

THE GROWTH OF SHAKESPEARE'S VOCABULARY¹

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Collection of the vocabularies of Shakespeare's plays and poems does not assist us very much to an understanding of his magic and artistry in the use of words. Certainly it gives critics one more undeniable fact to add to the many which justify the rejection of the opinion that Marlowe wrote most of our poet's early plays. It is true, of course, that great length and a large vocabulary do not necessarily carry with them high dramatic quality; comparison of 2 *Henry VI* and *Othello*, or *Love's Labour's Lost* and *As You Like It*, or *The Tempest* and *Two Gentlemen* enforces the truth of such an obvious statement. On the other hand, the presence in a play of an unusual number of words peculiar to it generally means some unusual merit.

Estimates, mostly conjectural, of the number of the words used by Shakespeare have been printed at various times, yet for many years guesswork has been unnecessary. From the concordances or, better still, from Schmidt's *Lexicon*, an accurate total could have been gathered, and this total would have gained ready acceptance if the collector had explained how the count had been planned. My own tally is 17,677 words. If we omit the peculiar words present in the non-Shakespearian portions of certain plays, viz. fifty-four in *The Taming of the Shrew*, thirty-two in *Timon of Athens*, fifty in *Pericles* and sixty-one in *Henry VIII*, this total is reduced to 17,480 words. If the 487 words peculiar to the poems are deducted, the total vocabulary of the thirty-seven plays will be 17,190 words, or 16,993 if the 197 words in the alien parts of the four plays named above be subtracted. This total of 17,677 words is of no great importance except as a matter of curiosity; I shall make use of it for the purpose of discovering how many *fresh* words Shakespeare introduced into each of his plays and poems. Moreover, in an age when the iconoclast is abroad and rampantly dogmatic, it may serve as a useful check to mis-statements. Here it is sufficient to say that with an addition of about 2,000 words Shakespeare's vocabulary would be comprehensive enough to serve as a concordance for all Marlowe's, Greene's and Peele's plays and poems.

This total of 17,677 words may be divided into 14,652 main words and 3,025 compound words, thus the main words amount to slightly less than five-sixths and the compound words to a little more than a sixth of the full vocabulary. About a third of the main words and five-sixths of the com-

¹ Owing to the long delays in mails between Australia and this country, the author has not been able to correct proofs of this article.

bined words became part of our speech not earlier than the first year of the sixteenth century, about a fifth of the poet's vocabulary dates after the year 1586. Our greatest dramatist intuitively understood that he must use words current in his own generation, the compilers of the *Oxford English Dictionary* find that he was the first in our literature to use about ten per cent of the main words present in his works, and ascribe over three-fifths of the combined words to his own invention.

I have divided the poet's complete vocabulary into eleven groups. My classification of a word depends on the frequency of its occurrence in the plays and poems. Thus if a word occurs in only one play or one poem it will belong to the one-play group, a word which is used in two plays, two poems, or a play and a poem takes its place in the two-play group of words, and a word occurring in any three of the poet's works, poems or plays, is placed in the three-play group of words, and so on. All the words not classified in any one of the ten groups so formed will be in the eleventh group, which contains the remainder of the poet's vocabulary.

TABLE III¹

CLASSIFICATION OF SHAKESPEARE'S VOCABULARY

I Name of Group	II No. of Main Words	III No. of Com- pounds	IV No. of Words in Group
One-Play	4,691	2,528	7,219
Two-Play	1,937	269	2,206
Three-Play	1,273	73	1,346
Four-Play	904	32	936
Five-Play	684	25	709
Six-Play	511	16	527
Seven-Play	431	10	441
Eight-Play	350	10	360
Nine-Play	328	7	335
Ten-Play	260	2	262
TOTALS	11,369	2,972	14,341
Remainder of Vocabulary	3,283	53	3,336
GRAND TOTAL	14,652	3,025	17,677

NOTES ON TABLE III

(1) For the sake of brevity I shall group together the *Sonnets* and *Miscellaneous Poems* and term them *Poems*. There will then be forty plays and

¹ Tables I and II will be found in Mr Hart's article 'Vocabularies of Shakespeare's Plays' (*RES*, April, 1943, pp. 128-40).

poems in all, and consequently the list given in the table might be continued until it concluded with a forty-play group. No necessary or useful purpose would be served by collecting the omitted thirty groups, the ten groups for which details are provided contain four-fifths of the poet's vocabulary and include nearly all the less common and more significant words. This eleventh group consists of 3,336 commonly-used words, an undistributed remainder, of which a large proportion will be found in every play and poem.

