 + dt_2$ . Since the speed of light at any point in  $S'$  is not a function of direction, the times  $dt_1'$  and  $dt_2'$  taken by the light signal to pass from  $O'$  to  $P'$  and back again will be equal.

Denote by  $dr_1$  and  $dr_1'$  the distances  $OP$  and  $O'P'$ . With  $O$  as origin choose rectangular axes<sup>2</sup>  $XYZ$  in  $S$  so that the  $X$  axis is parallel to the velocity  $\mathbf{v}$  of  $O'$  relative to  $S$ . Denote the coördinates of  $P$  by  $dx_1, dy_1, dz_1$ . Then those of  $P_1$  will be  $dx_1 + vdt_1, dy_1, dz_1$ , and those of  $O_2$  will be  $v(dt_1 + dt_2), 0, 0$ . Therefore

$$dt_1' = \left( \frac{\partial t'}{\partial t} + v \frac{\partial t'}{\partial x} \right) dt_1 + \frac{\partial t'}{\partial x} dx_1 + \frac{\partial t'}{\partial y} dy_1 + \frac{\partial t'}{\partial z} dz_1,$$

and

$$dt_2' = \left( \frac{\partial t'}{\partial t} + v \frac{\partial t'}{\partial x} \right) dt_2 - \frac{\partial t'}{\partial x} dx_1 - \frac{\partial t'}{\partial y} dy_1 - \frac{\partial t'}{\partial z} dz_1.$$

<sup>1</sup>This paragraph answers a criticism of the relativity principle put forward by Sir Joseph Larmor. Proc. Nat. Acad. Sci. 4, 334, 1918.

<sup>2</sup>Over a small region it is always possible to use rectangular coördinates, even if space is curved, provided no singular points are present.

Equating these two expressions,

$$\frac{\partial t'}{\partial x} dx_1 + \frac{\partial t'}{\partial y} dy_1 + \frac{\partial t'}{\partial z} dz_1 = -\left(\frac{\partial t'}{\partial t} + v \frac{\partial t'}{\partial x}\right) \frac{dt_1 - dt_2}{2}, \quad (1)$$

and adding them

$$dt'_1 = \left(\frac{\partial t'}{\partial t} + v \frac{\partial t'}{\partial x}\right) \frac{dt_1 + dt_2}{2}. \quad (2)$$

Now

$$C^2 dt_1^2 = (dx_1 + v dt_1)^2 + dy_1^2 + dz_1^2,$$

$$C^2 dt_2^2 = (dx_1 - v dt_1)^2 + dy_1^2 + dz_1^2,$$

whence, solving for  $dt_1$  and  $dt_2$ ,

$$dt_1 - dt_2 = \frac{2v}{C^2 - v^2} dx_1, \quad (3)$$

$$dt_1 + dt_2 = \frac{2\sqrt{C^2 - v_1^2}}{C^2 - v^2} dr_1, \quad (4)$$

where  $v_1$  is the component of  $v$  perpendicular to  $dr_1$ . Substituting in (1) and equating to zero the coefficients of  $dx_1$ ,  $dy_1$  and  $dz_1$ , it follows that

$$\frac{\partial t'}{\partial x} = -\frac{v}{C^2} \frac{\partial t'}{\partial t},$$

$$\frac{\partial t'}{\partial y} = 0,$$

$$\frac{\partial t'}{\partial z} = 0.$$

The time interval  $dt'$  between two points as measured in  $S'$ , when the space and time intervals between these two points are  $dx$ ,  $dy$ ,  $dz$  and  $dt$  in  $S$ , is evidently

$$dt' = \frac{\partial t'}{\partial x} dx + \frac{\partial t'}{\partial y} dy + \frac{\partial t'}{\partial z} dz + \frac{\partial t'}{\partial t} dt,$$

since  $t'$  depends only on  $x$ ,  $y$ ,  $z$ , and  $t$ .

Substituting for the differential coefficients the values found above,

$$C' dt' = \frac{C'}{C} \frac{\partial t'}{\partial t} \left[ -\frac{v}{C} dx + C dt \right]. \quad (5)$$

From (2) and (4) it follows that

$$\begin{aligned} dr'_1 &= C' dt'_1 \\ &= \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v_1^2}{C^2}} dr_1, \end{aligned}$$

where  $v_1$  is the component of  $v$  perpendicular to  $dr_1$ . Giving  $dr_1$  the values  $dx_1$ ,  $dy_1$  and  $dz_1$ , and choosing axes in  $S'$  parallel respectively to those in  $S$ , it follows that

$$\begin{aligned}\frac{\partial x'}{\partial x} &= \frac{C'}{C} \frac{\partial t'}{\partial t}, \\ \frac{\partial y'}{\partial y} &= \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{C^2}}, \\ \frac{\partial z'}{\partial z} &= \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{C^2}},\end{aligned}$$

all the remaining partial derivatives with respect to  $x$ ,  $y$  and  $z$  vanishing. Moreover

$$\begin{aligned}\frac{\partial x'}{\partial t} &= -v \frac{\partial x'}{\partial x} \\ &= -\frac{C'}{C} \frac{\partial t'}{\partial t} v, \\ \frac{\partial y'}{\partial t} &= 0, \\ \frac{\partial z'}{\partial t} &= 0.\end{aligned}$$

Therefore the space intervals  $dx'$ ,  $dy'$  and  $dz'$  between two points as measured in  $S'$ , are given in terms of space and time intervals in  $S$  by the expressions

$$dx' = \frac{C'}{C} \frac{\partial t'}{\partial t} \left[ dx - v dt \right], \quad (6)$$

$$dy' = \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{C^2}} dy, \quad (7)$$

$$dz' = \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{C^2}} dz, \quad (8)$$

Hence, from (5), (6), (7) and (8)

$$dr'^2 - C'^2 dt'^2 = \left[ \left( \frac{C'}{C} \frac{\partial t'}{\partial t} \right)^2 \left( 1 - \frac{v^2}{C^2} \right) \right] (dr^2 - C^2 dt^2), \quad (9)$$

and conversely

$$dr^2 - C^2 dt^2 = \left[ \left( \frac{C}{C'} \frac{\partial t}{\partial t'} \right)^2 \left( 1 - \frac{v'^2}{C'^2} \right) \right] (dr'^2 - C'^2 dt'^2), \quad (10)$$

where

$$\begin{aligned}\frac{v'}{C'} &= \frac{1}{C'} \left( \frac{dx'}{dt'} \right)_x \\ &= -\frac{v}{C}.\end{aligned}$$

If  $S$  and  $S'$  are reciprocal Euclidean systems characterized by a constant light velocity  $c$ , such that every point in  $S'$  has the same constant velocity  $v$  relative to  $S$ ,

$$\begin{aligned} C' &= C = c, \\ v' &= -v, \\ \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{c^2}} &= 1, \end{aligned}$$

and integration of equations (5), (6), (7) and (8) gives the Lorentz-Einstein transformations of the restricted principle of relativity.

Put

$$\begin{aligned} l &= ict, \\ n &= \frac{C}{c}, \\ h &= \frac{C'}{C} \frac{\partial t'}{\partial t} \sqrt{1 - \frac{v^2}{C^2}}, \\ k &= nh. \end{aligned}$$

Then if  $S'$  is a Euclidean system characterized by the constant light velocity  $c$ , (9) becomes

$$\begin{aligned} dr'^2 + dl'^2 &= h^2 (dr^2 + n^2 dl^2) \\ &= h^2 dr^2 + k^2 dl^2, \end{aligned} \tag{11}$$

in which greater symmetry has been obtained by replacing the variable  $t$  by  $l$ . Put

$$ds^2 = dr'^2 + dl'^2.$$

As  $S'$  is a Euclidean system points may be located in it by means of rectangular coördinates  $x', y', z'$ . Therefore, if  $x', y', z'$  and  $l'$  are interpreted as the rectangular coördinates of a point in a four dimensional representative space, every moving element describes a path through this space, of which  $ds$  is an element of arc. Minkowski was the first to use this representation, and the path of the moving element is called by him its *world-line*. It has been noted that a physical phenomenon is a coincidence in space and time of two or more moving elements. Such a coincidence is represented by the intersection of the world-lines of the moving elements concerned. Therefore all physical measurements are confined to the observation of such intersections, and all representations which make these intersections occur in the right order are equally valid in describing the results of experimental science.

If a particle is at rest in the system  $S'$  under discussion its world-line is a straight line parallel to the  $L'$  axis. Therefore

$$ds = dl',$$

and the linear element  $ds$  is a measure of the time elapsed relative to the system  $S'$  in which the particle is at rest.

