## ESSAYS ON CHAUCER,

## 

## PART II.

III. Practica Chilindri : or, The Working of the Cylinder, by John Hoveden. Edited, with a Translation, by Edmund Brock.
IV. The use of final $-e$ in Early English, and especially in Chaucer's Canterbury Tales. By Professor Joseph Payne.
V. Elizabeth Barrett Browning on Chaucer. From her "English Poets," ed. 1863.
VI. Specimen of a critical edition of Chaucer's Compleynte to Pitr, with the Genealogy of its Manuscripts. By Prof. Bernhard Ten-Brink.

PUBLISHED FOR THE CHAUCER SOCIETY BY
N. TRÜBNER \& CO., $57 \& 59$, LUDGATE HILL,等ondon.

Second Scrics, 9.
John Childs and son, printers.

## III.

## PRACTICA CHILINDRI:

OR

# THE WORKING OF THE CYLINDER, 

BY
JOHN HOVEDEN.

EDITED WITH A TRANSLATION

BY


## PREFACE.

By the kindness of Mr Frederick Norgate, we are now able to lay before the reader another short treatise on the cylinder. How it was found, and what it contains, may be learnt from the following notice, which we reprint from Notes and Queries, 4th Series, III, June 12, 1869.

## "CHILENDRE: (‘SCHIPMANNES TATE, 206.')

"We have to thank the Chaucer Society for the publication of a very early tract on the 'Chilindre,' removing to a great extent the difficulty about the meaning of this word, which for ages has puzzled all the commentators on the Canterbury Tales. This little tract is devoted almost exclusively to information as to the construction of the instrument in question, with only a few brief rules at the end for its use. I have recently been so fortunate as to discover another MS. which may be a useful and interesting supplement to that which Mr Brock has edited for the above-named society ; and before describing its contents, let me mention the strange way in which I found it. Looking through the Index of Authors at the end of Ayscough's Catalogue of the Sloane MSS. (not thinking at the time of Chaucer or anything relating to him), my attention was arrested by the name 'Chilander,' and on turning to the page referred to, I found Chilander noted as the author of a work entitled Practica Astrologorum, \& $\subset$. Hereupon I determined on taking the first opportunity of examining the MS. itself, and having done so, to my surprise I found, instead of Practica Astrologorum, with Chilander for its author, a tract entitled Practica Chilindri secundum magistrum Johannem Astrologum! The MS. is of the beginning of the fourteenth century, neatly written (on vellam), and differs from that which the Chancer Society has brought to
light, inasmuch as it is devoted exclusively to instructions for using the instrument.
"The whole is comprised in six pages, closely written, and in a small but neat hand. The titles of the several chapters are as follows ${ }^{1}$ :-

1. Primum capitulum est de horis diei artificialis inueniendis.
2. De gradu solis inueniendo.
3. De altitudine solis et lune, et vtrum fuerit ante meridiem uel post.
4. De linea meridiei inuenienda et oriente et occidente.
5. Quid sit vmbra versa, quid extensa.
6. De punctis vmbre verse et extense similiter.
7. De altitudine rerum per vmbram uersam.
8. De declinacione solis omni die, et gradu eius per declinacionem inueniendo, et altitudine eius omni hora anni.
9. De latitudine omnis regionis inuenienda.
10. De inuenienda quantitate circuitus tocius orbis et spissitudine eius.
"The colophon is as follows:-
' Explicit practica chilindri Magistri Iohannis de Houeden astrologi.'

Fred. Norgate.
" Henrietta Street, Covent Garden."
This tract, with the former, will give a tolerably clear idea of the nature and uses of the instrument ; but there is much more on the subject which we have no space to print, and we must therefore be content with giving the reader references, which will enable those who care to read more about the cylinder, to do so.

1. Compositio horologiorum, in plano, muro, truncis, anulo, con[uexo], concauo, cylindro \& uarijs quadrantibus, cum signorum zodiaci \& diuersarum horarum inscriptionibus : autore Sebast. Munstero. Basileae, 1531. Compositio cylindri, hoc est, trunci columnaris. Caput xxxıx.
2. Horologiographia, post priorem æditionem per Sebast. Munsterum recognita, \& plurimum aucta atque locupletata, adiectis multis nouis descriptionibus \& figuris, in plano, concauo, conuexo, erecta superficie \&c. Basileæ. 1533. Compositio cylindri, hoc est, trunci columnaris. Caput xLin.
${ }^{1}$ The table is printed according to the MS, from which Mr Norgate's copy deviates in one or two cases.
3. Der 5orolvgien / ©ber Sonnen wbren / Rüfflidye $\mathfrak{B e f i d r e i b u t g}$ / wie Diefelfigen nad manderley afrt an bie $\mathfrak{M a u r e n}$ / Wienbte / ©bne / fie feyen ミigende / Ruffferidtet / ©direg / aud auff Ronde / Rufgejolte wnd fonft after Sandt Snftrument / : $\mathfrak{t u f f}$ urteifint / Durd Sebaftianum Münter. Wajel, 1579. Wie man eiten ßylinder ©itu=

4. Dialogo della descrittione teorica et pratica de gli horologi solari. Di Gio: Batt. Vimercato Milanese. In Ferrara, per Valente Panizza Mantouano Stampator Ducale. 1565. In qual modo per pratica o.peratione si possono fabricare $i$ Cilindri. Capitolo XI.
5. Gnomonice Andreæ Schoneri Noribergensis, hoc est: de descriptionibus horologiorum sciotericorum omnis generis, proiectionibus circulorum Sphæricorum ad superficies, cum planas, tum conuexas concauasque, Sphæricas, Cylindricas, ac Conicas: Item delineationibus quadrantum, annulorum, \&c. Libri tres. Noribergæ, 1562. The second book treats of spherical, cylindrical, and conical dials.
6. Io. Baptistæ Benedicti Patritij. Veneti Philosophi de Gnomonum umbrarumque solarium usu liber. Augustr Taurinorum. 1574. De examinatione pensilium horologiorum, \& de nowo horologio circulari. Cap. LxxviII.
7. Horarii Cylindrini Canones, 1515. Reprinted in Opera Mathematica Ioannis Schoneri, fol. Norinbergæ, 1551. This, like Hoveden's treatise, consists of rules for using the cylinder.
8. Histoire de l'Astronomie du Moyen Age par M. Delambre, Paris. 1819, 4to. The third book, entitled Gnomonique, gives an account of the cylindrical dial (cadran cylindrique) of the Arabians as treated of by Aboul-Hhasan (pp. 517-520), and of Sebastian Münster's (pp. 597, 598).

There is a large cut of the cylinder on page 166 of Münster's Compositio Horologiorum, page 269 of his Horologiographia, and page 125 of Der Horologien Beschreibung; a smaller one on the title-page and page 131 of Horologiographia. In Vimercato's treatise, page 165, is a cut showing the separate parts of the cylinder.

In Cotton MS. Nero C ix, leaves 195—226, we find eight Latin poems by John Hoveden, chaplain of Queen Eleanor, mother of King Edward. There can be little doubt that this writer is the same as the author of the present treatise. We here give the beginnings and endings of these poems.
I. Incipit meditacio Iohannis de houedene, clerici regine anglie, matris regisEdwardi/ de natiuitate, passione, et resurreccione domini saluatoris edita, ut legentis affeccio in christi amore profici[a]t et celerius accendatur / hoc opus sic incipit: Aue verbum ens in principio. \& sic finitur. \& uoluit editor quod liber meditationis illius philomena uocaretur.

Begins: Ave uerbum ens in principio,
Caro factum pudoris gremio;
Fac quod fragret presens laudacio.
Ends: Melos tibi sit et laudacio, Salus, honor, et iubilacio, Letus amor lotus in lilio, Qui es verbum ens in principio.
Explicit libellus rigtmichus ${ }^{1}$ qui philomena uocatur, que meditacio est de natiuitate, passione, et resurrectione, ad honorem domini nostri iesu christi saluatoris edita, a Iohanne de houedene, clerico Alianore regine anglie, matris edwardi regis anglie.
II. Incipiunt .xv. gaudia virginis gloriose, edita a Magistro Iohanne houedene Clerico.

Begins: Virgo vincens vernancia Carnis pudore lilia.
Ends: Et noctem hanc excuciens, Ducas ad portum patrie. Amen.
Expliciunt.15. gaudia beate virginis, edita ritmice ${ }^{2}$ ex dictamine Iohannis de Houedene.
III. Hic scribitur meditacio Iohannis de Houedene, edita ad honorem domini saluatoris, et ut legentes eam proficiant in amore diuino: et vocatur hec meditacio cantica .50. quod in .50. canticis continetur.

The first canticle begins :
In laude nunc spirituc omnis exaltet,
Et leta mens domini laude sustollat.
The last one ends:
Et ut nouella cantica cumulentur,
In laude nunc spirituc omnis exultet. Amen.
Explicit meditacio dicta cantica $50^{\text {ta }}$, edita a Iohanne de Houedene ad honorem domini saluatoris.
IV. In honore domini saluatoris incipit meditacio, edita a Iohanne de houedene, clerico Alianore regine anglie, matris regis Edwardi / faciens mencionem de saluatoris redolentissima passione; et amoris christi suauem inducit affectum. Hec meditacio uocatur cythara eo quod verbis amoriferis,

[^0]quasiquibusdam cordis musice, ad delectacionem spiritualem legentes inuitat.

Begins: Iesu vena dulcedinis, Proles pudica numinis, Verbum ens in principio, Fructus intacte virginis.
Ends: Verbum ens in principio, Et des ut post has semitas Nos foueat et felicitas In celebri collegio. Amen.
Explicit laus de domino saluatore uel meditacio que cythara nominatur, a Iohanne de Houedene, edita ut legentis affectus in amore diuino proficiat et celerius accendatur.
V. Incipiunt $50^{\text {ta }}$. salutaciones beate virginis, quibus inseritur memoria dominice passionis, edita a İohanne de houedene ad honorem virginis matris, \& laudem domini saluatoris.

Begins: Ave stella maris, Virgo singularis, Vernans lilio.
Ends: Fer michi remedia, Vt in luce qua lustraris Michi dones gaudia. Amen.
Expliciunt 50 $0^{\text {ta }}$ salutaciones beate marie, edite a Iohanne de Houedene.
VI. Incipit laus de beata virgine, que uiola nocatur, edita a Tohanne de Houedene.