(ii) One-play main words are unexpectedly numerous, amounting to nearly a third of the main words in the poet's vocabulary; one-play combined words equal slightly more than five-sixths of the compounds present in his works. Together they amount to nearly forty-one per cent of the entire vocabulary. This seeming domination of one-play or peculiar words over the poet's vocabulary is not noticeable in the separate plays. Even in *Hamlet*, where they provide over ten per cent of the full vocabulary, they are scattered haphazardly, about three to a thirty-line page, with the result that the 396 present would attract little attention in a play of over 30,000 words. Many of them were words common in every-day speech, others were forcing their way into the language, and over a third made their first appearance in our literature.

(iii) Some one-play words, or words peculiar to one play or one poem, are repeated in this play or poem seemingly without any definite reason, but such repetition is infrequent, less than two hundred occur more than once. Most of those which are used more than twice recur because they are necessary to the plot or the characterization. In the examples cited below, the digit placed in brackets on the right of the word indicates the number of times it was used, this is followed by the name of the play which will recall to scholars the reason or necessity of this repetition: 'Abbess' (5), 'rest' (vb) (4), (*C. E.*), 'birding' (4), 'buck-basket' (5), 'bully-rook' (4), 'deanery' (4), (*M. W.*), 'Ascension-day' (3), (*John*), 'Danish' (5), 'grave-maker' (3), 'hanger' (3), 'mobled' (3), 'Polack' (5), (*Ham.*), 'cross-gartered' (5), (*T. N.*), 'cauldron' (6), 'equivocator' (3), 'knock' (4), 'weird' (6), (*Mac.*), 'gamut' (4), 'mathematics' (3), (*T. S.*), 'Greekish' (9), (*T. C.*), 'hovel' (4), (*Lear*), 'l'envoy' (14), 'Muscovite' (3), 'pricket' (6), (*L. L. L.*), 'proscription' (4), (*J. C.*), 'Salique' (8), (*H. V.*), 'councillor' (3), 'secretary' (4), (*H. VIII.*), 'sheep-shearing' (5), (*W. T.*), 'wrestler' (7), (*A. Y. L.*)

Two-play words number 2,206, of these 248 are repeated. Repetition may occur in only one of the two plays or in both. 'Boatswain', a late word, occurs once in *Pericles* and five times in *The Tempest*; 'buckram', used as a depreciatory adjective in 2 *Henry VI* is found seven times in 1 *Henry IV*, 'forfeiture', an essential word in *The Merchant of Venice*, recurs in *Timon*, 'hit' (n), used fancifully once in *Romeo and Juliet*, is found in *Hamlet* in

five speeches Repetition of a two-play word in each of the two plays is less common, usually the word is necessary to the plot. Some examples are. 'Appellant', 2 *H VI* (3), *R. II* (3), 'British', *Lear* (3), *Cym* (3), 'coney-catch' (vb), *T S.* (2), *M W.* (2), 'curate', *L L L* (2), *T N* (2), 'discuss', *H. V* (3), *M W* (2), 'fin', *Cor* (2), *Temp.* (3); 'monk', *John* (2), *H VIII* (4), 'patrician', *Titus* (3), *Cor* (11), 'shepherdess', *A. Y L* (3), *W. T* (2).

Three-play words present a greater variety in the type of repetition. Of a total of 1,346 such words no fewer than 317 are repeated in one, two or even three plays. Only a small number of the last type are found, and they are usually words necessary to the play. Examples are 'abbey', *C. E* (6), *John* (2), *H. VIII* (3), 'barge', *A C* (2), *Per.* (2), *H. VIII* (3), 'confessor', *R. J.* (2), *M M* (3), *H. VIII* (4), 'homicide', 1 *H VI* (2), *R III* (3), *H IV* (4); 'Irish', *R. II* (3), 1 *H IV* (4), *A. Y. L* (2). It will be noticed that though 'abbey' occurs in only three plays, Shakespeare uses it in eleven passages. Repetition increases with the number of plays in which a word occurs, thus of 441 words in the seven-play group no less than 302 have each at least one play in which the word recurs.