If a particle has a constant velocity  $\mathbf{v}'$  relative to  $S'$ , its world-line is a straight line inclined to the  $L'$  axis by an angle whose tangent is

$$-i \frac{v'}{c}.$$

Let  $S$  be a Euclidean system reciprocal to  $S'$ . Then (11) becomes

$$ds^2 = dr'^2 + dl'^2 = dr^2 + dl^2, \quad (12)$$

and  $S$  can differ from  $S'$  only in the orientation of the axes. Hence every point in  $S$  must have a constant velocity relative to  $S'$ , bearing out the statement previously made that if  $S$  and  $S'$  are two reciprocal Euclidean systems characterized by the light velocity  $c$ , all points in one of these systems must have the same constant velocity relative to the other.

In particular consider the case where the  $Y$  and  $Y'$  axes and the  $Z$  and  $Z'$  axes coincide, and the  $X$  axis inclines toward the  $L'$  axis so as to make an angle  $\alpha$  with the  $X'$  axis, where

$$\tan \alpha = -i \frac{v'}{c} \\ -i \beta.$$

Then

$$l' = \frac{l - i\beta x}{\sqrt{1 - \beta^2}}, \\ x' = \frac{x + i\beta l}{\sqrt{1 - \beta^2}}, \quad (13) \\ y' = y, \\ z' = z,$$

which are the Lorentz-Einstein transformations for the case where the relative motion of the two systems is in the  $XX'$  direction.

It is of interest to inquire what systems are possible in which  $h$  and  $k$  are functions of  $x$ ,  $y$  and  $z$  but not of  $l$ . For simplicity, consideration will be confined to motion in a straight line, i. e.

to the  $X L$  plane. Let  $S$  denote the system under investigation. If the transformations between  $S$  and a Euclidean system  $S'$  with constant light speed are sought, (11) takes the form

$$ds^2 = dx'^2 + dl'^2 = h^2 dx^2 + k^2 dl^2. \quad (14)$$

Without loss of generality, it is possible to put

$$\begin{aligned} dx' &= p dx + n q dl, \\ dl' &= -q dx + n p dl. \end{aligned} \quad (15)$$

Then

$$\begin{aligned} h^2 &= p^2 + q^2, \\ k^2 &= n^2(p^2 + q^2). \end{aligned}$$

Making use of the fact that  $h$  and  $k$  are not functions of  $l$ , and that  $dx'$  and  $dl'$  must be exact differentials, it follows that

$$p = \frac{A}{n} e^{-\frac{l}{a}} \int \frac{dx}{n} \cos \frac{l}{a}, \quad (16)$$

$$q = \frac{A}{n} e^{-\frac{l}{a}} \int \frac{dx}{n} \sin \frac{l}{a},$$

where  $A$  and  $a$  are constants, and the square of the linear element becomes

$$ds^2 = \frac{A^2}{n^2} e^{-\frac{2l}{a}} \int \frac{dx}{n} (dx^2 + n^2 dl^2). \quad (17)$$

These values of  $p$  and  $q$  define the only type of system for which  $h$  and  $k$  are not functions of  $l$ , other than the group of Euclidean systems reciprocal to  $S'$  which have already been discussed. It will be shown now that if  $a$  is positive the system  $S$  defined by (15) and (16) is accelerated in the negative  $X$  direction relative to  $S'$ . Consequently a point at rest in  $S'$ , or in a system reciprocal to  $S'$ , appears to be accelerated in the positive  $X$  direction when its motion is referred to the reference frame of  $S$ .

For

$$\left(\frac{dx}{dl}\right)_{x'} = -n \frac{q}{p} = -n \tan \frac{l}{a},$$

and

$$\frac{d}{dl} \left(\frac{dx}{dl}\right)_{x'} = -\frac{n}{a} \sec^2 \frac{l}{a} + n \frac{\partial n}{\partial x} \tan^2 \frac{l}{a}.$$

Hence, to an observer in  $S$ , the velocity of a point in  $S'$  is given by

$$v = -icn \tan \frac{l}{a}$$

$$= C \frac{\frac{ct}{a} - \frac{ct'}{a}}{e + e} \quad (18)$$

and its acceleration by

$$f = c^2 \left( \frac{n}{a} \sec^2 \frac{l}{a} - n \frac{\partial n}{\partial x} \tan^2 \frac{l}{a} \right)$$

$$= C \left[ \frac{4 \frac{c}{a}}{\left( \frac{ct}{a} - \frac{ct'}{a} \right)^2} + \frac{\partial C}{\partial x} \left( \frac{\frac{ct}{a} - \frac{ct'}{a}}{e + e} \right)^2 \right]$$

$$= \frac{c}{a} C \left( 1 - \frac{v^2}{C^2} \right) + \frac{v^2}{C^2} C \frac{\partial C}{\partial x} \quad (19)$$

In a similar manner it may be shown that the acceleration of a point in  $S$ , relative to system  $S'$ , is given by

$$f' = -\gamma \left( 1 - \frac{v'^2}{c^2} \right)^{3/2}, \quad (20)$$

where  $\gamma$  is a positive constant.

The expression (19) gives the acceleration which bodies at rest in  $S'$ , or in a system reciprocal to  $S'$ , appear to have relative to an observer in  $S$ . This apparent acceleration is due to the fact that system  $S$  is itself accelerated relative to  $S'$ , and consequently an observer fixed in  $S$  finds that bodies at rest in  $S'$  are accelerated in the opposite direction when referred to *his* reference frame. The observer, not realizing that this apparent acceleration is due to his own motion, may attribute it to a field of force. Such a field of force is known as a *geometric field*.

Now, the world line of a particle at rest in  $S'$ , or in a system reciprocal to  $S'$ , is a straight line in the  $X Y Z L$  four dimensional space. As a straight line is the shortest distance between two points, it is defined by

$$\delta f ds = 0. \quad (21)$$

Therefore the motion of a body at rest in  $S'$ , or in a system reciprocal to  $S'$ , is described relative to any possible reference system by (21), provided  $ds$  is expressed in terms of the parameters  $x, y, z, l$  defining the particular reference system relative to which observations are being conducted. Thus the motion of a body at rest in  $S'$ , or in a system reciprocal to  $S'$ , is described relative to the accelerated system  $S$  by

$$\delta \int \sqrt{h^2 dx^2 + k^2 dl^2} = 0, \tag{22}$$

where

$$h = \frac{A}{n} e^{-\frac{I}{a} \int \frac{dx}{n}},$$

and

$$k = A e^{-\frac{I}{a} \int \frac{dx}{n}}.$$

That this expression gives for the acceleration the same value (19) already obtained is easily verified. For put

$$H = \sqrt{k^2 + h^2 U^2},$$

where

$$U = \frac{dx}{dl}.$$

Then

$$\delta \int H dl = 0, \tag{23}$$

and the corresponding Lagrangian equation is

$$\frac{d}{dl} \left( \frac{\partial H}{\partial U} \right) - \frac{\partial H}{\partial x} = 0.$$

Differentiating, it is easily found that

$$\frac{dU}{dl} = \frac{k}{h^2} \frac{\partial k}{\partial x} + U^2 \left( \frac{2}{k} \frac{\partial k}{\partial x} - \frac{I}{h} \frac{\partial h}{\partial x} \right). \tag{24}$$

Substituting for  $h$  and  $k$  their values,

$$\frac{dU}{dl} = -\frac{I}{an} (n^2 + U^2) + U^2 \frac{I}{n} \frac{dn}{dx},$$

which leads to (19), when it is remembered that

$$f = -c^2 \frac{dU}{dl},$$

$$U^2 = -\frac{v^2}{c^2},$$

$$n = \frac{C}{c}.$$

Consider for a moment a body moving in the geometric field defined by (24). If the body's velocity is small compared to that of light, the second term of this expression will be negligible compared to the first. Moreover,  $h$  and  $k$  will never differ much from unity except in the case of extremely strong fields. Therefore the quantity  $k$  plays much the part of the potential in ordinary gravitational theory. As the derivative of  $h$  makes itself felt in the case of greater relative velocities, it is natural to consider both  $h$  and  $k$  as generalized potentials determining the nature of the geometric field.

(b) THE EQUIVALENCE HYPOTHESIS.

The equivalence hypothesis states that *a permanent gravitational field is identical with a geometric field produced by the acceleration of the observer's reference frame relative to the bodies observed.*

For example, consider an observer stationed out in space far away from any gravitational field. Let there be present in his neighborhood a number of bodies, which, according to Newton's first law of motion, are either at rest or moving in straight lines with constant velocities. Now let the observer be given a constant acceleration of  $32 \text{ ft/sec}^2$ . Not realizing that he is accelerated, he will refer observations to a reference system carried along with him, and conclude that all bodies observed have an acceleration of  $32 \text{ ft/sec}^2$  in the direction opposite to his true (?) acceleration. So far as the motion of material particles is concerned, this geometric field is exactly equivalent to the gravitational field near the earth's surface. Now Einstein extends this equivalence to *all* phenomena, and postulates that a gravitational field is identical in *all* respects with a geometric field. For instance, a ray of light would follow a curved path in a geometric field of the type described. Hence it must be deflected by a gravitational field.