Begins: Maria stella maris, Fax summi luminaris, Regina singularis.
Ends: Penas mittigatura, Assis in die dura, Maria virgo pura.
Explicit uiola beate virginis, a Iohanne de Houedene edita.
VII. Incipit lira extollens virginem gloriosam.

Begins: O qui fontem gracie
Captiuis regeneras, Celos endelichie. ${ }^{1}$
Ends: Quos expiat sic puniat, Vt vices quas variat, Alternis sic uniat, ne lira deliret.
Explicit lira Magistri Iohannis houedene.
${ }^{1}$ So in MS.
VIII. Canticum amoris quod composuit Iohannes de Houedene.

Begins: Princeps pacis, proles puerpere, Hijs te precor labris illabere, Vt sincere possim disserere Laudem tuam, et letus legere.
End lost from :
Eius claui punctura peream, $\mathrm{Cu} m$ superstes magis inteream.

There is a copy of the first of these poems in the Lambath MS. 410, and another in Harleian MS. 985 with the heading: Incipit tractatus metricus N. de hondene, de processu christi \& redempcionis nostre, qui aliter dicitur philomena. At the end are merely these words : Explicif liber qui uocatur philomena. It appears from Nasmith's Catalogue that there is a French version of the poem in Corpus Christi College, Cambridge, MS. 471, intitled, Li rossignol, ou la pensee Iohan de Hovedene, clerc la roine d'Engleterre, mere le roi Edward de la neissance et de la mort et du relievement et de l'ascension Iesu Crist et de I'assumpcion notre dame.

It is perhaps worthy of mention that Hoveden's Philomena has long been confounded by the catalogue-writers with a wholly different composition, by another writer, and beginning :

Philomena preuia temporis ameni, Que recessum nuncians imbris atque ceni, Dum demulces animos tuo cantu leni, Auis predulcissima, ad me queso veni.
End : Quicquid tamen alij dicant, frater care,
Istam novam martirem libens imitare;
Cumque talis fueris, deum deprecare
Vt nos cantus martiris faciat cantare. Amen.
Copies of this poem are contained in Cotton MS. Cleopatra A xii., Harleian MS. 3766, and Royal MS. 8 G vi., from the first of which the above lines are taken. A late hand has written the following mistaken heading over it in the Cotton MS.: philomela Canticum per Ioannem de Houedene Capellanum Alienoræ Reginæ matris Ed. primi.

The Laud MS. 368 contains both these poems; the latter has the following heading: Incipit meditacio fratris Iohannis de peccham, quondam cantuarie archiepiscopi, de ordine fratrum minorum, que vocatur philomena. The real author, however, appears to be Giovanni Fidanza, better known as Cardinal Bonaventura. The whole poem, with some additional lines at the end, is printed in his works, Mayence, 1609, vol. 6, p. 424, and Venice, 1751-56, vol. 13, p. 338. The English poem of The Nyghtyngale in Cotton MS. Caligula A ii., leaves 59-64, has no connection with Hoveden's Philomena, but is an imitation of Bonaventura's poem.

According to Bale's account, ${ }^{1}$ which is followed by Pits ${ }^{2}$ and Tanner, ${ }^{3}$ John Hoveden was a native of London, doctor of divinity, and chaplain of Queen Eleanor, but afterwards parish priest at Hoveden, where he died in the year 1275. Besides the poems already mentioned, Bale, Pits, and Tanner ascribe to him the work called Speculum Laicorum; ${ }^{4}$ but this could not have been written till long after Hoveden's death, since it contains mention of Henry the IVth's reign. ${ }^{5}$

[^1]
## PRACTICA CHILINDRI.

[Sloane MS 1620, leaf 2.]
practica ceilindri secundum magistrum [tohannem] ${ }^{1}$ [A]strologum.

1. Primum capitulum est de horis diei artificialis inueniendis.
2. De gradu solis inueniendo.
3. De altitudine solis et lune, et vtrum fuerit ante meridiem uel post.
4. De linea meridiei inuenienda et oriente et, occidente.
5. (6.) ${ }^{2}$ Quid sit vmbra versa, (5) quid extensa.
6. (7.) $\mathrm{D} e$ punctis vmbre verse, et extense similiter.
7. (8.) De altitudine rerum per vmbram uersam.
8. (9.) De declinacione solis omni die, et gradu eius per declinacionem inueniendo, (10) et altitudine eius omni hora anni.
9. (11.) De latitudine omnis regionis inuenienda.
10. (12.) De inue[n]ienda quantitate circuitus tocius orbis et spissitudine eius.

## DE HORIS INUENIENDIS.

1. (Vm volueris scire horas diei, verte stilum superiorem super mensem aut signum in quo fueris, et super partem que preteriit de ipso; cumque hoc feceris,
[^2]
## THE WORKING OF THE CYLINDER.

## THE WORKING OF THE CYLINDER ACCORDING TO MASTER JOHN, THE ASTROLOGER.

1. Tee first chapter is on finding the hours of the artificial day.
2. On finding the sun's degree.
3. On the altitude of the sun and of the moon ; and whether it is before midday or after.
4. On finding the meridian line, and the east and the west.
5. What umbra versa is, (5) and what umbra extensa.
6. On the points of the umbra versa, and likewise of the umbra extensa.
7. On (finding) the height of objects by the umbra versa.
8. On (finding) the sun's declination on any day, and on finding his degree by the declination; (10) and on (finding) his altitude at any hour of the year.
9. On finding the latitude of any region.
10. On finding the extent of the circumference of the whole world, and its thickness.

## 1. on finding the hours.

When you wish to know the hours of the day, turn the upper style ${ }^{1}$ over the month or sign in which you are, and over the part of it which is gone by ; and when you have

[^3]vertes etiam inferiorem stilum in oppositum stili superioris, et erit instrumentum dispositum ad horas sumendas. Cumque volueris horas sumere, suspende chilindrum per filum suum ad solem, mouendo ipsum chilindrum huc et illuc donec vmbra superioris stili super chilindrum equidistanter longitudini eius ceciderit; et ad quamcumque horam peruenerit vmbra stili, ipsa est hora diei pertransita. Quod si ceciderit finis vmbre inter duas horas, tunc apparebit etiam pars hore in qua fueris, secundum quod plus uel minus occupauerit vmbra de ipso spacio quod est inter duas lineas horarum. Est enim hora spacium [co]ntentum inter duas lineas horarum; ipse autem linee sunt fines horarum.

DE GRADU SOLIS.
2. Vvm volueris scire in quo signo fuerit sol, et in quoto gradu eius, equabis solem ad meridiem diei in quo volueris hoc scire, sicut in leccionibus tabularum docetur, et addes ei motum $8^{\text {ue }}$ spere, et habebis gradum solis quesitum. Quod si volueris hoc ipsum leuius scire, intra cum die mensis in quo fueris in aliquam 4 tabularum, secundum quod fuerit annus bissextilis uel distans ab eo; que quidem tabule intitulantur sic:-Tabule solis ad inue$n$ iendu $m_{;}$locu $m$ ei $u s$ in orbe decliui fixo. Et in directo diei cu $m$ quo intras statim inuenies gradum solis equatum, et hoc est quod voluisti. Quod si nee has nee illas tabulas

[^4]done this, turn also the lower style into the place opposite the upper style, and the instrument will be set in order for taking the hours. And when you wish to take the hours, suspend the cylinder by its string against the sun, moving it to and fro, until the shadow of the upper style falls on the cylinder parallel to its length, ${ }^{1}$ and whatever hour the shadow of the style reaches, the same is the (last) past hour of the day. But if the end of the shadow falls between two hours, then will appear also the part of the hour in which you are, according as the shadow occupies more or less of that space which is between the two hour-lines. For the space contained between two hour-lines is an hour ; but the lines themselves are the ends of the hours.
2. ON THE SUN'S DEGREE.

When you wish to know in what sign the sun is, and in what degree thereof, you must adjust (?) the sun to the noon of the day on which you wish to know this, as it is taught in the readings of the tables, and add to it the motion of the eighth sphere, ${ }^{2}$ and you will have the sun's degree which you have sought. But if you wish to know the same more easily, enter with the day of the month in which you are into one of the four tables according as it is leap-year or distant from it. These tables are thus entitled :-Tables of the sun for finding his place in the fixed ecliptic, and in a line with the day with which you enter
de l'écliptique fixe, et dont le rayon est de $4^{\circ} 18^{\prime} 43^{\prime \prime}$. Ces points de l'écliptique tournent sur la circonférence des deux petits cercles opposés; l'écliptique mobíle s'élève donc et s'abaisse alternativement sur l'écliptique fixe; les points équinoxiaux avancent ou rétrogradent d'une quantité qui peut aller à $10^{\circ} 45^{\prime}$. Ce mouvement est commun à tous les astres; ce mouvement est celui de la huitième sphère, et il s'appelle mouvement d'accès ou de recès. Le lieu de la plus grande déclinaison du Soleil change donc continuellement, puisqu'il est toujours à $90^{\circ}$ de l'une et l'autre intersections de l'écliptique mobile avec l'équateur fixe. La plus grande déclinaison est donc tantôt dans les Gémeaux et tantôt dans le Cancer."

For Thebit's treatise see Harleian MS 13, leaf 117. Incipit thebit de motu octaue spere. Or Harleian MS 3647, leaf 88, col. 2, incipit liber tebith bencorat de motu octane spere.
habueris, et volueris [leaf 2, bk] aliter querere gradum solis [a]ut fere, scito quod secundum compotistas xv. kalendas cuiuslibet mensis ingreditur sol nouum signum, sicut patet in kalendario. Considera ergo quot dies transierint de mense in quo fueris, et adde super eos quindecim dies, et serua eos. Computabis ergo ab inicio signi, in quo fuerit sol, totidem gradus, et ubi finitus fuerit numerus, ipse est gradus solis quem queris. Quod si numerus tuus excesserit xxx., tot gradus quot excedit xxx. perambulauit sol de signo seqnッn'? si Deus voluerit.