(iv) There is a rapid fall in the totals of the groups, corresponding not quite uniformly to the increase in the number of the plays in the groups. Compounds tend to disappear, there are only fifty-six in the unclassified thirty groups.

Each of the ten groups was collected by itself, and the words of each group were arranged in alphabetical order. By the side of each word were placed the names of the plays and poems in which the word was found. Totals for the number of words in each of the groups are given in the fourth column of the third table. I sub-divided the 7,219 one-play words into forty portions, each of which corresponded to one of the forty plays and poems. Thus an alphabetical list of the one-play words was prepared for each play and poem. Next, I sub-divided the 2,206 two-play words into forty parts, and thus compiled for each play or poem a separate list of two-play words found in that play or poem. By the side of each word were placed the names of the two works of Shakespeare in which this word occurs. Obviously such a word as 'conjunctive', which is used in only *Hamlet* and *Othello*, would appear in the list of two-play words for *Hamlet* and also in the list of two-play words for *Othello*. Similarly, I distributed the 1,346 three-play words, and compiled lists of three-play words for each of the forty plays and poems. Clearly the three-play noun 'consummation', used by Shakespeare in *Hamlet*, *Lear*, and *Cymbeline*, would be included in each of the lists of three-play words prepared for each of these three plays. In each list the names of the three plays or other works of Shakespeare in which the word under consideration is found appear at the

side of the word. By continuing the collection and distribution of words in the groups to which they belong, and by preparing lists for each play and poem in the same way, all the other words could be distributed among the poems and plays, and complete lists for each work of Shakespeare could be prepared. I compiled only four such lists for each of the forty plays and poems, I collected the words present in the other six groups, but did not distribute them. Totals are given in the fourth column of the third table.

At this stage of my examination of Shakespeare's vocabulary I found it was essential to fix for myself a definite chronological order for all the plays and poems. I must decide, for example, in what order 2 *Henry VI*, *Venus*, *The Shrew* and *Love's Labour's Lost* must be arranged, the word 'unpolished' occurs in each of these works. Our standard authority on the origin, date and usage of words, *The Oxford English Dictionary*, dates *The Shrew* 1596, and *Love's Labour's Lost* 1588, if I accepted its authority, the order of composition would be *Love's Labour's Lost*, *Venus*, 2 *Henry VI*, *The Shrew*. Most modern critics would place *Love's Labour's Lost* in the fourth place. I find the word 'nowhere' in *Merry Wives*, *Lover's Complaint*, *As You Like It*, and *Hamlet*. Scarcely two critics agree in the respective dates to be assigned to these four works. Facts are few and the doubtful internal evidence is variously interpreted. Above I have placed each group in the order which I prefer. After reading much that has been written on a much-vexed problem, I decided to follow, with some modifications, the chronological order suggested by Sir E. K. Chambers.¹ I place *Two Gentlemen* immediately before, and not after *The Shrew*, *Merry Wives* after *Henry V* and before *Julius Caesar*, *Othello* after *Troilus and Cressida*, and *Timon* after *Macbeth* and before *Antony and Cleopatra*. I do not propose to give my reasons for these changes at any length. I consider Shakespeare's part of *The Shrew* more vigorous and mature than *Two Gentlemen*, in addition, the vocabulary of *The Shrew* is much nearer to that of *Love's Labour's Lost* and of *Romeo and Juliet*. *Merry Wives* ought not to be separated from *Henry V* by two years and four plays. The line 'What is the reason that you use me thus?' common to *Merry Wives* Q1, and *Hamlet* Q1, comes from *Hamlet* Q2, but if both plays were on the acting list at the same time, the borrowing does not necessarily infer the priority of *Hamlet* in composition. Moreover, I think that the change of the name 'Brooke' found in *Merry Wives* Q1 to 'Broome' in *Merry Wives* Folio took place just before the play was acted at the Court, 4 November 1604. Less than a year before, George Brooke had been executed and his brother attainted and condemned to death for their share in the mysterious plot to place Arabella Stewart on the throne. Shakespeare's fellows, being His

¹ *William Shakespeare*, Vol. I, pp. 270-1.