The above crude example is only very approximate, as no account has been taken of differences in the geometry, standards of length and time, etc. of the two mutually accelerated systems under comparison. A more exact investigation brings to light many difficulties.

The problem to be solved consists in finding a geometric field which (a) conforms to Newton's law of gravitation as a first approximation, and (b) has the properties of a Euclidean system with constant light velocity  $c$  at great distances from gravitating matter. As the properties of a permanent gravitational field do not change with the time, the values of  $h$  and  $k$  in the expression for the linear element in terms of the coördinates and time of the equivalent geometric field must not involve  $l$ . But it has been shown that if  $h$  and  $k$  are not functions of  $l$ , the only possible form which the linear element can take, (other than (12)), is that given by (17). The acceleration of a body moving through this geometric field is given by (19). If the velocity of light is constant, this expression gives a constant acceleration (for any given value of the velocity). Consequently this geometric field may simulate a uniform gravitational field in so far as the motion through it of material bodies is concerned.

The consideration of radial fields, however, brings to light serious difficulties. For (19) approximates the acceleration in a radial gravitational field only if the velocity of light varies inversely with the square of the radius vector. If such were the case, however, the properties of the geometric field would fail to approach those of a Euclidean system with constant light velocity  $c$  at great distances from gravitating matter. Hence, under the limitations imposed by the nature of the  $X Y Z L$  space, there exists no geometric field which approximates a radial gravitational field.

The question arises as to how the nature of the four dimensional representative space may be modified so as to impose less stringent restraints. Consider for a moment the  $X L$  plane. The form of the linear element defined by (14) shows that the families of curves

$$x = \text{const},$$

$$l = \text{const},$$

must be orthogonal. Now the number of mutually orthogonal families of curves on a plane is strictly limited. If the plane, however, may be replaced by a curved surface in three dimensional space, much less restraint is imposed upon the character of orthogonal families of curves on the surface. Such considerations suggest that the desired geometric field may be found,

provided the straight or *homoloidal*<sup>3</sup> representative space heretofore employed is replaced by a curved four dimensional surface in homoloidal space of higher dimensions.

It has already been noted that physical measurements are confined to the observation of intersections of world-lines. All that experimental science can tell is the order in which these intersections occur. There is no *a priori* reason that the results of experiment can be more conveniently represented by plotting world-lines in a homoloidal four dimensional space than in a curved or warped space. Therefore when Einstein found that the equivalence hypothesis could not be applied to a radial gravitational field so long as Minkowski's homoloidal space was retained, he was entirely justified in replacing this straight representative space by a four dimensional space which is warped in homoloidal space of higher dimensions.

On a curved surface it is not generally possible to use rectangular coördinates, or any other system of coördinates, such as polar coördinates, which are derivable from rectangular coördinates by a mathematical transformation. Therefore the linear element  $ds$  must be given in terms of a set of curvilinear coördinates  $x_1, x_2, x_3, x_4$  by an expression of the form

$$ds^2 = \sum_{ij} g_{ij} dx_i dx_j, \quad g_{ij} = g_{ji}, \quad i, j = 1, 2, 3, 4, \quad (25)$$

where the  $g$ 's may be functions of the  $x$ 's. For example, in locating points on a two dimensional spherical surface of radius  $R$ , such as that of the earth, it is necessary to use coördinates such as the co-latitude  $\theta$  and longitude  $\phi$ . In terms of these the linear element of the spherical surface has the form

$$ds^2 = R^2 d\theta^2 + R^2 \sin^2\theta d\phi^2,$$

for which case it appears that

$$\begin{aligned} dx_1 &= d\theta, & dx_2 &= d\phi, \\ g_{11} &= R^2, & g_{22} &= R^2 \sin^2\theta, & g_{12} &= g_{21} = 0. \end{aligned}$$

Now transformation (II) between a system  $S'$  characterized by the constant light speed  $c$  and any other system  $S$  must hold no matter whether the four dimensional representative space is

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<sup>3</sup>The term *homoloidal* as applied to space of four or more dimensions has the same significance as the word *Euclidean* applied to three dimensional space.

homoloidal or not. Therefore, just as in the case of Minkowski's homoloidal representative space, we put

$$ds^2 = dr'^2 + dl'^2.$$

Comparing with (25), it is seen that if  $x_4'$  is identified with  $l'$ ,

$$dr'^2 = \sum_{ij} g_{ij}' dx_i' dx_j', \quad i, j = 1, 2, 3.$$

Therefore, if the four dimensional representative space is curved, system  $S'$  is no longer Euclidean, and points in it cannot be located by means of a rectangular coördinate system. Moreover, the world-line of a particle at rest in  $S'$  is no longer a straight line, through, since the coefficient of  $dl'$  is not a function of  $x_1', x_2', x_3'$ , it is a geodesic, or curve of minimum length, like the arc of a great circle on a sphere.

If it is desired to compare a system  $S$  with  $S'$ , (11) gives

$$ds^2 = dr'^2 + dl'^2 = h^2 dr^2 + k^2 dl^2, \tag{26}$$

where, if  $x_4$  is identified with  $l$ ,

$$h^2 dr^2 = \sum_{ij} g_{ij} dx_i dx_j, \quad i, j = 1, 2, 3. \tag{27}$$

$$g_{44} = k^2, \quad g_{14} = g_{24} = g_{34} = 0.$$

and the three dimensional geometry of  $S$ , like that of  $S'$ , is non-Euclidean.

Now, just as the world-line of a freely moving particle in Minkowski's homoloidal representative space is a straight line, Einstein assumes that a freely moving particle describes a geodesic in the warped four dimensional space which he employs. The acceleration of such a particle in the geometric field equivalent to a radial gravitational field is due to the fact that observations are being referred to a system  $S$  in which the  $l$  curves are *not* geodesics. Relative to this system the world-line of a freely moving particle is given by

$$\delta \int \sqrt{\sum_{ij} g_{ij} dx_i dx_j} = c, \quad i, j = 1, 2, 3, 4. \tag{28}$$

where the  $g$ 's, like  $h$  and  $k$  in the simple case treated at the end of section (a), may be considered as generalized potentials determining the nature of the geometric field.

For reasons already stated, the  $g$ 's must not be functions of  $l$ . Even so, they cannot be determined unless further restricting conditions are introduced. These necessary limitations on their

values are evidently expressible by means of a set of equations containing the  $g$ 's and their derivatives. Now these equations have a two-fold significance. In the first place, the  $g$ 's determine the nature of the curved four dimensional representative surface in homoloidal space of higher dimensions. Therefore the equations relating them specify certain *absolute* properties of this four dimensional space which are independent of the particular reference frame to which physical observations may be referred.

Viewed from another aspect, the  $g$ 's have a rather different significance. It has already been pointed out that they are the potentials of the gravitational field which they specify. Consequently the differential relations connecting them may be interpreted as the *law of gravitation* of the field. Now, the principle of general relativity requires that this law shall differ when referred to different reference systems only in so far as the geometries and devices for measuring time and space together with their units may differ in these systems. But the metrical properties of a system are defined by the values of the  $g$ 's. Hence the law of gravitation must have the same form in terms of the  $g$ 's and  $x$ 's of one system  $S$  as it has in terms of the  $g$ 's and  $x$ 's of any other system  $S'$ .

Furthermore, the law of gravitation must reduce to Laplace's equation as a first approximation. Reference to (24) shows that this equation has the form

$$\frac{\partial^2 k}{\partial x^2} + \frac{\partial^2 k}{\partial y^2} + \frac{\partial^2 k}{\partial z^2} = 0,$$

which suggests that as a first approximation

$$k = \sqrt{g_{44}} = r - \frac{m}{r},$$

where  $r$  is the radius vector and  $m$  is a constant proportional to the mass of the attracting body. The small quantity  $\frac{m}{r}$  is evidently a measure of the divergence of the geometry of the four dimensional representative space in the neighborhood of an attracting mass from the homoloidal geometry of this space in a region where no matter is present.

### (c) THE LAW OF GRAVITATION.

In seeking the law of gravitation, the following requirements serve as guide. First, the law must be a differential relation

between the  $g$ 's which satisfies the principle of general relativity, i. e. it must have the same form in terms of the  $g$ 's and  $x$ 's of one system as in terms of the  $g$ 's and  $x$ 's of any other system. Secondly, it must reduce to Laplace's equation as a first approximation. As this equation is linear in the second derivatives of the potential, it is to be expected that the exact law will contain no derivatives higher than the second, and will be linear in the latter. Moreover, as the exact law specifies the values of more than one potential, the desired relations must be more than one in number. Hence they may be expressed by equating to zero a vector, or perhaps a dyadic. In this way four, or sixteen, scalar equations will be obtained. The methods of building up an equation, or set of equations, of this character, which satisfy the requirements of the principle of general relativity, will now be considered.