## DE ALTITUDINE SOLIS.

3. vod si altitudinem solis seu lune placuerit inuestigare, verte stilum superiorem super gradus chilindri, et stilum inferiorem in oppositum eius semper; et hoc sit tibi generale, ut uersus quamcunque partem chilindri verteris stilum superiorem, semper vertas stilum inferiorem in partem ei oppositam. Post hec opponas instrumentum soli, et ad quemcunque gradum peruenerit vmbra, ipsa est altitudo solis, seu lune, si feceris de luna, in eadem hora. Quod si volueris scire si fuerit ante meridiem uel post, aspice super $q u o t$ gradus ceciderit vmbra, et expectans paulisper, iterato sumes altitudinem solis; quod si creuerit vmbra, tunc est ante meridiem. Similiter quoque scies de luna. Et per hoc ipsum quod dictum est, scies vtrum ipsa fuerit orientalis a meridie uel occidentalis; quia du $m$ vmbra crescit, est in parte orientali a meridie, dum uero decrescit, est in parte occidentis.
you will immediately find the sun's degree rectified, and this is what you desired. If, however, you have neither of these tables, and wish to seek, in another way, the sun's degree or thereabouts, know that, according to the calculators, the sun enters a new sign on the 15th before the kalends of every month, as appears in the calendar. Consider, therefore, how many days of the month in which you are have passed, and add to them fifteen days, and keep them. Reckon then the same number of degrees from the beginning of the sign in which the sun is ond, when the number is completed, the same is the sun' gree which you seek. But if your number exceeds 30 , the sun has passed through as many degrees of the next sign as it (the number) exceeds 30 , if God will.

## 3. ON the altitude of the sun.

Now if it is your pleasure to investigate the altitude of the sun or of the moon, turn the upper style over the degrees of the cylinder, and the lower style always into the opposite place. And let this be a general rule, that to whichever part of the cylinder you turn the upper style you always turn the lower style to the part opposite to it. After that hold up the instrument against the sun, and to whatever degree the shadow reaches, the same is the altitude of the sun; or of the moon, if you are dealing with the moon, at that hour. But if you wish to know whether it is before midday, or after, see over how many degrees the shadow falls, and having waited a little time, take the sun's altitude again, and if the shadow has increased, then it is before midday. In like manner you will know also of the moon. And by what has been said you shall know whether she is on the east of the meridian or on the west; for while the shadow increases, she is on the eastern side of the meridian, but while it decreases, she is on the western side.

## DE LINEA MERIDIEI.

4. vod si volueris scire lineam meridiei per hoc instrumentum, fiat circulus in superficie aliqua preparata, equidistanter orizonti, cuiuscunque magnitudinis volueris, non sit tamen nimis paruus; deinde sumes altitudinem solis diligentissime, et serua eam; et suspendes etiam in eadem hora filum vnum cum aliquo ponderoso in directo iam facti circuli, ita ut vmbra eius cadat omnino super centrum circuli, et attingat circumferenciam in parte opposita soli; notabisque contactum vmbre in circumferencia, et post hoc expectabis donec iterato post meridiem fiat sol in prius accepta altitudine, notabisque etiam [leaf 3 ] tunc vmbram fili super centrum ut prius transeuntem notabis, dico, contactum eius in circumferencia in opposito solis. Deinde diuide arcum qui est inter duas notas vmbre per equalia, et notam inprimes, coniungesque eam cu $m$ centro, perficiens diametrum circuli, et hoc diametru $m$ erit linea meridiei. Quadrabis quoque circulum ipsum per diametra, et habebis lineam orientis et occidentis, ut apparet in isto circulo. Sic etiam inuenies omnes partes orizontis, si Deus voluerit. Et nota quod hec consideracio verior et leuior est quam illa que fit per ereccionem stili ortogonalis in circulo, quia vix uel nuncquam possit ita ortogonaliter erigi, sicut perpendiculum dummodo pendeat inmobiliter. Sed hec consideracio verissima erit, si sumatur in solsticialibus diebus, et hoc antequam sol ascendat multum in illa die.

Nota quod a. et b. sunt note vmbre ante meridien et post ad eandern altitudinem solis; et medium inter a. et b. est meridies.

4. ON THE MERIDIAN LINE.

And if you wish to know the meridian line oy means of this instrument, let a circle be made, of whatever size you will, only let it not be too small, on some plane prepared (for the purpose) parallel with the horizon. Then take the sun's altitude very accurately, and keep it; and also at the same hour hang, over the circle already made, a thread with something heavy (on it), so that its shadow falls exactly upon the centre of the circle and reaches the circumference on the side opposite to the sun ; and mark the (point of) contact of the shadow with the circumference, and after this wait until the sun again arrives at the beforetaken altitude after midday; and mark then also the shadow of the thread passing as before across the centre, mark, I say, its point of contact with the circumference opposite to the sun. Then divide the are which is between the two shadow-marks into equal parts, and impress a mark. Join it with the centre, and complete the diameter of the circle. This diameter will be the meridian line. Quarter the circle itself by diameters, ${ }^{1}$ and you will have the line of east and west, as appears in this circle. Thus also you will find all parts of the horizon, if God will. Note that this observation is truer and easier than that which is made by raising a rectangular style in the circle, because it can with difficulty or never be raised as rectangularly as a plumb-line, provided it (viz. the plumb-line) hangs motionless. But the observation will be truest, if it be made on the solstitial days, and that before the sun rises high on that day.

Note that $a$ and $b$ are the shadowmarks before midday and after, at the same altitude of the sun, and the middle point between $a$ and $b$ is midday.
${ }^{1}$ That is, draw another diameter at right angles to the former.


DE VMBRA EXTENSA.
5. Tvnc dicendum est quid sit vmbra versa, et $q u i d$ sit vmbra extensa. Igitur intelligamus superficiem quandam equidistantem orizonti, et super hanc superficiem intelligamus aliquid ortogonaliter erectum, verbi gratia, palum rectum; huius pali sic erecti cadens vmbrot in dictam superficiem dicitur vmbra extensa. Est igitur vmbra extensa rei erecte ad superficiem orizontis perpendiculariter vmbra cadens in eadem superficie.

## DE VMBRA VERSA.

6. Tem intelligamus eandem superficiem quam prius, et in ipsa aliquid perpendiculariter erectum, et ab illo sic erecto intelligamus stilu $m$ ortogonaliter prominentem, sicut sunt stili qui prominent in parietibus ecclesiarum ad horas sumendas ; vmbra huius stili cadens super rem ortogonaliter erectam, equidistanter s[cilicet] longitudini eiusdem rei, dicitur vmbra versa; equidistanter, dico, cadens, quia aliter esset vmbra irregularis. Et huiusmodi vmbra cadit in chilindro. Hec autem vmbra versa semper crescit vsque ad meridiem, et tunc, $\mathrm{i}[\mathrm{d}$ est $] \mathrm{i} n$ meridie, est maxima. Econuerso est de vmbra extensa, quia illa decrescit vsque ad meridiem, et tunc fit minima.

## DE PUNCTIS VMBRE.

Cvm volueris scire omni hora quot puncta habuerit vmbra versa, verte stilum super puncta vmbre, et super quot puncta ceciderit vmbra, ipsa sunt puncta vmbre quesite. Quod si volueris [scire] vmbram extensam ad eandem altitudinem, diuide 144 per [leaf 86$]$ puncta que habueris, et exibunt puncta vmbre extense in eadem hora. Et si volueris scire quot status sunt in vmbra, diuide puncta que

## 5. ON THE UMBRA EXTENSA.

Now we must explain what is the umbra versa, and what the umbra extensa. Therefore let us conceive some plane parallel to the horizon, and on this plane let us conceive something raised at right angles, for instance, a straight stake; the shadow of this stake so raised, falling on the said plane, is called umbra extensa. The umbra extensa is, therefore, the shadow of an object which is raised perpendicularly to the plane of the horizon, falling on the same plane.

## 6. ON THE UMBRA VERSA.

Also let us conceive the same plane as before, and upon it something raised perpendicularly; and from the latter so raised let us conceive a style jutting out at a right angle, like the styles which jut out from the walls of churches for taking the hours; the shadow of this style falling upon the object raised at right angles, parallel, of course, to the length of the same object, ${ }^{1}$ is called umbra versa-falling parallel, I say, because otherwise the shadow would be irregular. And such a shadow falls on the cylinder. Now this umbra versa always increases until midday, and then, that is at midday, it is greatest; the contrary is the case with the umbra extensa, for that decreases until midday, and then becomes least.

## 7. on the points of the shadow.

When you wish to know how many points the umbra versa has at any hour, turn the style over the points of the shadow ; and as many points as the shadow falls over, the same are the required points of the shadow. But if you wish to know the umbra extensa at the same altitude, divide 144 by the points which you have, and the result will be the points of the umbra extensa at the same hour.

[^5]habueris per 12, et exibunt status. Quod si non habu[er]is 12 puncta, uide quota pars sint puncta de 12, et tota pars erunt puncta que habueris ad vnum statum. Est autem ${ }^{1}$ status tota longitudo cuiuslibet rei, et quia omnem rem quo ad vmbram eius sumendam diuidimus in 12 partes equales, propterea 12 puncta vmbre faciunt vnum statum; est enim quodlibet punctum longitudinis omnis equale duodecime parti ${ }^{2}$ rei cuius est vmbra.

## de altitudine rerum per vmbram.

8. Yvm volueris scire altitudinem turris per vmbram versam que cadit in chilindro, aut altitudinem alicuius rei erecte, cum hoc, inquam, volueris, verte stilum super puncta umbre, et vide super quot puncta ceciderit nmbra. Deinde considera in qua proporcione se habent puncta umbre in chilindro ad stilum, in eadem proporcione se habet omnis res erecta ad suam umbram, hoc est, si puncta umbre in chilindro fuerint sex, stilus duplus est ad vmbram, et tunc in eadem hora erit omnis umbra extensa dupla ad suam rem; et si umbra in chilindro fuerit dupla ad stilum, hoc est, cum vmbra fuerit 24 punctorum, erit omnis res erecta dupla ad suam urbram; et sic semper in qua proporcione se habet umbra chilindri ad stilum, in eadem proporcione se habet econtrario omnis res erecta ad vmbram suạ $m$ extensam, omnis res erecta, dico, que fecerit vmbram sub eadem solis altitudine, in illa hora; vel, si nescieris proporcionem sumere, diuide 144 per puncta que habueris, sicut dictum est, et exibit vmbra rei erecte que dicitur extensa, vide ergo quot status sint in illa umbra extensa, aut quota fuerint puncta de 12, et habebis quod voluisti.
[^6]And if you wish to know how many status are in the shadow, divide the points which you have by 12 , and the status will be the result. And if you have not 12 points, see what part of 12 the points are, and the points which you have will be that part of one status. For a status is the whole length of any object; and because we divide every object into 12 equal parts whereby to take its shadow, therefore 12 points of the shadow make one status; for every point is equal to a twelfth part of the whole length of the object, whose the shadow is.