Majesty's servants, certainly would not desire to revive unpleasant memories. My reasons for placing *Othello* in 1602 are, first, that a line and a half, some phrases and an unusual compound word, 'Olympus-high', all in *Othello*, are echoed in *Hamlet* Q1 which was entered in the Stationers' Register, 26 July 1602, and, second, that the vocabulary of *Othello* and that of *Hamlet* are closer to each other than is customary.

My lists for each play enabled me to collect the *fresh* words introduced by Shakespeare into that play without very much labour. During my compilation of the lists of words in the two-play, three-play and four-play groups I arranged the names of the plays or poems placed at the side of each word in the order indicated by their respective positions in the chronological order adopted in the first table. Consequently the work of collecting the fresh words in each play was reduced to a minimum.

Reference to the list of Shakespeare's plays and poems in my table shows that I believe 2 *Henry VI* to be the first play written by our dramatist; consequently the 3,146 words in its vocabulary represent the first and by far the largest contribution made by any play to Shakespeare's vocabulary. Among the words of this play are all the pronouns, auxiliary verbs, and the majority of the prepositions and conjunctions used in our speech as well as many interjections. In addition, some nouns, adjectives, verbs and adverbs found in every one of Shakespeare's plays and poems are used for the first time in this play. His next play was 3 *Henry VI*. By collecting simultaneously the vocabularies of the three parts of *Henry VI* on the same sheets I found it was possible during the process of collection to distinguish with suitable marks the words common to each of the three pairs of plays, and also the words common to the three. No less than 1,649 words are common to 2 *Henry VI* and 3 *Henry VI*, and thus the contribution of the 2,790 words of 3 *Henry VI* to Shakespeare's vocabulary amounts to 1,141 words. Therefore the combined vocabulary of these two plays will be obtained by adding these 1,141 words of 3 *Henry VI* to the 3,146 words of 2 *Henry VI*, and it equals 4,287 words. No less than 2,093 words of the 3,014 words in 1 *Henry VI* are found in either the second or the third part of *Henry VI*, and thus only 921 words must be added to the 4,287 words in the combined vocabulary of the earlier plays to form the composite vocabulary of the three plays. Thus, 5,208 words suffice to contain the three vocabularies. *Richard III* comes next in my order of composition, its vocabulary was taken out by itself and contains 3,218 words, word by word examination showed that 824 words were not in any of the three plays on *Henry VI*. Thus I obtained the important result that the composite vocabulary of the York and Lancaster tetralogy, the first four plays written by the poet, contained 6,032 words. This total would be the same whatever was the order of composition of these plays. In this

way I proved that the respective contributions to the poet's vocabulary from his first four plays were as follows:

2 <i>Henry VI</i>	.	.	3,146 words
3 <i>Henry VI</i>	.	.	1,141 "
1 <i>Henry VI</i>	.	.	921 "
<i>Richard III</i>	.	.	824 "
Total	.	.	6,032 words

It would have been possible to collate the vocabulary of *Comedy of Errors* with those of the four earlier plays, and thus to obtain the number of words in the contribution of his first comedy to the author's vocabulary. Such work is tedious, and demands such close and continuous care that the result is not worth the world of trouble necessary. I abandoned this method and turned my attention to another method of classifying vocabularies.