Consider two systems  $S$  and  $S'$ . Choose orthogonal coördinates in each system. The coördinates  $x_1, x_2, x_3$  and time  $x_4$  in  $S$  will be related to the corresponding quantities in  $S'$  by four equations of the form

$$x'_a = f_a(x'_1, x'_2, x'_3, x'_4).$$

Differentiating,

$$dx'_a = \sum_{\mu} \frac{\partial x'_a}{\partial x_{\mu}} dx_{\mu}, \tag{29}$$

and conversely

$$dx_{\nu} = \sum_{\beta} \frac{\partial x_{\nu}}{\partial x'_{\beta}} dx'_{\beta} \tag{30}$$

where  $\frac{\partial x_{\nu}}{\partial x'_{\beta}}$  is equal to the minor of  $\frac{\partial x'_{\beta}}{\partial x_{\nu}}$  in the determinant formed

by giving  $\beta$  and  $\nu$  the values 1, 2, 3, 4 respectively, divided by this determinant.

Moreover

$$\frac{\partial}{\partial x_{\beta}} = \sum_{\nu} \frac{\partial x_{\nu}}{\partial x'_{\beta}} \frac{\partial}{\partial x'_{\nu}}, \tag{31}$$

and

$$\frac{\partial}{\partial x'_{\mu}} = \sum_a \frac{\partial x_a}{\partial x'_{\mu}} \frac{\partial}{\partial x_a}. \tag{32}$$

Let  $\mathbf{k}_1, \mathbf{k}_2, \mathbf{k}_3, \mathbf{k}_4$  be unit vectors in  $S$  parallel respectively to the  $x_1, x_2, x_3, x_4$  axes. As these axes may be curvilinear,  $\mathbf{k}_1$  etc.

may change in direction from point to point, but the meaning of these quantities at any one point is perfectly definite. While Gibbs' vector methods will be followed, it is necessary to make a slight change in the notation generally used in order to avoid ambiguity in the expression for the scalar product of a vector with a polyadic of order higher than the second. For if

$$\mathbf{H}_{\alpha\beta\gamma} = \sum_{\alpha\beta\gamma} h_{\alpha\beta\gamma} \mathbf{k}_\alpha \mathbf{k}_\beta \mathbf{k}_\gamma$$

the usual notation provides no way of expressing the dot product of a vector with the *middle* vectors of this triadic. Consequently we shall adopt the convention that the dot product is always between those vectors whose suffices are the same. Thus the dot product of a vector  $\mathbf{P}$  with the middle vectors in the triadic  $\mathbf{H}$  is represented by

$$\mathbf{P}_\beta \cdot \mathbf{H}_{\alpha\beta\gamma}$$

With this convention the order in which vectors and polyadics appear is immaterial; in fact the dot itself is superfluous, for whenever the same suffix appears twice dot multiplication is indicated. However, the dot will be retained as a reminder of the analogy of the notation employed with Gibbs' three dimensional analysis. Obviously the suffices employed in dot multiplication are dummies, i. e.

$$\mathbf{P}_\beta \cdot \mathbf{H}_{\alpha\beta\gamma}$$

and

$$\mathbf{P}_\epsilon \cdot \mathbf{H}_{\alpha\epsilon\gamma}$$

mean exactly the same thing. Hence we are at liberty to replace a repeated suffix by any other letter which does not appear as a suffix in the same term. An additional advantage of the proposed notation lies in the fact that the number of letters in the suffix shows at a glance whether the quantity under consideration is a vector, dyadic, triadic, etc.

Now consider the dyadics

$$\mathbf{D}'_\mu{}^a = \sum_{\alpha\mu} \frac{\partial x_\alpha}{\partial x'_\mu} \mathbf{k}_\alpha \mathbf{k}'_\mu, \quad (33)$$

$$\mathbf{D}^\nu{}_\beta = \sum_{\nu\beta} \frac{\partial x'_\nu}{\partial x_\beta} \mathbf{k}'_\nu \mathbf{k}_\beta \quad (34)$$

Since  $\sum_a \frac{\partial x_a}{\partial x'_\mu} \frac{\partial x'_\nu}{\partial x_a} = \mathbf{I}$  or  $\mathbf{0}$  according as  $\mu = \nu$  or  $\mu \neq \nu$ , it follows that

$$\mathbf{D}'_\mu \cdot \mathbf{D}^\nu = \mathbf{I}',$$

where  $\mathbf{I}'$  is the idemfactor

$$\mathbf{I}' = \sum_\mu \mathbf{k}'_\mu \cdot \mathbf{k}'_\mu.$$

Also

$$\mathbf{D}^\mu \cdot \mathbf{D}'_\mu = \mathbf{I}.$$

Now let

$$d\rho^\alpha = \sum_a \mathbf{k}_a \cdot dx_a$$

be a vector element (four dimensional) in  $S$ . This is a generalized type of vector, and does not necessarily represent a directed element of length. For instance, in polar coördinates in a plane

$$d\rho^\alpha = \mathbf{k}_r \cdot dr + \mathbf{k}_\theta \cdot d\theta.$$

Let  $d\rho'^\nu$  be the *same* vector as measured by an observer in  $S'$ . Then it follows from (33) and (34) that

$$d\rho'^\nu = \mathbf{D}^\nu_\beta \cdot d\rho^\beta, \tag{35}$$

$$d\rho^\alpha = \mathbf{D}'^\alpha_\mu \cdot d\rho'^\mu. \tag{36}$$

Consequently it is seen that  $\mathbf{D}^\nu_\beta$  and  $\mathbf{D}'^\alpha_\mu$  are *transformation dyadics* which enable us to determine the measured value of a vector in one system from its value in another system.

Consider the vector differential operator

$$\mathbf{D}_\beta = \sum_\beta \mathbf{k}_\beta \frac{\partial}{\partial x^\beta}.$$

Evidently

$$\mathbf{D}'_\mu = \mathbf{D}'^\alpha_\mu \cdot \mathbf{D}_\alpha, \tag{37}$$

$$\mathbf{D}_\beta = \mathbf{D}^\nu_\beta \cdot \mathbf{D}'_\nu. \tag{38}$$

It is seen that the transformation used here is the reverse of that employed in the case of  $d\rho^\alpha$ . The transformation of (35) and (36) is known as *contravariant*, and  $d\rho^\alpha$  is called a *contravariant vector*. On the other hand, the transformation defined by (37) and (38) is *covariant*, and the vector  $\mathbf{D}_\beta$  is a *covariant*

vector. Contravariant vectors and polyadics will be provided with superior suffices, while covariant ones will be distinguished by inferior suffices. A dyadic, like  $D_{\beta}^{\nu}$ , which is partly contravariant and partly covariant, will have suffices of both types. More generally, if

$$\mathbf{P}^{\alpha} = D_{\mu}^{\prime\alpha} \cdot \mathbf{P}^{\mu}, \quad (39)$$

$\mathbf{P}^{\alpha}$  is a contravariant vector, and conversely

$$\begin{aligned} D_a^{\nu} \cdot \mathbf{P}^{\alpha} &= D_a^{\nu} \cdot (D_{\mu}^{\prime\alpha} \cdot \mathbf{P}^{\mu}) \\ &= \mathbf{I}^{\nu} \cdot \mathbf{P}^{\alpha} \\ &= \mathbf{P}^{\nu} \end{aligned} \quad (40)$$

Similarly, if

$$\mathbf{P}_{\beta} = D_{\beta}^{\nu} \cdot \mathbf{P}'_{\nu}, \quad (41)$$

$\mathbf{P}_{\beta}$  is a covariant vector, and

$$\mathbf{P}'_{\mu} = D_{\mu}^{\prime\beta} \cdot \mathbf{P}_{\beta}. \quad (42)$$

If the transformation of a dyadic is considered, it is clear that

$$\mathbf{G}^{\alpha\beta} = D_{\mu}^{\prime\alpha} D_{\nu}^{\prime\beta} : \mathbf{G}^{\mu\nu} \quad (43)$$

is a contravariant dyadic, while

$$\mathbf{G}_{\alpha\beta} = D_a^{\mu} D_b^{\nu} : \mathbf{G}'_{\mu\nu} \quad (44)$$

is covariant. Now, the form of Laplace's equation suggests that the exact law of gravitation may be expressed by equating to zero a covariant dyadic involving the  $g$ 's and their first and second derivatives, the equation being linear in so far as the second derivatives are concerned. Our problem, then, is to build up a dyadic satisfying these requirements.