## 8. on (finding) the height of objects by the shadow.

When you wish to know the height of a tower by the umbra versa which falls on the cylinder, or the height of any upright object-I say, when you wish this, turn the style over the points of the shadow, and see over how many points the shadow falls. Then consider: whatever proportion the points of the shadow on the cylinder hold to the style, every upright object holds the same proportion to its shadow; that is, if the points of the shadow on the cylinder be six, the style is double of the shadow, and then at the same hour every umbra extensa will be double of its object; and if the shadow on the cylinder be double of the style, that is, when the shadow is of 24 points, every upright object will be double of its shadow; and so always, whatever proportion the shadow on the cylinder holds to the style, conversely every upright object holds the same proportion to its umbra extensa, every upright object, I say, which throws a shadow under the same altitude of the sun at that hour. Or, if you do not know how to take the proportion, divide 144 by the points which you have, as was said, and the result will be the shadow which is called extensa of the upright object; see, then, how many status are in that umbra extensa, or what part of 12 the points are, and you will have what you desired.

## DE DECLINACIONE SOLIS.

9. 

Cvm volueris scire declinacionem solis omni die anni, scias umbram uersam Arietis in regione in qua fueris, i[d est], scias ad quem gradum chilindri proueniat vmbra stili eius in meridie, cum fuerit sol in primo gradu Arietis, et hec est umbra Arietis in gradibus chilin$\mathrm{d} r \mathrm{i}$ in illa regione. $\mathrm{Q} u$ o scito, sume vmbram meridiei per chilindrum quocunque die volueris scire declinacionem solis, et vide super quot gradus chilindri ceciderit umbra, et quantum plus uel minus fuerit umbra illa quam vmbra Arietis, tanta erit declinacio solis in meridie illius diei. Sed si umbra tua fuerit maior quam vmbra Arietis, erit declinacio solis [leaf 4] septemtrionalis; si uero minor fuerit, erit declinacio meridiana. Quod si volueris scire gradum solis in illa die per eius declinacionem, intra ${ }^{1}$ in tabulam. declinacionis solis, et quere similem declinacionem ei quam inuenisti per chilindrum, et aliquis 4 graduum quem in directo eius inueneris erit gradus solis uel fere; et scies quis erit gradus ex illis 4, vt aspicias vtrum declinacio fuerit meridiana uel septemtrionalis. Quod si fuerit meridiana, exit vnus de gradibus meridionalibus, et si fuerit declinacio septemtrionalis, erit vnus de gradibus septemtrionalibus; habeint autem.omnes 4 gradus equidistantes ab equinoctiali eandem declinacionem. Cum ergo sciueris quod fuerit vnus de gradibus septemtrionis seu meridiei, scies quis duorum fuerit gradus solis, ut aspicias sequenti die declinacionem per chilindrum, et si umbra fuerit maior quam die precedenti, fueritque declinacio meridiana, erit gradus ille a Capricorno in Arietem; et si umbra talis declinacionis fuerit minor, erit gradus ille a Libra in Capricornum; si uero umbra creuerit, fueritque declinacio septemtrionalis, erit gradus ille ab Ariete in Cancrum ; si uero decreuerit, a Cancro in Libram.

[^7]
## 9. on the declination of the sun.

When you wish to know the declination of the sun on any day in the year, know the umbra versa of Aries in the region in which you are, that is, know to what degree of the cylinder the shadow of its style reaches at midday, when the sun is in the first degree of Aries, and this is the shadow of Aries in the degrees of the cylinder in that region. That being known, take the midday shadow by the cylinder on whatever day you wish to know the declination of the sun, and see over how many degrees of the cylinder the shadow falls, and the declination of the sun at noon of that day, will be as great as that shadow is greater or less than the shadow of Aries. But if your shadow is greater than the shadow of Aries, the sun's declination will be northern, but if it is less, the declination will be southern. And if you wish to know the sun's degree on that day by his declination, enter into the table of the sun's declination, and seek a similar declination to that which you have found by the cylinder, and some one of the 4 degrees which you find on a line with it will be the sun's degree or nearly (so) ; and you shall know which will be the degree out of those 4 , as you look whether the declination is southern or northern ; for if it be southern, it will be one of the southern degrees, and if the declination be northern, it will be one of the northern degrees. But all the 4 parallel degrees have the same declination from the equinoctial. When, therefore, you know that it is one of the northern degrees or of the southern, you shall know which of the two is the degree of the sun, as you observe the declination on the following day by the cylinder, and if the shadow be greater than on the preceding day and the-declination be southern, the degree will be that from Capricorn towards Aries ; and if the shadow of such declination be less, the degree will be that from Libra towards Capricorn; but if the shadow has increased and the declination is northern, the degree will be that from Aries towarids Cancer ; but if it has decreased, from Cancer towards Libra.

## DE ALTITUDINE SOLIS OMNI HORA ANNI.

10. T si volueris scire altitudinem solis que poterit esse omni hora anni, vide quantum capiet quelibet hora anni de gradibus chilindri, mensurando per circinum aut per festucam, et ipsa erit altitudo solis ad quamlibet horam anni in regione tua, s[cilicet], super quam figurantur hore chilindri, si Deus voluerit.

## De Latitudine regionis.

11. (II volueris scire latitudinem regionis ignote ad quam veneris, tunc vertes stilum super gradus altitudinis, et vide ad quot gradus peruenerit vmbra. Quod si hoc feceris in die equinoctiali, minue gradus quos habueris de 90, et residuum erit latitudo regionis. Quod si non feceris hoc in equinoctio, vide per tabulam declinacionis que fuerit declinacio solis in ipsa die. Quam declinacionem, si fuerit australis, adde super susceptam altitudinem, et habebis altitudinem equinoctialis in eadem regione ; et si declinacio fuerit septemtrionalis, minue eam de accepta altitudine, h habebisque altitudinem equinoctialis in eadem regione. Habita autem altitudine equinoctialis, minuas ipsam semper de 90 , et residuum erit latitudo regionis, que est distencia cenith ab equinoctiali.

## DE QUANTITATE ORBIS TERRE.

12. AI autem volueris scire quantitatem [leaf 4, bk] circuitus terre per chilindrum, verte stilum super gradus chilindri, et scias optime gradum solis et declinacionem eius, et serua eam. Cumque hoc sciueris, sumas altitudinem solis meridianain, et serua eam; post hec autem procedas directe uersus septemtrionem uel meridiem, donec altera die, absque augmenta[ta] uel minorata interim
13. on (finding) the altitude of the sun at any HOUR OF THE YeAR.
And if you wish to know the sun's altitude, which may be at any hour of the year, see how much of the degrees of the cylinder any hour of the year will take, measuring with the compasses or with a rod, and the same will be the sun's altitude at any hour of the year in your region, that is to say, (the region) upon which the hours of the cylinder are figured, if God will.

## 11. on (finding) the latitude of a region.

If you wish to know the latitude of an unknown region to which you have come, then turn the style over the degrees of altitude, and see to how many degrees the shadow reaches. And if you do this on the equinoctial day, subtract the degrees which you have from 90 , and the remainder will be the latitude of the region. But if you do this not at the equinox, see by the table of declination what is the sun's declination on the same day; add the declination, if it be southern, to the altitude you have taken, and you will have the altitude of the equinoctial in the same region ; and if the declination be northern, subtract it from the taken altitude, and you will have the altitude of the equinoctial in the same region. Moreover, the altitude of the equinoctial being had, subtract it always from 90 , and the remainder will be the region's latitude, which is the distance of the zenith from the equinoctial.
12. on the size of the world.

If, moreover, you wish to know the extent of the earth's circumference by the cylinder, turn the style over the degrees of the cylinder, and know most accurately the degree of the sun and his declination, and keep it. And when you know this, take the meridian altitude of the sun, and keep it. Then after this travel directly northward or southward, until on another day, without increase or de-
declinacione, ascenderit sol in gradibus chilind $r \mathrm{i}$ plus vno gradu quam prius ascenderit, plus dico, si processeris versus meridiem, uel minus, si processeris uersus septemtrionem, et iam pertransisti spacium in terra quod subiacet vni gradui celi. Metire ergo illud, et vide quot miliaria sint in eo. Deinde multiplica, s[cilicet], miliaria illius spacij quod habueris per 360, qui sunt gradus circuli, et tot miliaria scias esse in circuitu mundi. Quod si volueris scire spissitudinem mundi, diuide circuitum eius per tria et septimam partem vnius, eritque hoc quod exierit diametrum terre, et medietas eilus erit quantitas que est a supericie ad centrum eius, si Deus voluerit. De inueniendis autem ascendente et ceteris domibus per vmbram satis dictum est in leccionibus tabularum, et ideo de illis nichil ad presens. Et hee de practica chilindri sufficiant. Explicit.

Explicit practica chilindri Magistri Iohannis de Houeden astrologi.
crease of declination in the mean time, the sun has risen one degree more in the degrees of the cylinder than he rose before; more, I say, if you have travelled southward, or less, if you have travelled northward; and now you have traversed on the earth the space which lies under one degree of the heaven. Measure it therefore, and see how many miles are in it. Then multiply, of course, the miles in that space which you have by 360 , which are the degrees of a circle, and know that there are so many miles in the circumference of the world. But if you wish to know the thickness of the world, divide its circumference by three and the seventh part of one, and the result will be the diameter of the earth, and half of it will be the distance from its surface to the centre, if God will. But on finding the ascendant and the other houses by the shadow enough has been said in the readings of the tables, and therefore nothing of them at present. And let this suffice upon the working of the cylinder. End.