From my lists for each play and poem of peculiar or one-play, two-play, three-play and four-play words I prepared a table, and in it set down for each play the total number of words in each of the four groups named above. I then consulted my lists to discover how many of the two-play, three-play, and four-play words in each play after 2 *Henry VI* had not been used previously by Shakespeare. Speaking broadly, I may say that in each play or poem the totals of *fresh* two-play, three-play and four-play words decreased as the number of plays and poems preceding that play increased. After *All's Well*, the number of *fresh* four-play words in all the eleven plays written after it was reduced to eleven. This almost complete disappearance of *fresh* four-play words in the last eleven plays of Shakespeare suggested that it would be worth while collecting complete groups of *fresh* words, each used in a greater number of plays than four. Such a collection was made, and all words occurring in not fewer than five and not more than ten plays or poems were arranged alphabetically in six corresponding word-groups which were styled five-play words, six-play words, etc., respectively. By the side of each word in its proper group I placed the name of the play or poem in which it was first used by the poet, and also the name of the play or poem in which it appeared for the last time. Each of the six alphabetical word-lists, prepared in this way, was used to distribute among the various plays and poems all the words included in the particular word-group under consideration. In this way a separate total of five-play words, six-play words, etc. was obtained for each play and poem. My results are set out in the following table which, I hope, will need no explanation. Totals given in the last column represent the numbers of fresh words present in the plays and poems, it should be needless to say that each word is counted once only.

TABLE IV — INFLOW OF FRESH WORDS INTO SHAKESPEARE'S VOCABULARY

Name of Play	No of Words	One-Play Words	Two-Play Words	Three-Play Words	Four-Play Words	Five-Play Words	Six-Play Words	Seven-Play Words	Eight-Play Words	Nine-Play Words	Ten-Play Words	TOTALS
2 <i>Henry VI</i>	3,146	157	102	115	123	111	92	98	89	95	84	1,066
3 <i>Henry VI</i>	2,790	115	68	63	61	70	63	54	59	44	38	635
1 <i>Henry VI</i>	3,014	145	87	93	67	59	56	52	40	39	28	666
<i>Richard III</i>	3,218	145	94	96	72	64	51	34	34	43	16	649
<i>Comedy of Errors</i>	2,037	84	52	48	40	42	22	20	20	17	13	358
<i>Venus and Adonis</i>	2,906	101	60	42	38	37	22	16	22	16	12	366
<i>Titus Andronicus</i>	2,578	114	74	54	51	28	10	14	10	4	10	309
<i>Rape of Lucrece</i>	2,812	167	68	49	49	42	34	28	12	10	12	471
<i>Two Gentlemen</i>	2,153	74	48	24	22	20	17	16	15	11	7	254
<i>Taming of the Shrew</i>	2,463	150	76	56	34	22	24	15	15	13	5	410
<i>Love's Labour's Lost</i>	2,872	253	102	72	50	33	29	22	12	14	10	587
<i>Romeo and Juliet</i>	2,016	109	78	39	35	20	11	9	9	9	4	413
<i>Richard II</i>	2,833	133	56	42	32	20	11	12	3	2	2	313
<i>Midsummer-Night's Dream</i>	2,303	160	76	34	14	18	8	5	4	2	5	340
<i>Merchant of Venice</i>	2,901	140	66	35	36	11	12	6	2	9	6	333
1 <i>Henry IV</i>	2,571	115	72	37	16	18	7	7	2	2	6	282
2 <i>Henry IV</i>	3,028	269	95	49	36	22	12	7	3	-	-	403
<i>King John</i>	3,130	245	83	60	22	13	6	6	5	4	1	445
<i>Much Ado About Nothing</i>	2,596	110	38	26	12	2	5	2	2	-	-	197
<i>Henry V</i>	3,162	246	77	47	16	9	6	7	-	2	1	460
<i>Poems and Sonnets</i>	3,127	213	70	36	15	13	8	2	-	4	-	366
<i>Merry Wives of Windsor</i>	2,527	229	57	24	15	6	-	2	-	2	-	335
<i>Julius Caesar</i>	2,218	70	30	17	9	5	3	-	1	1	-	136
<i>As You Like It</i>	2,578	157	37	18	5	4	1	-	-	-	-	223
<i>Twelfth Night</i>	2,434	156	54	18	13	4	3	1	-	1	1	251
<i>Hamlet</i>	3,882	396	123	48	18	7	9	4	-	1	-	660
<i>Troilus and Cressida</i>	3,300	302	66	27	9	3	1	2	1	-	1	412
<i>Othello</i>	3,015	222	50	18	7	4	1	-	-	-	-	302
<i>All's Well That Ends Well</i>	2,705	159	39	15	8	1	-	-	-	-	-	224
<i>Measure for Measure</i>	2,669	163	28	9	4	-	-	-	-	-	-	201
<i>King Lear</i>	3,339	346	47	9	4	1	1	-	-	-	-	408
<i>Macbeth</i>	2,052	197	26	3	-	-	-	-	-	-	-	226
<i>Timon of Athens</i>	2,521	138	9	4	1	-	-	-	-	-	-	152
<i>Antony and Cleopatra</i>	3,004	233	35	12	1	-	-	-	-	-	-	281
<i>Coriolanus</i>	3,130	244	32	2	2	-	-	-	-	-	-	280
<i>Pericles</i>	2,442	105	9	3	1	-	-	-	-	-	-	118
<i>Cymbeline</i>	3,260	219	10	-	1	-	-	-	-	-	-	230
<i>Winter's Tale</i>	2,965	219	10	1	-	-	-	-	-	-	-	230
<i>The Tempest</i>	2,502	202	2	-	-	-	-	-	-	-	-	204
<i>Henry VIII</i>	2,659	127	-	-	-	-	-	-	-	-	-	127
TOTALS		7,219	2,206	1,346	936	709	527	441	360	335	262	14,341