Now the square of the linear element  $ds$  is

$$ds^2 = \sum_{\alpha\beta} g_{\alpha\beta} dx_{\alpha} dx_{\beta}. \quad (45)$$

Therefore, if the self conjugate dyadic  $\mathbf{G}_{\alpha\beta}$  is defined by

$$\mathbf{G}_{\alpha\beta} = \sum_{\alpha\beta} g_{\alpha\beta} \mathbf{k}_{\alpha} \mathbf{k}_{\beta},$$

it follows that

$$ds^2 = \mathbf{G}_{\alpha\beta} : d\rho^{\alpha} d\rho^{\beta}. \quad (46)$$

As  $ds^2$  is an invariant, the right hand member of this equation is also an invariant. But it is evident that if the scalar product of two dyadics is an invariant, and one of these dyadics is contravariant, the other must be covariant. Hence as

$$d\rho^\alpha d\rho^\beta$$

is contravariant,  $G_{\alpha\beta}$  must be covariant.

If

$$G^{\gamma\delta} = \sum_{\gamma\delta} s^{\gamma\delta} k_\gamma k_\delta$$

is the reciprocal of  $G_{\alpha\beta}$ , then

$$G^{\gamma\beta} \cdot G_{\alpha\beta} = I.$$

and

$$G^{\alpha\beta} : G_{\alpha\beta} = \neq.$$

showing that  $G^{\gamma\delta}$  is a contravariant dyadic.

In ordinary vector analysis a covariant dyadic may be constructed from a covariant vector  $\mathbf{P}$  by forming the open product  $\nabla \mathbf{P}$ . When the  $g$ 's are functions of the coördinates, however, a dyadic so constructed would not be covariant. For it follows from (40) that

$$D'_\nu \mathbf{P}_\mu = D'^\epsilon_\mu D'^\gamma_\nu : D_\gamma \mathbf{P}_\epsilon + D'^2_\nu{}^\epsilon \cdot \mathbf{P}_\epsilon, \tag{47}$$

the presence of the second derivative on the right hand side destroying the covariance of the dyadic. The value of the term involving the second derivative may be found by constructing and combining triadics as follows:

As

$$G'_{\mu\nu} = D'^\alpha_\mu D'^\beta_\nu : G_{\alpha\beta},$$

$$D'_\lambda G'_{\mu\nu} = G_{\alpha\beta} : \left( D'^\beta_\nu D'^{\alpha^2}_\lambda + D'^\beta_\mu D'^{\alpha^2}_\lambda \nu \right) + D'^\gamma_\lambda D'^\alpha_\mu D'^\beta_\nu : D_\gamma G_{\alpha\beta} \tag{48}$$

in which some of the dummy suffices have been replaced by other letters, and use has been made of the fact that

$$G_{\beta\alpha} = G_{\alpha\beta},$$

i. e.  $G_{\alpha\beta}$  is self conjugate. If similar expressions for

$$D'_\mu G'_{\nu\lambda}$$

and

$$D'_\nu G'_{\mu\lambda}$$

are written down, and if (48) is subtracted from the sum of these two, it is found that

$$\begin{aligned} \frac{1}{2}(D'_\mu G'_{\nu\lambda} + D'_\nu G'_{\mu\lambda} - D'_\lambda G'_{\mu\nu}) &= G_{\alpha\beta} : D'^\beta_\lambda D'^{2\alpha}_{\nu\mu} \\ &+ \frac{1}{2}(D_\alpha G_{\beta\gamma} + D_\beta G_{\alpha\gamma} - D_\gamma G_{\alpha\beta}) : D'^\gamma_\lambda D'^\alpha_\mu D'^\beta_\nu. \end{aligned} \quad (49)$$

Forming the dot product of  $G'^{\lambda\rho} \cdot D'^\epsilon_\rho$  and (49) it follows that

$$\begin{aligned} \frac{1}{2}G'^{\lambda\rho} \cdot (D'_\mu G'_{\nu\lambda} + D'_\nu G'_{\mu\lambda} - D'_\lambda G'_{\mu\nu}) \cdot D'^\epsilon_\rho &= D'^{2\epsilon}_{\nu\mu} \\ &+ \frac{1}{2}G'^{\gamma\epsilon} \cdot (D_\alpha G_{\beta\gamma} + D_\beta G_{\alpha\gamma} - D_\gamma G_{\alpha\beta}) : D'^\alpha_\mu D'^\beta_\gamma. \end{aligned}$$

Christoffel's triadic is defined by

$$\{\mu\nu, \rho\}' = \frac{1}{2}G'^{\lambda\rho} \cdot (D'_\mu G'_{\nu\lambda} + D'_\nu G'_{\mu\lambda} - D'_\lambda G'_{\mu\nu}).$$

Hence

$$\{\mu\nu, \rho\}' \cdot D'^\epsilon_\rho \cdot P_\epsilon = D'^{2\epsilon}_{\nu\mu} \cdot P_\epsilon + \{\alpha\beta, \epsilon\} : D'^\alpha_\mu D'^\beta_\nu \cdot P_\epsilon,$$

or

$$\{\mu\nu, \rho\}' \cdot P'_\rho = D'^{2\epsilon}_{\nu\mu} \cdot P_\epsilon + D'^\alpha_\mu D'^\beta_\nu : \{\alpha\beta, \epsilon\} \cdot P_\epsilon. \quad (50)$$

Subtracting this equation from (47),

$$D'_\nu P'_\mu - \{\mu\nu, \rho\}' \cdot P'_\rho = D'^\alpha_\mu D'^\beta_\nu : (D_\beta P_\alpha - \{\alpha\beta, \epsilon\} \cdot P_\epsilon), \quad (51)$$

showing that the dyadic on the left hand side is covariant.

Therefore the expression

$$D_\nu - \{\mu\nu, \rho\}' \cdot I^\mu_\rho. \quad (52)$$

is a covariant differential operator when applied to a vector  $P_\mu$ .

Now consider the triadic

$$\begin{aligned} Q_\sigma(D_\nu P_\mu - \{\mu\nu, \rho\}' \cdot P_\rho) + P_\mu(D_\nu Q_\sigma - \{\sigma\nu, \tau\}' \cdot Q_\tau) \\ = D_\nu(P_\mu Q_\sigma) - \{\mu\nu, \rho\}' \cdot P_\rho Q_\sigma - \{\sigma\nu, \tau\}' \cdot Q_\tau P_\mu. \end{aligned}$$

As it is made up of sums of products of covariant vectors and dyadics, it is covariant. Hence the differential operator

$$D_\nu - \{\mu\nu, \rho\}' \cdot I^\mu_\rho - \{\sigma\nu, \tau\}' \cdot I^\sigma_\tau. \quad (53)$$

produces a covariant triadic when applied to the dyad  $P_\mu Q_\sigma$ . But

a dyadic is merely the sum of a number of dyads. Hence this differential operator forms a covariant triadic when it acts on any covariant dyadic.

Starting with the vector  $\mathbf{P}_\sigma$ , we may form a covariant dyadic by applying (52), and by operating on this dyadic with (53) a covariant triadic is obtained. This triadic, which we shall denote by  $\mathbf{A}$ , will contain first and second derivatives, and be linear in the latter. Evidently

$$\begin{aligned} \mathbf{A}_{\nu\mu\sigma}^\circ &= (\mathbf{D}_\nu - \{\mu\nu, \rho\} \cdot \mathbf{I}_\rho^\mu - \{\sigma\nu, \tau\} \cdot \mathbf{I}_\tau^\sigma) (\mathbf{D}_\mu - \{\sigma\mu, \epsilon\} \cdot \mathbf{I}_\epsilon^\sigma) \mathbf{P}_\sigma \\ &= \mathbf{D}_{\nu\mu}^2 \mathbf{P}_\sigma - \{\mu\nu, \rho\} \cdot \mathbf{D}_\rho \mathbf{P}_\sigma - \{\sigma\nu, \tau\} \cdot \mathbf{D}_\mu \mathbf{P}_\tau - \{\sigma\mu, \epsilon\} \cdot \mathbf{D}_\nu \mathbf{P}_\epsilon \\ &\quad + \{\mu\nu, \rho\} \cdot \{\sigma\rho, \epsilon\} \cdot \mathbf{P}_\epsilon + \{\sigma\nu, \tau\} \cdot \{\tau\mu, \epsilon\} \cdot \mathbf{P}_\epsilon - \mathbf{D}_\nu \{\sigma\mu, \epsilon\} \cdot \mathbf{P}_\epsilon. \end{aligned}$$

Now interchange of  $\mu$  and  $\nu$  will have no effect on the first five terms. Therefore

$$\mathbf{A}_{\nu\mu\sigma} - \mathbf{A}_{\mu\nu\sigma} = (\{\sigma\nu, \tau\} \cdot \{\tau\mu, \epsilon\} - \{\sigma\mu, \tau\} \cdot \{\tau\nu, \epsilon\} + \mathbf{D}_\mu \{\sigma\nu, \epsilon\} - \mathbf{D}_\nu \{\sigma\mu, \epsilon\}) \cdot \mathbf{P}_\epsilon,$$

and

$$\mathbf{B}_{\mu\nu\sigma}^\epsilon \equiv \{\sigma\nu, \tau\} \cdot \{\tau\mu, \epsilon\} - \{\sigma\mu, \tau\} \cdot \{\tau\nu, \epsilon\} + \mathbf{D}_\mu \{\sigma\nu, \epsilon\} - \mathbf{D}_\nu \{\sigma\mu, \epsilon\} \quad (54)$$

is a tetradic which is partly covariant and partly contravariant, as indicated by the suffices. Obviously, if the four dimensional representative space is homoloidal, the  $g$ 's defining the line element may all have the constant value unity. Therefore, as every term in this polyadic contains a derivative of one of the  $g$ 's, it will reduce to zero in this case. Conversely, it may be shown that if this polyadic vanishes, the representative space is homoloidal. Therefore the equation obtained by equating  $\mathbf{B}$  to zero cannot represent the law of gravitation.