[^8]$$
\therefore 3
$$
inaci


## IV.

## THE USE OF FINAL -e

IN EARLY ENGLISH,

AND ESPECIALLY IN
CHAUCER'S CANTERBURY TALES.

BY
JOSEPH PAYNE, ESQ.

## SYNOPSIS OF THE ARGUMENTS.

The two main arguments are:-
I. That in the ordinary English speech of the 13 th and 14th centuries there was no recognition of the formative, and little of the inflexional, $e e$, which, chiefly for orthoëpical reasons, was appended to many words employed in written composition.
II. That the phonetic recognition of final ee was confined to verse composition, and only occasionally adopted by license, under rhythmical exigency, and consequently not adopted at the end of the verse where it was unnecessary.

These arguments are maintained, (1.) by considerations inherent in the nature of the case, (2.) by reference to the practice of AngloNorman and Early English writers, and are supported by illustrations derived (a.) from the laws which governed the formation of words in early French, (b.) from the manner in which Norman words are introduced into ancient Cornish poems, and (c.) from the usage of old Low German dialects (especially that of Mecklenburg), in respect to words identical (except as regards final -e) with Early English words.

## THE USE OF FINAL e $e$ IN EARLY ENGLISH, WITH ESPECIAL REFERENCE TO THE FINAL -e AT THE END OF THE VERSE IN CHAUCER'S CANTERBURY TALES.

## 1. STATEMENT OF THE QUESTION AT ISSUE.

The question whether the final $-e$, which is so obvious a feature of numerous English words in the 13th and 14th centuries, was or was not frequently recognized as a factor of the rhythm in verse, is not the question which it is here proposed to discuss. It needs, in fact, no discussion, since there can be no doubt whatever on the point. The real question is what it meant, that is, whether it was an organic and essential element of the words in which it occurred, to be accounted for by reference to original formation, inflexion, \&c., or whether it was, for the most part, an inorganic orthoëpic adjunct of the spelling, and only exceptionally performed any organic function.

If the former hypothesis is true, the -e was recognized in the rhythm because it was recognized in ordinary parlance as a necessary part of the pronunciation of the word, and the instances in which it was silent were exceptional and irregular. If the latter is true, the instances in which it was silent represent the regular pronunciation of the words, and those in which it is sounded an exceptional pronunciation, allowed by the fashion of the times in verse composition. It is a consequence, moreover, of the former theory that the $-e$, being by assumption a necessary organic part of the word, ought to be sounded even where, as in the case of the final syllable of the verse, it is
not required by the rhythm. By the latter theory the ee of the final rhyme, being generally an inorganic element of the orthography, not recognized in the ordinary pronunciation and not required by the rhythm, was (with rare exceptions, such as Rome-to me, sothe-to the, \&c., in the Canterbury Tales and elsewhere) silent.

These theories are obviously inconsistent with each other, the exceptions of the one being the rule of the other, and vice versâ. The former is that adopted by Tyrwhitt, Guest, Gesenius, Child, Craik, Ellis, Morris, and Skeat; the latter is that maintained by the present writer, supported to some extent by the authority of the late Mr Richard Price.

In anticipation of the full discussion of the various points involved, it may be here briefly remarked, that the former theory requires us to assume that such words as schame, veyne, sake, space, rose, joie, vie, sonne, witte, presse, were in ordinary parlance pronounced as schc-me, vey-ne, ro-se, joi-e, son-ne, wit-te, pres-se; moreover, that corage, nature, were pronounced as cora-ge, natu-re, and curteisie, hethenesse, as curteisi-e, hethenes-se, and that the recognition of the $-e$ in verse as a factor of the rhythm was required to represent the true pronunciation. The second theory, on the other hand, assumes that schame, veyne, sekie, joie, witte, nature, curteisie, \&c., conventionally represent schām, vēyn, sēk, jōi, wǐt, natū$r$, curteisī, as the ordinary pronunciation of the words, and that the recognition of the $-e$ as significant, was a rhythmical license.

By way of further illustration of the difference between the two theories, it may be noted that in such verses as these:

Enbrouded was he, as it were a mede-C. T. v. 89.
Ful wel sche sang the servise deryne-ib. v. 122;
the first theory requires mede and devyne to be pronounced me-de, devy-ne; the second, regarding mede (=A.S. med) and devyne (=Fr. devyn) as conventional
spellings, requires them to be pronounced mëd and devýn. Servise (Fr. servis, service), here servi-se, is regular by the first theory, exceptional by the second. ${ }^{\text {i }}$

The main principle of the theory here adopted is that very early (probably in the 12 th century) phonetic began to supersede dynamic considerations, and, as a consequence, to change the significance of the originally organic $-e$; and that this change was especially due to the introduction of the Norman speech and the usages of the Norman scribes into England. The Norman dialect was the simplest and purest of all the dialects of the French language, and largely exhibited the influence of phonetic laws. This influence it began to propagate on its contact with English. The first effect was to simplify the formative English terminations of nouns. Hence in the beginning of the 12 th century $-a,-o,-u$ (as in tima, haelo, sceamu) became -e (as in time, sceame, or schame, hele). It next acted on the grammatical inflexions, as, for instance, in nouns, either by suppressing the -e of the oblique or dative case altogether (cf. Orrmin's " be word," "bi bræd," "o boc," "off stan," \&c.) ; or by converting it from an organic to an inorganic termination, reducing it, in short, to the same category as name, shame, hele. It next affected the orthography generally by introducing an expedient of the Norman scribes (before unknown in England), which consisted in the addition of an inorganic $-e$ to denote the length of the radical vowel, an expedient which, when adopted in English, converted, after a time, A.S. lár, bén, béd, into lare, bene, bede, without disturbing the individuality of the words, and re-acted on name,
${ }^{1}$ In support of the assumption that sonant $-e$ is exceptional, not regular, it may be noted that in the first 100 lines of the Prologue (Ellesmere text) out of 160 instances of final -e only 22 occur in which it is sounded before a consonant; of the remaining 138 25 are silent before a consonant, 49 before a vowel or $h$, and 64 in the final rhyme where its sound is superfluous-that is to say, in 138 instances the words in -e have, it is assumed, their natural pronunciation against 22 in which, by license, the $-e$ is reckoned as an additional syllable.
schame, hele, \&c., by treating them (whatever they may have been before) as monosyllables. It finally acted on the versification by introducing the license, well known in early and, by descent, in modern French, of recognizing, under rhythmical exigency, the inorganic -e (silent in ordinary discourse) as a factor of the verse. It hence appears that certain principles introduced by the Normans, and exhibited in their own tongue, affected first the spoken and then the written English, gradually superseding the organic function of the $-e$, by treating it as inorganic, as an orthoëpic sign to guide the pronunciation of the reader; and that this great change was fundamentally due to the law of phonetic economy, which, by its tendency to simplification, gradually overpowered the original dynamic laws of the language, and ended in converting the formative and inflexional -e into a conventional element of the spelling.
2. OBJECTIONS WITH RESPECT TO THE VERSIFICATION CONSIDERED.

Two à priori objections may be taken, and indeed have been taken, against this conclusion as applied to Chaucer's versification. The first is indicated in these words of Mr Ellis," "that Chaucer and Göthe "used the final $-e$ in precisely the same way," and in these of Professor Child, ${ }^{2}$ " that the unaccented final -e of nouns of French origin is sounded in Chaucer as it is in French verse," by which assertions it is affirmed that the laws of modern German and French versification are identical with those of Chaucer.

The full answer to this objection will be found in the subsequent investigation, but for the present it may be urged, without pressing the argument already presumptively

[^9]stated, that the use of $-e$ in German and French versification is (with very rare exceptions) regular and constant, while that in Chaucer is continually interfered with by instances of silent $-e$, which, indeed, outnumber those in which it is sounded (see note, p. 87), even without taking into consideration the -e of the final rhyme. Then with regard to the final rhyme, the objection as applied to French versification proves too much, inasmuch as the $-e$ at the end of a French verse is not, and probably never was, a factor of the rhythm. This argument, then, as far as it is worth anything, is for, not against, the theory here maintained.

The following instances, which are typical, show that the laws of French versification are continually violated by Chaucer:

And he hadde ben somtyme in chivachie.-v. 85.
In hope to stonden in his lady grace.-v. 88.
He sleep nomore than doth a nightyngale.-vv. 97, 98.
Ful semely aftur hire mete sche raught.-v. 136.
By cause that it was old and somdel streyt.-v. 174.
A frere ther was, a wantoun and a merye.-v. 208.
In alle the ordres foure is noon that can.-v. 210, \&c.
If these verses are read by the French rule they become unmetrical ; it is only by ignoring it that they can be read with metrical precision. The conclusion, then, is that the only exact identity between French and early English versification consists in the silence of the $-e$ at the end of the verse.

Nor would it be difficult to show from the above and from thousands of other instances, that the strict application of the laws of German versification would render Chaucer unreadable.

The second' $\grave{a}$ priori argument, first put forward by Tyrwhitt, against the theory here adopted, that the -e at the end of a verse was silent, is to the effect that Chaucer intended the verse of the Canterbury Tales to be an imitation of the Italian endecasyllabic, that of Boccaccio, \&c., and, therefore, that he required the $-e$ at the close of the
line to be pronounced to make the eleventh syllable. Against this assumption, however, it may be urged that he simply adopted the decasyllabic French verse, of which there were numerous examples before his time. The metre of the Chanson de Roland, Huon de Bordeaux, Guillaume d'Orange, \&c., as well as of many of the "Ballades" of his contemporary Eustache Deschamps, appears to be precisely that of the Canterbury Tales. The following are typical examples:-

Co sent Rollenz que la mort le tresprent,
Devers la teste sur le quer li descent.-Chan. de Roland.
Ma douce mere jamais ne me verra.-Huon de Bordeaux.
Cis las dolans, vrais dex, que devenra.- $i b$.
Forment me poise quant si estes navres
Se tu recroiz, a ma fin sui alez.-Guillaume d' Orange.
En bon Anglais le livre translatas.-Eustache Deschamps. Grant translateur, noble Geofliroy Chaucier.- $i b$.
Ta noble plant, ta douce melodie.-ib.
We see, then, that there was no occasion for Chaucer to go to the Italians for a model. It may, moreover, be plausibly urged that in none of Chaucer's earlier works is there any trace of Italian influence, whether as regards subject, general treatment, or versification.

