

Noun Phrase Types and Their Distribution in Francis Bacon's *Essays*

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0. Introduction---'aphoristic' style and density of noun phrases

The prose style of Francis Bacon's *The Essayes or Counsels, Civill and Morall* (hereafter referred to as *Essays*), has been judged as 'aphoristic' (Stephens 1975: 103), 'sententious' (Legouis, É. and Cazamian, L. 1951: 370), or 'gnomic' (Ward, A. W. and Waller, A. R. eds. 1970. Vol. IV: 348).

The question of Bacon's style has been studied from various aspects. Vickers (1968) made a rhetorical study of Bacon's prose works in *Francis Bacon and Renaissance Prose*. Stephens (1975) has studied Bacon's methods of transmitting knowledge in *Francis Bacon and the Style of Science*. My interest is in finding grammatical causes which make Bacon's aphoristic style. In this paper, I shall assume that noun phrases contribute to make up the style. More specifically, I shall examine what kind of noun phrases are used and how they behave in a clause in *Essays* and consider the stylistic effect. The 'clause' here does not include a smaller unit such as 'who you introduced me to' in 'I like the girl who you introduced me to' (Matthews, 2007: s.v. 'clause'), but a larger unit which may include an embedded clause/s such as 'I like the girl who you introduced me to'.

The following sentences from *Essays* are included in *The Oxford Dictionary of Quotations* (Partington, A. ed.1992: s.v. 'Francis Bacon'):

There is no excellent beauty that hath not some strangeness in the proportion. ('Of Beauty')

Riches are for spending. ('Of Expense')

A crowd is not company, and faces are but a gallery of pictures, and talk but a tinkling

cymbal, where there is not love. ('Of Friendship')

It is a strange desire to seek power and to lose liberty. ('Of Great Place')

He that hath wife and children hath given hostages to fortune; for they are impediments to great enterprises, either of virtue or mischief. ('Of Marriage and the Single Life')

Studies serve for delight, for ornament, and for ability. ('Of Studies')

The dictionary is not a dictionary of aphorisms but these examples sound like aphorisms in the sense of 'Any principle or precept expressed in few words; a short pithy sentence containing a truth of general import; a maxim (*Oxford English Dictionary*: s.v. 'aphorism'). In the sentences 'Riches are for spending' and 'Studies serve for delight, for ornament, and for ability' we notice the density of nouns. If we remove nouns from the second sentence, there remain 'serve', 'and' and three 'for's. These remaining words are serving rather as grammatical elements than as semantical elements, that is, nouns are undertaking much of the semantic role in the clause.

Before I start the analysis of noun phrase distribution, I need to summarize the grammatical problems of noun phrases.

1. Structure of noun phrases

Quirk, et al. (1985: 1238-39) analyzes the structure of an English noun phrase (hereafter shortened to 'NP') into the following four parts (A-D).

(A) The head

The tall *girl* standing in the corner is my sister.

(B) The determinative, which includes

(a) predeterminer: *all* the furniture

(b) central determiner: all *those* fine musicians

(c) postdeterminer: the *few* survivors

(C) The pre-modification, which comprises all the items placed before the head other than determinatives, notably adjectives (or, rather, adjective phrases) and nouns:

some *very expensive office* furniture

(D) The Post-modification:

prepositional phrase: the car *outside the station*

nonfinite clause: the car *standing outside the station*

relative clause: the car *that stood outside the station*

complementation: a bigger car *than that*

2. Grammatical functions of noun phrases

In a clause, 'The noun phrase typically functions as subject, object, and complement of clauses and as complement of prepositional phrases (Quirk et al. 1985: 245).' We can think of the following clauses, which are my own examples. Italics indicate a NP:

As subject: *The blonde girl* is my classmate.

As object: Yesterday I saw *the blonde girl* in the supermarket.

As complement of a clause: One of the dancers was *the blonde girl*. / I consider him *an honest man*.

As complement of a prepositional phrase: We were talking about *the blonde girl*.

3. Aarts' study of NP distribution in Present-day English

As I have borrowed both Aarts' method and data (Aarts, 1971) for the present study, I will first summarize his method. In his paper 'On the Distribution of Noun-phrase Types in English Clause-structure', he tries to prove his hypothesis of 'non-randomness in the distribution of noun-phrase types in English clause-structure' (id.: 281), that is, 'a correlation between subject-exponents and structural 'lightness' on the one hand and a very strong tendency for non-subject-exponents to be realized by structurally 'heavy' noun-phrase types on the other (id. : 281)'. His investigation is based on an examination of a corpus of about 72,000 words from the four categories of Present-day English: (1) light fiction, (2) scientific writing, (3) informal speech, and (4) formal spoken and written English.