A less stringent equation is obtained by equating to zero the dyadic formed from  $\mathbf{B}$  by putting a dot between  $\mathbf{k}_\epsilon$  and  $\mathbf{k}_\nu$ .

This equation, i. e.

$$\begin{aligned} \mathbf{B}_{\mu\sigma} &\equiv \{\sigma\nu, \tau\} \cdot \{\tau\mu, \nu\} - \{\sigma\mu, \tau\} \cdot \{\tau\nu, \nu\} + \mathbf{D}_\mu \{\sigma\nu, \nu\} - \mathbf{D}_\nu \{\sigma\mu, \nu\} \\ &= 0 \end{aligned} \quad (55)$$

is taken by Einstein for the law of gravitation. Evidently it satisfies all the necessary conditions, and it is probably the simplest equation which does.

Equation (55) may be somewhat simplified. For

$$\begin{aligned} \{\tau\nu, \nu\} &\equiv \frac{1}{2} \mathbf{G}^{\lambda\nu} : (\mathbf{D}_\tau \mathbf{G}_{\nu\lambda} + \mathbf{D}_\nu \mathbf{G}_{\tau\lambda} - \mathbf{D}_\lambda \mathbf{G}_{\tau\nu}) \\ &= \frac{1}{2} \mathbf{G}^{\lambda\nu} : \mathbf{D}_\tau \mathbf{G}_{\nu\lambda} \end{aligned}$$

$$\begin{aligned}
 &= \frac{1}{2\sqrt{g}} D_{\tau} g \\
 &= D_{\tau} \log \sqrt{g}
 \end{aligned}$$

where  $g$  is the determinant of  $G_{\nu\lambda}$ . Therefore

$$\begin{aligned}
 B_{\mu\sigma} \{ \sigma\nu, \tau \} : \{ \tau\mu, \nu \} - D_{\nu} \cdot \{ \sigma\mu, \nu \} - \{ \sigma\mu, \tau \} \cdot D_{\tau} \log \sqrt{g} + D^2_{\mu\sigma} \log \sqrt{g} \\
 = 0
 \end{aligned} \tag{56}$$

This equation may be interpreted either as defining the character of the curved four dimensional representative surface in homoloidal space of higher dimensions, or as the law of gravitation. It is of interest to follow its significance a little further from the first aspect. Let the rectangular coördinates  $w_1 \dots w_5$  of five dimensional homoloidal space be so chosen that  $w_5$  is perpendicular to this surface at a given point, and that  $w_1 \dots w_4$  have the directions of the lines of curvature at this point. Then if  $k_1 \dots k_4$  are the principal curvatures,

$$2w_5 = k_1 w_1^2 + k_2 w_2^2 + k_3 w_3^2 + k_4 w_4^2$$

in the neighborhood of the given point, which has been chosen as origin. If this relation is used to eliminate  $w_5$ , the linear element

$$ds^2 = \sum_i dw_i^2$$

becomes

$$ds^2 = (1 + k_1^2 w_1^2) dw_1^2 + \dots + 2k_1 k_2 w_1 w_2 dw_1 dw_2 \dots \tag{57}$$

Now consider the scalar

$$G^{\mu\sigma} : B_{\mu\sigma}$$

As it is an invariant it vanishes when calculated in terms of the  $g$ 's defined by (57) as well as when expressed in terms of  $h$  and  $k$ . Its value at the origin is particularly easy to determine, for there

$$G^{\mu\sigma} = G_{\mu\sigma} = I, \quad D_{\tau} G_{\nu\lambda} = 0,$$

and consequently we have

$$- G^{\mu\mu} : D_{\nu} \cdot \{ \mu\mu, \nu \} + G^{\mu\mu} : D^2_{\mu\mu} \log \sqrt{g} = 0.$$

Substituting for the polyadics their values

$$k_1 k_2 + k_2 k_3 + k_3 k_1 + k_1 k_4 + k_2 k_4 + k_3 k_4 = 0. \tag{58}$$

The left hand member of this equation measures the curvature of the four dimensional representative surface in much the same

way that the total or Gaussian curvature  $k_1 k_2$  specifies that of a two dimensional surface. If the four dimensional space had been homoloidal, each of the terms in (58) would have vanished, and the nature of the representative space would have been too restricted to be capable of representing a radial gravitational field.

Before converting (56) into a set of scalar relations between the spaces derivatives of the  $g$ 's, it must be recalled that the warp we have given to space makes it impossible to represent even ordinary three dimensional space in the neighborhood of a gravitating body by rectangular coördinates (or by any coördinates, such as polar coördinates, which are reducible to the rectangular form). We may, however, use rectangular coördinates for an *approximate* mapping out of that portion of space which is not too close to the center of attraction. Consequently if  $x_1, x_2, x_3$  in the linear element

$$ds^2 = g_{11}dx_1^2 + g_{22}dx_2^2 + g_{33}dx_3^2 + g_{44}dx_4^2$$

are identified with the rectangular coördinates  $x, y, z$ , we are justified in computing the  $g$ 's to the first order of approximation only. The coördinate  $x_4$  represents the time  $t$ , and evidently

$$g_{11} = g_{22} = g_{33} = h^2, \\ g_{44} = k^2.$$

Take the origin at the center of attraction in the radial field under discussion, and put

$$h^2 = e^{2\lambda}, \\ k^2 = e^{2\nu},$$

$\lambda$  and  $\nu$  being functions of

$$r = \sqrt{x^2 + y^2 + z^2}$$

only, and very small compared to unity at all points not too near the center of attraction. As the coördinate system assumed holds only approximately, terms in (56) involving squares or products of the first derivatives of  $\lambda$  and  $\nu$  must be neglected as compared with terms which are linear in the first or second derivatives of these quantities. Hence the first and third terms of this equation may be omitted, leaving

$$B_{\mu\sigma} = -D_\nu \cdot \{\sigma\mu, \nu\} + D_{\mu\sigma}^2 \log \sqrt{g} = 0. \tag{59}$$

Substituting their values for the symbols, it is found that

$$B_{11} = \lambda'' + 3\lambda' \frac{\nu'}{r} + \frac{\nu^2}{r^2} \left\{ \lambda'' + \nu'' - \frac{\lambda' + \nu'}{r} \right\} = 0, \tag{60}$$

where the primes denote differentiation with respect to  $r$ , and similar expressions in  $y$  and  $z$  for  $B_{22}$  and  $B_{33}$ . Also

$$B_{44} = v'' + 2\frac{v'}{r} = 0. \quad (61)$$

All other components of  $\mathbf{B}_{\mu\sigma}$  vanish. As (60) is true for all values of  $x$ , these four equations reduce to three independent relations, to wit:

$$\begin{aligned} \lambda'' + \frac{3\lambda' + v'}{r} &= 0, \\ \lambda'' + v'' - \frac{\lambda' + v'}{r} &= 0, \\ v'' + 2\frac{v'}{r} &= 0, \end{aligned}$$

from which it follows that  $\lambda' = -v'$ , and as  $\lambda$  and  $v$  both vanish at infinity,  $\lambda = -v$ .

Integrating the last of the three equations above,

$$v = -\frac{m}{r},$$

where the constant of integration  $m$ , as will appear later, is the mass of the attracting body (i. e. the sun) in astronomical units divided by the square of the velocity of light.

The linear element, then, is given by

$$ds^2 = e^{\frac{2m}{r}} (dx^2 + dy^2 + dz^2) + e^{-2\frac{m}{r}} dt^2 \quad (62)$$

to the first order of approximation.