## 3. THE SECTIONAL PAUSE.

Before entering on the illustration by reference to the actual usage of early French and English poets of the theory which has been already stated, some notice may be taken of a characteristic feature of early French and English verse which has an important bearing on the point at issue. ${ }^{1}$ It is that of the sectional pause, a stop made in the reading of the verse, for the sake of the sound, and having no immediate connection with the sense. This pause in decasyllabic verse (to which, however, it is by no means confined) occurred at the end of the fourth or

[^10]sixth measure, and divided the verse into two parts, which were prosodially independent of each other; that is, it made each part a separate verse. Dr Guest (History of English Rhythms, i. 181) thus states the rule generally : "When a verse is divided into two parts or sections by what is called the middle pause, the syllable which follows such pause is in the same situation as if it began the verse." The bearing of this point, however, on the question at issue is more fully seen in the usage of early French verse, in which the effect of the pause was to silence the -e which closed the section. This usage is altogether unknown in modern French verse; a fact which of itself forms an argument against the presumed identity of the laws of early English and modern French versification. The rule is thus stated by Quicherat ("Versification française," p. 325): "Une preuve de l'importance que nos anciens poètes donnaient au repos de la césure" (he means the sectional pause) " c'est qu'its la traitaient comme la rime, et lui permettaient de prendre une syllabe muette, qui n'était pas comptée dans la mesure."

This principle, in its application to early Anglo-Norman and English, may be thus formulated :-

The -e that occurred at the sectional pause (and, presumptively, that at the final pause closing the verse) was silent, and not a factor of the rhythm.

Instances in which the $-e$ at the pause was silent abound in early French and Anglo-Norman poems, and this usage was borrowed or imitated by English poets, as may be seen in the instances which follow.

Fors Sarraguce || ki est en une muntaigne.-Chanson de Roland, v. 6.
De vasselage || fut asez chevaler.-ib. v. 25.
Mais ami jeune \| quiert amour et amie.-Eustache Deschamps, i. 122.
Car vieillesse $\|$ sans cause me decoipt.-ib. ii. 20.
Desous la loi de Rome || na nule region.-Rutebeuf, i. 236.
Si li cors voloit fere $\|$ ce que lame desire.-ib. i. 399.
Toz cis siecles est foire \| mais lautre ert paiement. -ib. i. 400.

De medle se purpense \|| par ire par rancour.-Langtoft (ed. Wright), i. 4.
Lavine sa bele file $\|$ li done par amour.- $i b$.
Norice le tient en garde $\|$ ke Brutus le appellait.- $i b$.
I rede we chese a hede \| pat us to werre kan dight.-De Brunne (ed. Hearne, i. 2).
pat ilk a kyng of reame $\|$ suld mak him alle redie.-ib. i. 4.
Sorow and site he made $\|$ ber was non oper rede.-ib. 5.
That ben commune \| to me and the.-Handlyng Synne (ed. Furnivall, p. 1).
In any spyce \|| pat we falle yune.-ib. p. 2.
For none parefore \|| shulde me blame.-ib.
On Englyssh tunge $\|$ to make pys boke. - $i b$.
In al godenesse $\|$ pat may to prow.-ib. p. 3.
pe yeres of grace $\|$ fyl pan to be.-ib.
Faire floures for to fecche $\|$ bat he bi-fore him seye.- William of Palerne (ed. Skeat), v. 26.
and comsed pan to crye \| so ken[e]ly and schille.-ib. v. 37. paune of saw he ful sone $\|$ fat semliche child.-ib. v. 49.
pat alle men vpon molde $\|$ no mizt telle his sorwe. -ib. v. 85.
but carfuli gan sche crie $\|$ so kenely and lowde.-ib. v. 152.
It will be seen that in all these instances the power of the pause overrides the grammatical considerations. Alle, commune (plurals), reame, spyce, tunge, grace, molde (datives), crie (infin.), to fecche, to crye (gerundial infinitives), have the $e e$ silent.

The following examples show that Chaucer adopted the same rule:-

Schort was his goune \|| with sleeves long and wyde.-Harl. v. 93.

He sleep no more $|\mid$ than doth a nightingale.-ib. v. 97.
Hire gretest othe ${ }^{1}| |$ nas but by seint Eloi.-Tyrwhitt, v. 120.
Hire grettest ooth \|| nas | but by | seint Loi.-Harl. v. 120.
That no drope || ili | uppon | hire brest.-ib. v. 131.
That no drope $\|$ ne fille upon hir brist.-ELlesmere, v. 131.
I durste snere $\|$ they weyghede ten pound.-Harl. v. 454.
And of the feste $\|$ that was at hire weddynge.-ib. v. 885.
And maken alle \|| this lamentacioun.-ib. v. 935.
For Goddes love $\|$ tak al in pacience.-ib. v. 1086.
Into my herte \| that wol my bane be.-ib. v. 1097.
No creature $\|$ that of hem maked is.-ib. v. 1247.
And make a nerre $\|$ so scharpe in this cite.-ib. v. 1287.
Thou mayst hire wynne \|l to lady and to wyf.-ib. v. 1289.
Ther as a beste $\|$ may al his lust fulfille.-ib. v. 1318.

[^11]In the following instances the independence of the second section of the verse is shown :-

Whan that Aprille || with | hise shore | wes swoote.Harl. v. 1.
And whiche they were $\|$ and | of what | degree.-Elles. v. 40. In al the parisshe || wyf | ne was | ther noon.-Harl. v. 451. Sche schulde slepe \| in | his arm | al night.-ib. v. 3406. That wyde where ${ }^{1}| |$ sent | her spy | cerie.-ib. v. 4556. Than schal your soule $\| \mathrm{up} \mid$ to he|ven skippe.-ib. v. 9546. For Goddes sake || think | how I | the chees.-ib. v. 10039. And with a face $|\mid$ deed | as ai|sshen colde.-ib. v. 13623.
In view of the numerous instances given above of the silence of the $-e$ at the sectional pause, it would seem $\grave{a}$ fortiori improbable that it would be sounded at the greater pause, that formed by the end of the verse. This argument, though as yet only presumptive, is held to be strongly in favour of the theory adopted by the present writer, who would therefore read,

> In God|des love \|| tak al | in pa|cience
as ten syllables and no more.
Even if the illustrations adduced are not admitted as decisive of the silence of $-e$ at the end of the verse, they undoubtedly account for its silence at the sectional pause as a characteristic of Anglo-Norman and Early English versification, and confirm the general argument, that in Chaucer's time the law of phonetic economy prevailed over what have been assumed to be the demands of wordformation and grammar.
4. THE USE OF FINAL $-e$ AS A FORMATIVE CONVENTIONAL ELEMENT OF THE SPELLING.

The position to be here maintained has been already stated (see p. 87), and amounts to this, that, as a consequence of Norman influence, the $-e$, which, whether
${ }^{1}$ If the $-e$ of $n$ here is sounded, it is probably the single instance in which it is so used, either in Chaucer or any other Early English writer. Here and there, too, are always monosyllables, and therefore Mr Child's marking of them as dissyllables when final, as in 1821, 3502, $5222, \& c$. , is entirely gratuitous. They will be considered hereafter.
formative or inflexional, was once organic and significant, became, as in time $=t \bar{\imath} m$, dede $=d \bar{e} d, \& c .$, simply a mark or index of the radical long vowel sound, or as in witte $=$ wit, presse $=$ press, a mere conventional appendage of the doubled consonant which denoted the radical short vowel sound.

It is further assumed that this phonetic influence, which probably acted first on the formative $-e$, as in the instances just given, gradually involved with varying degrees of velocity also the inflexional $-e$, and therefore that the so-called oblique cases as roote, brethe, ramme, \&c., and the infinitives as take, arise, telle, putte, merely represent in their spelling the sounds rōt, brèth, rüm, tāk, arīs, tell, püt, the formative and the inflexional -e being reduced to the same category.

The doctrine here laid down in its largest generality involves, it is easily seen, the whole question of the correspondence between the sound of words uttered in ordinary speech and their orthographic representation, as far as the final $-e$ is concerned, and is to be considered independently of the exceptional use of $-e$ as, by the usage of the times, an occasional factor of the verse. If, however, it can be proved it disposes entirely of the assumption that the $-e$ was sounded at the end of the verse, and this is the main object in view.
5. CANONS OF ORTHOGRAPHY AND ORTHOEPY APPLICABLE TO EARLY ENGLISH.

The main points, then, to be proved-by reference to the nature of the case and to actual usage-are, that in the time of Chaucer and long before, final -e had become either (1) an orthoepic or orthographic mark to indicate the sound of the long radical vowel or diphthong, or (2) a superfluous letter added for the eye, not for the ear, after a doubled consonant.

These conventionalities may be reduced for convenience of reference to the following

Canons of orthography and orthoepy.
Canon I. (1) When final ee followed a consonant or consonants which were preceded by a long vowel or diphthong, it was not sounded.
Thus mede $=m \bar{e} d$, rose $=r \bar{o} s$, veyne $=v e y n$.
(2) When final e followed a vowel or diphthong, tonic or atonic, it was not sounded.

Thus curteisíe $=$ curteisí, glórie $=$ glóri, weye $=$ wey, mérie $=$ mĕri.

Canon II. When final -e followed a doubled consonant or two different consonants, preceded by a short vowel, it was not sounded.

Thus witte $=$ w̌̌t, blisse $=$ blıs, sette $=s e \check{ }$, ende $=$ ěnd, reste $=$ rĕst .

Once more admitting that the $-e$ in each of these cases could be made, and was made, at the will of the poet, exceptionally significant, we proceed to consider these propositions seriatim, merely observing, by the way, that these rules-framed and adopted five or six hundred years agoare in substance the same as those now in common use.
(1.) Final -e suffixed to a consonant or consonants which were preceded by a long vowel or diphthong, as in mede, penaunce, veyne.
On this point we are bound to listen to the doctrine of Mr Richard Price, contained in the preface to his edition of Warton's History of English Poetry.