3. 1. Aarts' NP analysis

Aarts' NP analysis begins with the structural analysis of NPs. He divides NPs into two major items: 'light' and 'heavy' items (id.: 281)¹. They are eventually subdivided into the following five sub-types 'a-e' according to the components of the noun phrase (id.: 289):

'Light' items:

Type a Pronouns/ names

Type b ±Determiner + head

'Heavy' items:

- Type c Nouns pre-modified by 1 adjective
- Type d Nouns post-modified by 1 prepositional phrase
- Type e Nouns otherwise pre- or post-modified

Aarts separates the grammatical functions into two: ‘As subjects’ and ‘As complements or in adjuncts’. The result of his analysis is Aarts’ Table 9 (id.: 289). It is a list of NP distribution of the whole corpus. The number of noun phrases according to the function in clause and noun phrase types is listed:

Aarts’ Table 9

	‘Light’		‘Heavy’			Total
	a	b	c	d	e	
	Pro-	±De-	Nouns	Nouns	Nouns	
	nouns/ names	termi- ner +	pre- modi- fied by 1 adjec- tive	post- modi- fied by 1 prep. phrase	other- wise pre- or post- modi- fied	
All functions	8014	3488	1494	1732	2233	16961
As subjects	5821	928	283	410	456	7898
As complements or in adjuncts	2193	2560	1211	1322	1777	9063

Aarts makes another table, Aarts’ Table 12 (id.: 291)². It shows the NP distribution of each category. (I have changed his functional word ‘As subjects’ to ‘S’ and ‘Other functions’, to ‘non-S’; hereafter the same):

Aarts’ Table 12

	‘Light’		‘Heavy’			Total
	a	b	c	d	e	

S	Light fiction	1943	277	60	59	92	2431
	Scientific writing	459	261	104	168	175	1167
	Informal speech	1941	123	37	49	62	2212
	Formal spoken and written English	1478	267	82	134	127	2088
n	Light fiction	754	928	363	324	434	2803
o	Scientific writing	163	466	289	327	524	1769
n	Informal speech	677	492	249	235	327	1980
	Formal spoken and written English	599	674	310	436	492	2511

From these two tables, Aarts finally proves the validity of his hypothesis.

4. NP distribution in *Essays*

4.1. Corpus of *Essays*

The investigation of the NP distribution in *Essays* is based on an examination of a corpus of 11,934 words from *Essays*. The following table shows the 13 essays picked up from 58 essays. Bacon published *Essays* three times: the first edition in 1597, the second in 1612 and the third in 1625, revising each time the former essays and adding new ones. The 13 essays of my corpus have been chosen so that they may represent the three editions. Table 1 shows the total number of words and the number of NPs in each essay:

Table 1

Title	Number of words	Numbers of NPs
2. Of Death.	572	119
9. Of Envy.	1645	350
10. Of Love.	623	137
12. Of Boldnesse.	604	135
15. Of Seditious And Troubles.	2255	413

25. Of Dispatch.	597	128
30. Of Regiment of Health.	591	134
33. Of Plantations.	1031	241
42. Of Youth and Age.	631	129
47. Of Negotiating.	510	105
48. Of Followers and Friends.	524	104
50. Of Studies.	491	117
<u>58. Of Vicissitude of Things.</u>	<u>1860</u>	<u>403</u>
Total	11934	2515

4.2. Noun phrase analysis of *Essays*

The first step of analysis is sorting out NPs according to their grammatical structure and function in a clause. The following shows the process of the practical analysis using two passages from the essays 'V. Of Adversitie' and 'XV. Of Seditions And Troubles'. NPs in subject position (as S) is marked by a straight underline '____' and those in non-subject position (as non-S) by a wave underline '~~~~~'. Each NP goes to one of the 'a-e' types (See Aarts' Table 9 above) according to the structure and the grammatical function. Headwords are shown in bold face:

The **Vertue** of Prosperitie, is **Temperance**; The **Vertue** of Adversity, is **Fortitude**; **which** in **Morals** is the more Heroicall **Vertue**. **Prosperity** is the **Blessing** of the Old Testament; **Adversity** is the **Blessing** of the New; **which** carrieth the greater **Benediction**, and the Clearer **Revelation** of Gods Favour. (V. Of Adversitie. 18-19)³

As S:

a= which/ which

b= Prosperity/ Adversity

c= (none)

d= The Vertue of Prosperitie/ The Vertue of Adversity

e= (none)

As non-S:

a= (none)

b= Temperance/ Fortitude/ Morals

c= the more Heroicall Vertue/ the greater Benediction

d= the Blessing of the Old Testament/ the Blessing of the New

e= the Clearer Revelation of Gods Favour

Generally, the **Dividing and Breaking** of all Factions, and Combinations that are adverse to the State, and **setting them at distance, or at least distrust amongst themselves,** is not **one of the worst Remedies.** For **it** is a desperate **Case,** if **those,** that hold with the Proceeding of the State, be full of **Discord and Faction;** And **those** that are against it, be entire and united. (XV. Of Seditious And Troubles. 49)

As S:

a= it

b= (none)

c= (none)

d= (none)

e= the Dividing and Breaking of all Factions, and Combinations that are adverse to the State/ setting them at distance, or at least distrust amongst themselves/ those, that hold with the Proceeding of the State/ those that are against it

As non-S:

a= (none)

b= Discord and Faction

c= a desperate Case

d= one of the worst Remedies

e= (none)

There are sometimes ambiguous cases. In such cases the distribution has to be judged according to how simple or complicated the noun phrase in question is, because Aarts' classification is based on the structure.