#### (d) PHENOMENA IN A RADIAL FIELD.

The equivalence hypothesis requires that the motion of a particle in a gravitational field shall be given by

$$\delta f ds = 0,$$

where  $ds$  may be expressed in polar coordinates by

$$ds^2 = h^2 (dr^2 + r^2 d\theta^2 + r^2 \sin^2 \theta d\phi^2) + k^2 dt^2.$$

Hence, if

$$H = \sqrt{k^2 + h^2 \dot{r}^2 + h^2 r^2 \dot{\theta}^2 + h^2 r^2 \sin^2 \theta \dot{\phi}^2} \quad (63)$$

where

$$\dot{r} = \frac{dr}{dt}, \quad \dot{\theta} = \frac{d\theta}{dt}, \quad \dot{\phi} = \frac{d\phi}{dt},$$

it follows that

$$\delta f H dt = 0.$$

The corresponding Lagrangian equations are

$$\begin{aligned} \frac{d}{dl} \left( \frac{\partial H}{\partial \dot{r}} \right) - \frac{\partial H}{\partial r} &= 0, \\ \frac{d}{dl} \left( \frac{\partial H}{\partial \dot{\theta}} \right) - \frac{\partial H}{\partial \theta} &= 0, \\ \frac{d}{dl} \left( \frac{\partial H}{\partial \dot{\phi}} \right) - \frac{\partial H}{\partial \phi} &= 0, \end{aligned}$$

Evidently every term in the last equation will contain either  $\dot{\phi}$  or  $\ddot{\phi}$ . Hence if the coördinate system is so oriented that  $\dot{\phi}$  is initially zero,  $\ddot{\phi}$  will be zero, and therefore the motion will be confined to the  $r \theta$  plane. Forming the derivatives involved in the first two equations, and solving for  $\ddot{r}$  and  $\ddot{\theta}$ ,

$$\begin{aligned} \ddot{r} - r \dot{\theta}^2 &= \frac{kk'}{h^2} + \dot{r}^2 \left( \frac{2k'}{k} - \frac{h'}{h} \right) + r^2 \dot{\theta}^2 \frac{h'}{h}, \\ \ddot{\theta} + \frac{2}{r} \dot{r} \dot{\theta} &= 2 \dot{r} \dot{\theta} \left( \frac{k'}{k} - \frac{h'}{h} \right). \end{aligned}$$

Substituting the values of  $h$  and  $k$  contained in (62), and changing the independent variable from  $l$  to  $t$  by means of the relation

$$l \equiv ict,$$

it is found that

$$\ddot{r} - r \dot{\theta}^2 = -\frac{mc^2}{r^2} \left( 1 - \frac{m}{r} \right) + \frac{m}{r^2} (3\dot{r}^2 - r^2 \dot{\theta}^2), \tag{64}$$

$$\ddot{\theta} + \frac{2}{r} \dot{r} \dot{\theta} = \frac{m}{r^2} \dot{r} \dot{\theta}. \tag{65}$$

Multiplying (64) by  $\dot{r}$  and (65) by  $r^2 \dot{\theta}$ , adding, and integrating,  $\frac{1}{2} (\dot{r}^2 + r^2 \dot{\theta}^2) = mc^2 \left( \frac{r}{r} - \frac{r}{a} \right) - 2m^2 c^2 \left( \frac{r}{r^2} - \frac{r}{a^2} \right) + 3m \int \frac{\dot{r}^2 + r^2 \dot{\theta}^2}{r^2} dr$ , if the velocity of the particle is zero when  $r$  equals  $a$ . Taking the first term on the right as an approximation to value of the left hand member, substituting in the integrand of the last term on the right, and integrating,

$$\frac{1}{2} (\dot{r}^2 + r^2 \dot{\theta}^2) = mc^2 \left( \frac{r}{r} - \frac{r}{a} \right) - m^2 c^2 \left( \frac{5}{r^2} - \frac{6}{ar} + \frac{r}{a^2} \right) \tag{66}$$

Comparing this integral of energy with that obtained on the Newtonian theory, it is seen that  $mc^2$  is the mass of the attracting body (the sun in the case of the solar system) in astronomical units, i. e. the unit of mass being taken as that mass which exerts

unit force on a like mass at unit distance. The dimensions of  $m$  are evidently those of length, and a simple calculation gives the value of this constant for the sun as 1.47 kilometers.

Integrating (65), it is found that Einstein's theory gives in place of Kepler's law of constant areas the relation

$$r^2 \dot{\theta} = cp \left( I - 4 \frac{m}{r} \right), \quad (67)$$

where  $p$  is the constant of integration.

To find the equation of a planetary orbit, write (66) in the form

$$\left\{ \left( \frac{dr}{d\theta} \right)^2 + r^2 \right\} \dot{\theta}^2 = 2mc^2 \left( \frac{I}{r} - \frac{I}{a} \right) - 2m^2 c^2 \left( \frac{5}{r^2} - \frac{6}{ar} + \frac{I}{a^2} \right).$$

Substituting the values of  $\dot{\theta}$  from (67) and writing  $u$  for the reciprocal of  $r$ ,

$$\begin{aligned} \left( \frac{du}{d\theta} \right)^2 &= -u^2 \left( I - 6 \frac{m^2}{p^2} \right) + 2 \frac{m}{p^2} u \left( I - 2 \frac{m}{a} \right) - \frac{2m}{ap^2} \left( I + \frac{m}{a} \right) \\ &= -Au^2 + 2Bu - C \end{aligned} \quad (68)$$

where

$$\begin{aligned} A &= \left( I - 6 \frac{m^2}{p^2} \right), \\ B &= \frac{m}{p^2} \left( I - 2 \frac{m}{a} \right), \\ C &= \frac{2m}{ap^2} \left( I + \frac{m}{a} \right). \end{aligned}$$

Put

$$v = u - \frac{B}{A}, \quad D = \frac{B^2 - AC}{A}$$

Then

$$\frac{dv}{d\theta} = \sqrt{D - Av^2},$$

which gives, on integration

$$\frac{I}{r} = \frac{B + \sqrt{B^2 - AC} \cos(\sqrt{A}\theta + \delta)}{A}.$$

Substituting for  $A$ ,  $B$  and  $C$  their values,

$$\frac{I}{r} = \frac{I + \sqrt{I - 2 \frac{p^2}{am}} \cos \left\{ \left( I - 3 \frac{m^2}{p^2} \right) \theta + \delta \right\}}{\frac{p^2}{m}} \quad (69)$$

This is the equation of an ellipse with eccentricity

$$e = \sqrt{1 - 2 \frac{p^2}{am}},$$

whose perihelion moves forward through the angle

$$\delta\omega = 6\pi \frac{m^2}{p^2} = \frac{12\pi m}{a(1-e^2)} \tag{70}$$

each revolution. The distance  $a$  is equal to the major axis of the elliptical orbit.

The following table gives the discrepancies in  $c\delta\omega$  between observation and theory, both for the Newtonian theory and Einstein's theory, together with the probable error of the observations. The units are seconds of arc per century.

	Newtonian	Einstein	Probable Error
Mercury	+ 8".24	- 0".58	± 0".29
Venus	- 0.06	- 0.11	± 0.17
Earth	+ 0.07	0.00	± 0.09
Mars	+ 0.64	+ 0.51	± 0.23

It is seen that Einstein's theory not only removes the large discordance in the motion of Mercury's perihelion, but does not introduce any new discrepancies in the case of the other planets. This is, of course, due to the relatively greater eccentricity of Mercury's orbit.

As the ratio of velocity of light  $C$  at any point in a gravitational field to its constant value  $c$  in a region free from gravitational effects, is equal to the ratio of  $k$  to  $h$  [compare (9) and (11)], the expression (62) for the line element shows that

$$\begin{aligned} C &= c e^{-2 \frac{m}{r}} \\ &= c \left( 1 - 2 \frac{m}{r} \right). \end{aligned} \tag{71}$$

Consider a ray of light passing through the sun's gravitational field, (Fig. 1) so as to come when nearest within a distance  $R$  of the center of the sun.

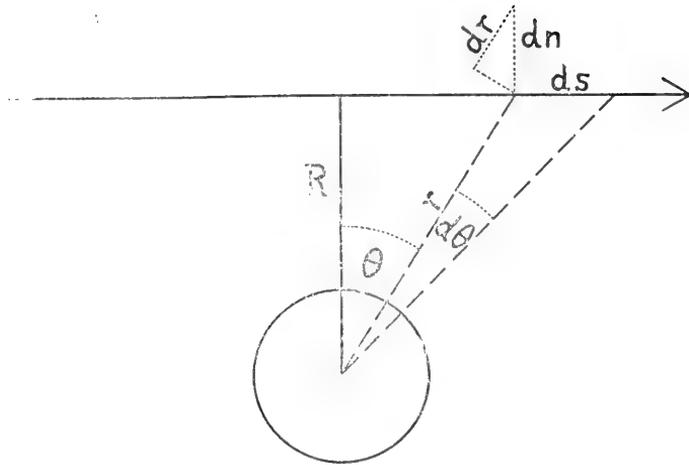


Fig. 1.