Referring first to the fact that in A.S. the long vowel of a monosyllabic word was commonly marked by an accent, which in the Early English stage of the language was entirely disused, he inquires what was done to supply its place, and maintains that in such cases an $-e$ was generally suffixed to indicate the long quantity of the preceding
radical vowel. "The Norman scribes," he says, "or at least the disciples of the Norman school, had recourse to the analogy which governed the French language ;" ${ }^{1}$ and, he adds, "elongated the word or attached, as it were, an accent instead of superscribing it." "From hence," he procceds to say, "has emanated an extensive list of terms having final $e$ 's and duplicate consonants, [as in witte, synne, \&c.,] which were no more the representatives of additional syllables than the acute or grave accent in the Greek language, is a mark of metrical quantity." He adds in a note, "The converse of this can only be maintained under an assumption that the Anglo-Saxon words of one syllable multiplied their numbers after the Conquest, and in some succeeding century subsided into their primitive simplicity." Illustrating his main position in another place, ${ }^{2}$ he observes, "The Anglo-Saxon á was pronounced like the Danish $a a$; the Swedish $\dot{a}$, or our modern $o$ in more, fore, \&c. The strong intonation given to the words in which it occurred would strike a Norman ear as indicating the same orthography that marked the long syllables of his native tongue, and he would accordingly write them with an $e$ final. It is from this cause that we find hár, sár, hát, bát, wá, án, bán, stán, \&c., written hore (hoar), sore, hote (hot), bote (boat), woe, one, bone, stone, some of

[^12]which have been retained. The same principle of elongar tion was extended to all the Anglo-Saxon vowels that were accentuated; such as réc, reke (reek), líf, life, gód, gode (good), scuir, shure (shower) ; and hence the majority of those $e$ 's mute, upon which Mr Tyrwhitt has expended so much unfounded speculation." ${ }^{1}$

Mr Price means to assert-what is maintained by the present writer-that an original monosyllable, as lif, for instance, was never intended by those who subsequently wrote it life to be considered or treated, when used independently, as a word of two syllables, though when introduced into verse it might be employed as such, under the stress of the rhythm. There seems an $\dot{\alpha}$ priori absurdity in the conception of such an interference with the individuality of a word, as is involved in denying the essential identity of lif and life. The fact, too, that in Early English, as distinguished from Anglo-Saxon so called, nearly, if not quite all, the words in question appear as monosyllables, seems strikingly to confirm the hypothesis. Thus in the Orrmulum we find boc, blod, brad, braed, cwen, daed, daef, daep, god, sop, wa, an, stan, nearly all of which are the identical A.S. forms, and were most of them in later texts lengthened out by an inorganic -e. As the pronunciation of these words was no doubt well established, there seemed no need for the scribe to indicate in any way what was everywhere known, but soon the confusion that began to arise, in writing, between long and short syllables, suggested the more general use of the orthoepical expedient in question, and accordingly we find in early English texts both forms employed. Thus along with lif, strif, drem, bot, \&c., we see bede (A.S. béd), bene, bone (A.S. bén), bode (A.S. bód), \&c.

The "Early English Poems" (written before 1300,

[^13]in a "pure Southern" dialect") supply us with numerous examples. The following are from "A Sarmun":

| pe dere (A.S. deór) is nauzte (A.S. náht, náwht) pat pou |  |
| :--- | ---: |
| mighte sle | v. 24 |
| If pou ert prute (A.S. prút) man, of pi fleisse | v. 25 |
| pe wiked wede (A.S. wéd) pat was abute | v. 49 |
| Hit is mi rede (A.S. rád, réd) while pou him hast | v. 61 |
| pen spene pe gode (A.S. gód) pat god ham send | v. 68 |
| His hondes, is fete (A.S. fét) sul ren of blode | v. 117 |
| Of sinful man bat sadde pi blode (A.S. blód) | v. 124 |
| Bope fire (A.S. fýr) and wind lude sul crie | v. 125 |
| And forto hir pe bitter dome (A.S. dóm) | v. 134 |
| Angles sul quake, so seip pe boke (A.S. bóc) | v. 135 |
| To crie ihsu pin ore (A.S. ár) | v. 142 |
| While pou ert here (A.S. hér) be wel iware (A.S. gewár) | v. 143 |
| Undo pin hert and live is lore (A.S. lár) | v. 144 |
| Hit is to late (A.S. lét) whan pou ert pare (A.S. pær, par, |  |
| per) | v. 146 |
| For be pe soule (A.S. sáwl) enis oute (A.S. út) | v. 171 |
| he nel nost leue his eir al bare (A.S. bær) | v. 174 |
| and helpip pai pat habip nede (A.S. neád, neód, néd) | v. 186 |
| pe ioi of heven hab to mede (A.S. méd) | v. 188 |
| heven is heiz bope lange (A.S. lang) and wide (A.S. wíd) | v. 213 |

In this long list of passages it will be seen that not one instance occurs in which the formative -e is phonetic, so that bede, bone, blode, boke, ore, here, lore, nede, bare, ware, wide, late, \&c., are all treated as words of one syllable in which the $e$ is merely an orthoepical index to the sound.

These instances, alone, go far to show what the ordinary pronunciation of the words in question was, and to make it appear very improbable that, except by poetical license, the $-e$ which closes them was ever pronounced.

It appears, then, clear that the A.S. words above quoted are absolutely equivalent to the corresponding Early English words ending in $-e$. But the principle admits of some extension. We find that not ouly A.S. words ending in a consonant assumed $-e$ in Early English, but that the A.S. terminations $-a,-o,-u$, were also represented by $-e$. This we see in time from tima, and hele from hælo, or hælu. When

[^14]these forms were generally adopted, the next step would be to consider them as in the same category as blode, dome, \&c., and to apply the same rule of pronunciation to them. Hence, except by way of license, we find in the 13 th and 14th centuries no practical difference in the use of the two classes of words-crede from creda, stede from steda, care from cearu, shame from sceamu, being treated precisely as blode from blód, dome from dóm, \&c. ; and the same remark applies to such adjectives as blithe, clene, grene, \&c., which in their simple indefinite use, at least, were probably monosyllables.

The position now gained is, that the $-e$ in such English words as dome, mede, fode, mone, name, \&c., was orthoepic, not organic. It is highly probable-as Mr Price appears to have believed--that Latin words became French by a similar process, and that the orthoepic expedient in question is of French origin. ${ }^{1}$ The Norman words place, grace, face, space, as interpreted in English by plas, graas, faas, spas, are found in "Early English Poems," and later, in Chaucer, and we also find conversely trespace, case, for the French trespas, cas. Both in Early French and English we moreover find as equivalent forms, devis, devise, and device ; servis, servise, service ; pris, prise, price; surplis, surplice ; assis, assise. ${ }^{2}$

It will now be shown by examples, both Anglo-Norman and English, that in words containing a long vowel followed by a consonant and final $-e$, the $-e$ was simply an index to the quantity of the vowel, and therefore not generally pronounced in verse composition-though under stress of the rhythm it might be.

The usage in Anglo-Norman verse will first be shown generally :

[^15]Quy a la dame de parays.-Lyrical Poetry of reign of Edward $\grave{I}$. (ed. Wright), p. 1.
Quar ele porta le noble enfant.-ib.
De tiele chose tenir grant pris.-ib. p. 3.
Vous estes pleyne de grant docour.-ib. p. 65.
The word dame is derived from domin-am $=$ domin $=$ $d o m n=d \bar{o} m=d \bar{a} m=d a m e$, just as anim-am becomes anim, anm, $\bar{a} m$, ame. In both instances the $-e$ is inorganic.

Dame frequently occurs in Chaucer, and generally, as we might expect, with $-e$ silent. ${ }^{1}$ Examples are:-

Of themperoures doughter dame Custaunce.-Harl. v. 4571.
Madane, quod he, ye may be glad \& blithe. -ib. v. 5152 . (See also v. $4604,7786, \& \mathrm{c}$.)

We may presume, then, that at the end of a line, the $-e$ in this word would be silent, and that the -e of any word rhyming with it would therefore be silent, as of blame in

And elles certeyn hadde thei ben to blame:
It is right fair for to be clept madame.-Harl. v. 378-9.
We may infer, then, that English words of the same termination-as schame, name, \&c., would follow the same rule-and accordingly we find-
pe more schame pat he him dede--Ear. Eng. Pooms, p. 39.
We stunt noper for schame ne drede.-ib. p. 123.
In gode burwes and per-fram,
Ne funden he non pat dede hem sham.-Havelok (ed. Skeat), v. 55-6.

Ful wel ye witte his nam,
Ser Pers de Birmingham.-Harl. v. 913 (date 1308);
and in Wiclif's "Apology for the Lollards" (Camden Society), "in pe nam of Crist" (p.6); "in nam of the Kirke" (p. 13), \&c., as also "in the name" on the same page. We may therefore conclude that shāme $=$ sha $\bar{a}$, and $n \bar{a} m e=n \bar{a} m$.

Following out the principle we should conclude that

[^16]what is true of -ame would also be true of -cme, in dreme, -ime in rime, -ome in dome, -ume in coustume; and by extending the analogy we should comprehend -ene in quene, -ine in pine, as well as -ede in bede, -ete in swete, -ote in note, -ute in prute, -ere in chere, \&c., and expect that the -e in all these cases would be mute. This, with exceptions under stress, is found to be the case-the Northern MSS. (as seen above) very frequently even rejecting it in the spelling.

For the purpose of this inquiry it is obvious that such terminations as -ume, -ine, -ete, -ere, -age, -ance, \&c., are virtually equivalent to monosyllabic words of the same elements. As, however, it would be quite impossible without extending the investigation to an enormous length, to illustrate them all, the terminations -are, -ere, -ire, -ure, -age, -ance, will be taken as types of the class.
-ere. We commence with -ere because Professor Child asserts that "there can be no doubt $-e$ final was generally pronounced after $r$," a conclusion inconsistent with the law of formation already considered, and, as it would appear, with general usage in early Anglo-Norman and English. He farther maintains that " the final $-e$ of deere (A.S. deor, deore) and of cheere (Fr. chere) was most distinctly pronounced " [in Chaucer].