NOTES ON TABLE IV

(1) One obvious comment is that the table is incomplete and does not classify a very large number of words. No fewer than thirty word-groups, beginning with the eleventh and ending with the fortieth, are omitted from my count. Shakespeare's vocabulary contains 17,677 words of which 14,341 find a place in the table, consequently 3,336 words, equal to nearly a fifth of the whole vocabulary, remain unclassified. How would these 3,336 words be distributed among the poems and plays if the table was completed? From an examination of the totals given for the various plays some definite knowledge of the distribution is obtainable. Position in the chronological order accounts for the large totals of fresh words credited to the poet's first four plays. All the 3,146 words in the vocabulary of 2 *Henry VI* are termed *fresh* for the simple reason that Shakespeare used them for the first time in this play, and the contribution from the vocabulary of his first play to each word-group keeps constant within the limits of reasonable variation. Simultaneously the inpourings from all the other plays and poems are growing smaller, with the result that 2 *Henry VI* furnishes a steadily increasing proportion of the *fresh* words in successive word-groups, this rises from a fiftieth of the peculiar words to nearly a fourth of the eight-play words.

I have already stated that the combined vocabulary of the York and Lancaster tetralogy amounts to 6,032 words. I shall make use of this fact in the following short table. It will be noticed that the sum of the totals given in the third and fourth columns for each play equals the total set out in the second column for that play. This is mere coincidence.

TABLE V

UNCLASSIFIED WORDS OF SHAKESPEARE'S VOCABULARY

I Name of Play	II <i>Fresh</i> Words added to Shakespeare's Vocabulary	III <i>Fresh</i> Words classified in Table	IV Words Unclassified in Table
2 <i>Henry VI</i>	3,146	1,066	2,080
3 <i>Henry VI</i>	1,141	635	506
1 <i>Henry VI</i>	921	666	255
<i>Richard III</i>	824	649	175
TOTALS	6,032	3,016	3,016
Totals for the other Plays and Poems	11,645	11,325	320
GRAND TOTAL	17,677	14,341	3,336

My totals in the fourth column express two important facts, which supply an answer to the question asked about the distribution of the 3,336 unclassified words

(a) No fewer than 3,016 of the 3,336 words left undistributed in the previous table were used by Shakespeare for the first time in the York and Lancaster tetralogy. In other words, ten-elevenths of the more common words of his vocabulary appear for the first time in his four early plays, or precisely where we should expect to find them