If  $n$  be measured normal to the ray, the deflection  $dD$  taking place in a distance  $ds$  is given by

$$\begin{aligned} dD &= \frac{1}{C} \frac{\partial C}{\partial n} ds \\ &= \frac{1}{C} \frac{\partial C}{\partial r} \frac{dr}{dn} ds \\ &= 2 \frac{m}{R} \cos \theta d\theta. \end{aligned}$$

Therefore the total deflection is

$$\begin{aligned} D &= 2 \frac{m}{R} \int_{-\frac{\pi}{2}}^{+\frac{\pi}{2}} \cos \theta d\theta \\ &= 4 \frac{m}{R}. \end{aligned} \tag{72}$$

As  $m = 1.47$  kilometers for the sun, a star seen close to the limb of the sun ( $R = 697,000$  km) should suffer an apparent displacement

$$D = 1''.74.$$

Observations made at the eclipse of May 29th, 1919, confirm this prediction of the theory, and even show that the deflection decreases with the inverse first power of the distance from the

center of the sun. It is interesting to note that the deflection (72) is *double* that which a material body shot through the sun's field with a velocity close to that of light, should suffer according to Newton's law.

It is of interest in this connection to investigate the motion of a material particle which enters a radial gravitational field with a velocity comparable to that of light. In this case the term on the right hand side of (64) which involves the inverse cube of  $r$  is negligible compared to the remaining terms, and equations (64) and (65) give for the energy integral

$$\dot{r}^2 = c^2 \left\{ \beta^2 \left( 1 - \frac{m}{r} \right) + 2 \frac{m}{r} \right\} \quad (73)$$

where  $\beta$  is the ratio of the velocity  $v$  of the moving particle at infinity to that of light. This equation shows that if  $\beta = 1/\sqrt{3}$  the velocity of the particle will be unchanged in magnitude by the gravitational field, and that when  $\beta$  exceeds this value, the field changes from an attractive field to a repulsive one.

The orbit of a particle moving with the velocity of light is easily determined. For this case (73) reduces to

$$\left\{ \left( \frac{dr}{d\theta} \right)^2 + r^2 \right\} \dot{\theta}^2 = c^2 \left( 1 - 4 \frac{m}{r} \right)$$

Eliminating  $\dot{\theta}$  by means of (67),

$$\left( \frac{du}{d\theta} \right)^2 = -u^2 + 4 \frac{m}{p^2} u + \frac{1}{p^2} \quad (74)$$

which has the same form as (68). Therefore the equation of the orbit is

$$\frac{1}{r} = 2 \frac{m}{p^2} + \frac{1}{p} \cos(\theta + \delta) \quad (75)$$

if terms in  $m^2$  are neglected. If the particle comes closest to the center of attraction when  $\theta + \delta$  is zero and  $r$  has the value  $R$ ,

$$\frac{1}{r} = 2 \frac{m}{R^2} + \frac{1}{R} \left( 1 - 2 \frac{m}{R} \right) \cos(\theta + \delta)$$

or, in rectangular coördinates

$$2 \frac{m}{R} \sqrt{x^2 + y^2} + \left( 1 - 2 \frac{m}{R} \right) y = R.$$

The asymptotes to this curve are obtained by making  $x$  very large compared to  $y$ . They are

$$\pm 2 \frac{m}{R} x + \left( 1 - 2 \frac{m}{R} \right) y = R$$

and are inclined to each other by an angle

$$4 \frac{m}{R}.$$

Therefore the deflection of a material particle traveling with the velocity of light is the same as that of a light ray, as indeed the equivalence hypothesis requires.

Consider a vibrating atom momentarily at rest near the surface of the sun, but free to move in the gravitational field. Let  $dt$  be its period of vibration. Then

$$ds^2 = -c^2 \left( 1 - 2 \frac{m}{r} \right) dt^2.$$

Now, if  $dt'$  is the period of this atom as measured in the system with geodesic time curves in which it is permanently at rest,

$$ds^2 = -c^2 dt'^2 = -c^2 \left( 1 - 2 \frac{m}{r} \right) dt^2.$$

If an atom of the same kind be in vibration at a greater distance from the sun (say at the surface of the earth),

$$ds^2 = -c^2 dt_1'^2 = -c^2 \left( 1 - 2 \frac{m}{r_1} \right) dt_1^2.$$

Therefore

$$\frac{dt_1}{dt} = 1 - m \left( \frac{1}{r} - \frac{1}{r_1} \right),$$

or, if  $\nu$  denotes frequency,

$$\frac{\nu_1 - \nu}{\nu_1} = m \left( \frac{1}{r} - \frac{1}{r_1} \right). \quad (76)$$

Therefore an atom at the sun's surface should vibrate more slowly than one at the surface of the earth, resulting in a shift of the solar lines toward the red. This shift, which amounts to less than one hundredth of an Ångstrom unit in the visible spectrum, has been sought by St. John, but not found.

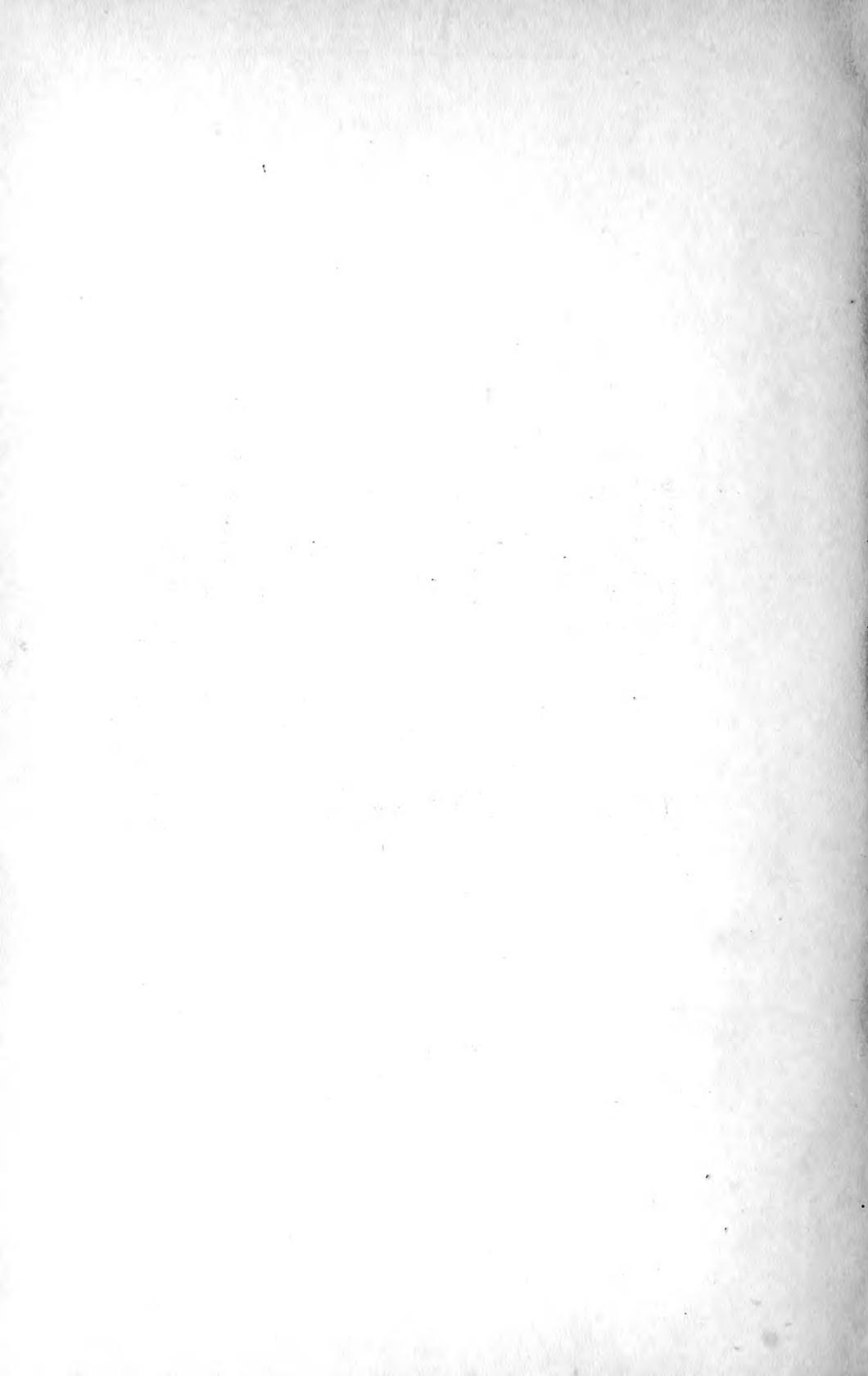
It should be noted that the two predictions which have been verified by observation are consequences of Einstein's *law* of gravitation, whereas the shift of the Fraunhofer lines is deduced not so much from this law as from the *theory* on which it is based. While the assumptions from which the theory is built up are open to criticism—particularly the equivalence hypothesis—there can be little doubt that Einstein's law represents a closer approximation to the facts than Newton's does.

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