The first of these propositions evidently includes the second, and means that words in -are, as bare, in -ere, as here, in -ire, as fire, in -ore, as lore, generally have sonant-e. Now it has been shown (p. 98) that bare, here, fire, lore, were monosyllables in the 13th century. It is, therefore, extremely improbable that these words would in the 14 th century put on another syllable. And if not these words, why others of the same termination, as deere and cheere? However frequently, then, such words may appear in Chaucer, with sonant $-e$, the cases are exceptional, and being themselves exceptions from a general rule, cannot form a separate rule to override the general one.

Although, then, it were proved that Chaucer more generally than not uses deere as a dissyllable, that fact being exceptional cannot prove that here, ${ }^{1}$ prayere, frere, manere, ${ }^{1}$ matere, have the -e sonant because they rhyme with deere. The argument, in fact, runs the other way, inasmuch as here, which is without exception a monosyllable -manere and matere, which are almost without exception dissyllables, being themselves representatives of the general law of analogy-have a right, which no exceptional case can have, to lay down the law. When therefore we fund heere and deere rhyming together, it is here, not deere, that decides the question, and proves deere in that instance to be a monosyllable. We are indeed, in determining such cases, always thrown back on the formative law, which, being general, overrides the exceptions. All the instances, then, in which deere rhymes with here, manere and matere, are instances of monosyllabic deere. As to chere, on which Mr Child also relies, he seems to have forgotten that this word is very frequently written cheer (there are eight such instances in the Clerk's Tale alone), and wherever so written confirms, and indeed proves, the contention that it was only exceptionally a dissyllable. Every instance, then, in which deere and cheere rhyme with here, there, where, matere, manere, frere, cleere, all representatives of the formative rule, is an argument against Mr Child's partial induction.

A few instances will now be given, showing the use of -are, -ere, -ire, -ore, -ure, in Anglo-Norman and English writers:

```
-are, -ere, -ire, -ore:-
```

[^17]Si fut un sire ${ }^{1}$ de Rome la citet.-Alexis. v. 13.
Quant vint al fare, dunc le funt gentement.-ib. v. 47.
En cele manere ${ }^{2}$ Dermot le reis.-Conquest of Ireland (ed. Michel), p. 6.
Vers Engletere la haute mer.-ib. p. 153.
En Engleter sodeinement.-French Chronicle (Cam. Soc.), Appendix.
Deus le tot puissant ke eeel e terre crea.-Langtoft (ed. Wright), v. 1.
Ke homme de terve venuz en terre revertira.-ib.
Uncore vus pri pur cel confort.-Lyrical Poctry, p. 55.
Then, for English instances:
Lyare wes mi latymer.-Lyrical Poetry, p. 49.
Careful men y-cast in care--ib. p. 50.
Tharefore ne lette me nomon.-ib. p. 74.
Ther is [mani] maner frute.-Land of Cokaygne, v. 49.
On pys manere handyl py dedes.-Handlyng Synne, p. 5.
Four manere joyen hy hedde here.-Shoreham's Poems (Percy Soc.), p. 118.
And alle ine nout maner . . . Ine stede of messager.-ib. p. 119.
Sire quap pis holi maide our louerd himself tok.-Seinte Margarete (ed. Cockayne), p. 27.
Fyrst of my lyyre my lorde con wynne.-Allit. Poems, i. v. 582.
Bifore ${ }^{3}$ pat spot my honde I spennd.-ib. i. v. 49.
pat were i-falle for prude an hore
To fille har stides pat wer ilor.-Ear. Eng. Poems, p. 13.
And never a day pe dore to pas.-ib. p. 137.
More ben me lyste may drede aros.-ib. v. 181.

[^18]
[^0]:    ${ }^{1}$ So in MS.
    ${ }^{2}$ MS. ricunce.

[^1]:    ${ }^{1}$ Bale, v. 79. ${ }^{2}$ Pitseus, p. 356. ${ }^{3}$ Tanner, under Hovedenus
    ${ }^{4}$ See Royal MS. 7 C xv and Oxford Univ. MSS. 29 and 36. ${ }^{5}$ In chapter 36.

[^2]:    ${ }^{1}$ Nearly obliterated.
    ${ }^{2}$ The numbers in parentheses correspond to those which head the sections.

[^3]:    ${ }^{1}$ Only one style is mentioned in the former treatise.

[^4]:    ${ }^{1}$ That is, straight down the cylinder.
    ${ }^{2}$ The following extract from Delambre's Astronomie du Moyen Age, Paris, 1819, pp. 73, 74, may serve to explain the motion of the eighth sphere:-
    "Thébith ben Chorath.-Son malheureux système de la trépidation infecta les tables astronomiques jusqu'à Tycho, qui, le premier, sut les en purger. Ce long succès n'a point empêché que son livre ne soit resté inédit; mais j'en ai trouvé un exemplaire latin manuscrit, à la Bibliothèque du Roi, $\mathrm{n}^{\circ} 7195$. Ce traité a pour titre Thebith ben Chorath de motu octave Spherra. . . . .
    "Il imagine une écliptique fixe, qui coupe l'équateur fixe dans les deux points équinoxiaux, sous un angle de $23^{\circ} 33^{\prime}$, et une écliptique mobile, attachée par deux points diamétralement opposés à deux petits cercles, qui ont pour centres les deux points équinoxiaux

[^5]:    ${ }^{4}$ That is, straight down it.

[^6]:    ${ }^{1}$ Read enim.
    ${ }^{2}$ The word $r m b r e$ is wrongly inserted after parti in the MS.

[^7]:    ${ }^{1}$ MS 'iuxta.'

[^8]:    Here ends Master John Hoveden, the astrologer's, Woriting of the Cylinder.

[^9]:    ${ }^{1}$ "Early English Pronunciation," p. 339.
    2 "Observations on the Language of Chaucer," by Professor Child of Harvard University, a paper contributed to the "Memoirs of the American Academy," vol. viii. p. 461.

[^10]:    ${ }^{1}$ It is remarkable that scarcely any of the writers on early English versification (except Dr Guest) have noticed the sectional pause, or explained the true use of the prosodial bars or full-points found in the MSS.

[^11]:    ${ }^{1}$ Othe and ooth are the same word, the inorganic -e being merely an index to the sound. This exclamation occurs in "Nenil, Sire, par Seint Eloi" (Theâtre Français du Moyen Age, p. 120). Loi itself appears to be simply a contraction of Eloi.

[^12]:    ${ }^{1}$ Mr Price makes no attempt to prove this position, but a few remarks upon it may not be out of place here. The general principle in converting Latin words into French was to shorten them, and the general rule, to effect this by throwing off the termination of the accusative case. Thus calic-em would become calic, which appears in Old French both as caliz and calice, evidently equivalent sounds. So we find vertiz, devis, servis, surplis, graas, and in phonetic spelling ros, chos. Conversely, as showing the real sound of such words, we find in Chaucer and other English poets, trespaas, solaas, caas, faas, gras (also grasse), las, which interpret solace, case, fuce, grace, lace, as words in which -e was mute, and this because it was mute in French. French words ending in -nce, as sentence, pacience, experience, were presumptively sounded without $-e$, since we find Chaucer and other English writers expressing them as sentens, paciens, experiens. See Appendix I "On the final ee of French nouns derived from Latin."
    ${ }^{2}$ End of note to the Saxon Ode on the Victory of Athelstan.

[^13]:    ${ }^{1} \mathrm{Mr}$ Price promised to resume the subject "in a supplementary volume, in an examination of that ingenious critic's 'Essay upon the Language and Versification of Chaucer.'" This promise was, however, never fulfilled.

[^14]:    1 "Some notes on the leading grammatical characteristics of the principal Early English dialects." By Wm. T. P. Sturzen-Becker, Ph.D. Copenhagen, 1868.

[^15]:    ${ }^{1}$ See Appendix I.
    ${ }^{2}$ The phonetic identity of $-s$, $-s s e,-c e$, in Anglo-Norman and English is shown by numerous illustrations in a paper by the present writer, on Norman and English pronunciation, in the Philological Transactions for 1868-9, pp. 371, 418-19, 440.

[^16]:    ${ }^{1}$ Professor Child, in a communication to Mr Furnivall, intended for publication, decides that "dame is an exception" from the general rule, but quotes Chaucer's usage of fame throughout the "House of Fame" as a dissyllable. There is, of course, no disputing the fact, but we see nothing in it beyond a convenicut license. Does Mr Child pretend that fame was formed on some special principle, and for this reason employed by Chaucer as a dissyllable?

[^17]:    ' No instance has yet been met with in Chaucer of here, there, or manere with sonant -e. Two from Gower of manere, as a trisyllable, have been found by Professor Child. Gower however, who affected Frenchisms everywhere, being, if possible, more French than the native authorities, and in his French ballads writes in the "French of Paris," not Anglo-Norman-is no authority on the question.

[^18]:    ${ }^{1}$ In Anglo-Norman verse of the 13th century Sire is generally a monosyllable, and is even repeatedly written Sir. See in "Political Songs" (Camd. Soc.), pp. 66, 67, "Sir Symon de Montfort," "Sir Rogier," and also in "Le Privilège aux Bretons," a song containing, like that just quoted from, a good deal of phonetic spelling, "Syr Hariot," "Syr Jac de Saint-Calons" and "Biaus Sir" (Jubinal's "Jongleurs et Trouvères," pp. 52-62). Writings of this kind in which words are phonetically, not conventionally, spelt, are often very valuable as showing the true sound, and illustrate a pithy remark of Professor Massafia's, that "pathological examples are frequently more instructive than sound ones."
    ${ }^{2}$ In the "Assault of Massoura," an Anglo-Norman poem (13th century, Cotton MS. Julian A. v.), we find mere, frere, banere, arere, almost always spelt without the -e. Manere (when not final) is a dissyllable, and, when final, rhymes with banere, which in its turn rhymes with frer, Mester and mestere both occur, and the latter rhymes with eschapere and governere, for eschaper and governer, showing that the added $-e$ was inorganic and merely a matter of spelling.
    ${ }^{3}$ A.S. biforan became in Early English biforen, which fell under the orthoepic rule which, as in many infinitives (see infrà), elided the $-e$ in the atonic syllable -en. Biforen thus became biforn, then lost the $n$ and received an inorganic or index letter, $e$, becoming bifore or before. No instance has yet been found by the present writer, of bifore as a trisyllable.