(b) Only 320 words are left for distribution among the remaining thirty-three plays and the poems which Shakespeare wrote after *Richard III*. This result is extraordinary and unexpected. Examination of the totals set out in Table IV shows that the poems and thirty-three plays contribute 613 of 936 four-play words, 405 of 709 five-play words, 265 of 527 six-play words, 203 of 441 seven-play words, 138 of 360 eight-play words, 114 of 335 nine-play words and ninety-six of 262 ten-play words. This decline in the number of *fresh* words will continue progressively as the number of plays in successive word-groups increases. Even if a dozen more groups had been added to the table, some of the 320 words would be still uncounted and unclassified. Thus the verb *mend* was first used in *Comedy of Errors* and afterwards in twenty-nine later plays and poems, the noun 'ass', another *fresh* word in the same play, is found in twenty-eight of the remaining thirty-three plays. The noun 'monster' appears first in *The Taming of the Shrew* and recurs in twenty-four later plays and a poem, whilst the noun 'difference' makes its Shakespearian debut in *Two Gentlemen* and is repeated in twenty-two subsequent plays. In general, unless the position of a play in the chronological order makes impossible any contribution of words, it cannot be assumed that any play has ceased to supply them to a complete table merely because no words occur in the last columns of my incomplete table. Thus *The Merry Wives* has nothing in the columns for the eight-play words, two nine-play words and no ten-play word, yet 'baseness', a noun freely used in the second half of the sixteenth century, was first employed by the poet in this play, and subsequently in twelve later plays. It belongs to the thirteen-play group.

(11) When the table is completed, the 6,032 words in the composite vocabulary of *Richard III* and the three parts of *Henry VI* could be distributed among these four plays, and the *fresh* words subdivided among the remaining plays and poems would number 11,645. Among these would be 6,657 one-play words, this means that words peculiar to these plays and poems equal nearly three-fifths of the total left for distribution. Each of these peculiar words was used in only one play or poem and was then discarded or at any rate remained unused by the poet. This continuous inflow of fresh words into each play, followed, as it was, by their immediate

disuse, is the true source of the perennial vitality and vividness of Shakespeare's diction. In this way he did not stale his infinite variety.

(iii) From the table we can obtain the exact number of words in his vocabulary before he commenced the composition of any one of his last ten plays. Suppose we wish to discover the size of his vocabulary before he wrote *Lear*, the first in order of these ten plays. We must deduct from the poet's vocabulary of 17,677 words the sum total of the *fresh* words in these ten plays, viz. 2,256, and thus we obtain 15,421 words as his vocabulary when he had completed *Measure for Measure*. To find the pre-*Hamlet* vocabulary we must take from 17,677 the sum of the totals in the last column of the table from *Hamlet* to *Henry VIII*, both inclusive, viz. 4,002, and we learn that Shakespeare had collected 13,675 words by the time he had written *Twelfth Night*, and 14,281 words before he began *Troilus and Cressida*. These results are accurate within very narrow limits. Proceeding in precisely the same way we get 10,823 words as the size of the poet's vocabulary before he began 1 *Henry IV*. This result may be out by twenty or thirty words. Since the composite vocabulary of the York and Lancaster tetralogy contains 6,032 words, we may reasonably assert that Shakespeare added about 4,791 words to his stock during the writing of the twelve plays from *Comedy of Errors* to *The Merchant of Venice*, both inclusive.

(iv) Exact details of the numbers of *fresh* words in each of the four early plays are given in Table V, and in Table IV we have similar totals for each of the ten plays beginning with *Lear*. My fourth table takes in all the ten-play words used by Shakespeare, and consequently *Lear* is the last play that could possibly have such a word. No exact total of the *fresh* words in any one of the remaining twenty-six plays and poems is obtainable until the 320 unclassified *fresh* words are distributed among these twenty-six plays. Excellent reasons can be offered, however, for the statement that nearly every one of these unclassified *fresh* words was used for the first time in one or other of the twelve plays and poems written after *Richard III*. When the respective totals for the first four plays are excluded, the remaining plays and poems provide 138 eight-play words, 114 nine-play words and 96 ten-play words. In the twelve plays and poems from *The Comedy of Errors* to *The Merchant of Venice*, both inclusive, there are 126 of the 138 eight-play words, ninety-nine of the 114 nine-play words and ninety-two of the ninety-six ten-play words. Thus remain twelve, fifteen and four words as the respective contributions to these three-word groups from the twenty-four plays from 1 *Henry IV* to *Henry VIII*. We can see what is happening from a study of the results given for the thirteen plays commencing with *Othello*. Theoretically this play might have contributed to each word-group up to that which contains *fresh* words present in thirteen plays; actually neither it nor any one of the dozen plays written

after it has one *fresh* word which is used in more than five later plays. Even in *Hamlet*, *Troilus and Cressida*, and *Lear*, three plays with the richest and most copious vocabularies, only an odd word or two recur in more than six later plays

(v) We learn from Table V that 2,080 words, or more than sixty per cent. of the 3,336 unclassified words, come from 2 *Henry VI*, which I assume was Shakespeare's first play. It is the only play which has a substantial number of words in each of the forty word-groups. Peculiar words in this play are below the average for the poems and plays, but owing to its position in the chronological order of the plays, 2 *Henry VI* provides a steadily increasing percentage of the total words in each group as the number of plays increases. Almost a third of the ten-play words come from it, this proportion continues to grow larger until this one play furnishes all the 324 words common to every play and poem and all the words in the previous word-group. These may be termed Shakespeare's *basic* words, and consist of the pronouns, auxiliary verbs and nearly all the prepositions and conjunctions; in addition they include some very common nouns, adjectives, verbs, adverbs and interjections.

(vi) Position of a play in the chronological order is the main factor in determining the number of *fresh* words in that play, this is true especially of the first ten plays and poems. After *The Merchant of Venice* the number of one-play words becomes of increasing importance. In 1 *Henry IV* they equal nearly a half, in *Hamlet* two-thirds, in *Lear* seven-eighths respectively of the previously unused words, *Henry VIII* has, and can have, no other *fresh* words. Length, size of vocabulary, and the dramatic and poetic quality are each of some importance. Comedy keeps her diction close to every-day speech, and does not, in general, use *fresh* words as freely as tragedy or the chronicle play. Anomalies occur in successive plays which seem to contradict this statement. *Love's Labour's Lost*, a comedy, is much shorter than *Romeo and Juliet*, an early tragedy, and has a slightly smaller vocabulary, yet it introduces 170 words more into the poet's vocabulary. *A Midsummer-Night's Dream* has almost as many previously unused words as *King John*, although both the length and the vocabulary of the latter play greatly exceed those of the preceding comedy. In writing *Love's Labour's Lost* Shakespeare seems to have resolved to renew in part his existing stock of words, over twenty-one per cent. of the vocabulary consists of fresh words. Both *Richard II* and *King John* are entirely in verse, and their large vocabularies still show the influence of the four early chronicle plays. The five plays after *Love's Labour's Lost* show a gradual fall in the number of *fresh* words brought in by successive plays, when suddenly another bounteous crop of virile words blossomed in the first part of *Henry IV*, and an equal profusion graced the second part. In

Henry V we note some falling off, and this continues until *Twelfth Night*. In that singular tragedy, *Julius Caesar*, the upwelling spring of the poet's plenty seems to have dried up, but the drought may have been intentional. *Hamlet* is the supreme example of Shakespeare's delight in and command of *fresh* and forceful words. By this time he had written twenty-two plays and all his poems, and could draw upon a vocabulary of 13,675 words, yet to this enormous stock he added another 606 words, all previously unused. How deep and apparently inexhaustible were the wells of his memory and invention, and how marvellous his aptitude for word-coining, will be evident from the addition of 302 peculiar words in writing *Troilus and Cressida*. Three or four years afterwards we find that the vocabulary of *King Lear* has a slightly higher proportion of one-play words than we find in *Hamlet*. The low totals of *fresh* words present in *Timon*, *Pericles*, and *Henry VIII* suggest that each must be only in part Shakespeare's. This conclusion is strengthened when we notice that each of the other plays written after *King Lear* has a very high number of peculiar words; this statement holds true for *Macbeth* and *The Tempest*, two plays much shorter than either *Timon* or *Pericles*. Of some interest is the very close agreement in the number of both peculiar and *fresh* words present in pairs of plays written in close sequence such as 1 *Henry IV* and 2 *Henry IV*, *As You Like It* and *Twelfth Night*, *All's Well* and *Measure for Measure*, *Antony and Cleopatra* and *Coriolanus*, and *Cymbeline* and *Winter's Tale*. This similarity helps to confirm impressions relating to position in the canon based on æsthetic considerations.