5. Comparison of *Essays* and Aarts

Table 2 lists the distribution of all the NPs, that is, the number of noun phrases and its percentage rate in each cell. It is the counterpart of Aarts' Table 9. Of the two figures in each cell, the upper one is the number of NP, and the lower one in parentheses shows its percentage in the whole corpus. For example, the percentage of the figure 484 in column 'a' is calculated: $484 \div 2493 \times 100 = 19.4$ (%). After Table 2, I have quoted Aarts' Table 9 again by adding percentage rates to each cell. Now that there is a percentage rate in each cell, it becomes possible to compare the appearance rate of *Essays* and Aarts' Present-day English (hereafter 'Aarts'):

Table 2 (*Essays*' NP distribution with percentage rates)

	'Light'		c	'Heavy'		Total
	a	b		d	e	
Total	673 (27.0)	874 (35.0)	291 (11.7)	251 (10.1)	404 (16.2)	2493 (100)
S	484 (19.4)	277 (11.1)	90 (3.6)	76 (3.0)	151 (6.1)	1078 (43.2)
non-S	189 (7.6)	597 (23.9)	201 (8.1)	175 (7.0)	253 (10.1)	1415 (56.7)

Aarts' Table 9 (Aarts' NP distribution with percentage rates)

	'Light'		c	'Heavy'		Total
	a	b		d	e	
Total	8014 (47.2)	3488 (20.6)	1494 (8.8)	1732 (10.2)	2233 (13.2)	16961 (100)
S	5821 (34.3)	928 (5.5)	283 (1.7)	410 (2.4)	456 (2.7)	7898 (46.6)
non-S	2193 (12.9)	2560 (15.1)	1211 (7.1)	1322 (7.8)	1777 (10.5)	9063 (53.4)

Table 3 compares the appearance rate in subject position, and Table 4 compares the rate in non-subject position. I have attached a graph to each table so that the comparison may visually become possible.

Table 3 (*Essays* and Aarts: subject NPs distribution in percentage rates)

	'Light'		c	'Heavy'		Total
	a	b		d	e	
<i>Essays</i>	19.4	11.1	3.6	3.0	6.1	
Total	30.5			12.7		43.2
Aarts	34.3	5.5	1.7	2.4	2.7	
Total	39.8			6.8		46.6

Graph 1 (*Essays* and *Aarts*: subject NPs distribution)

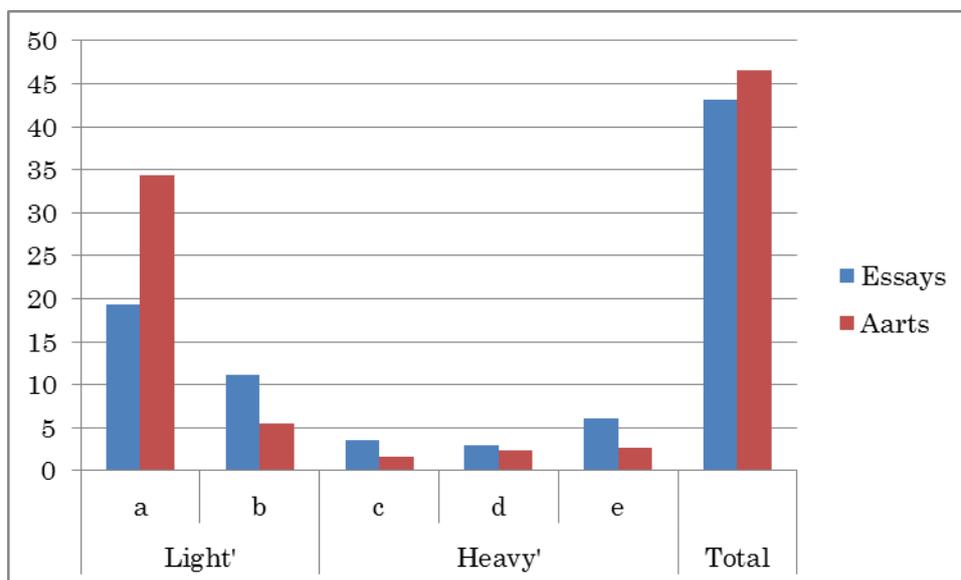
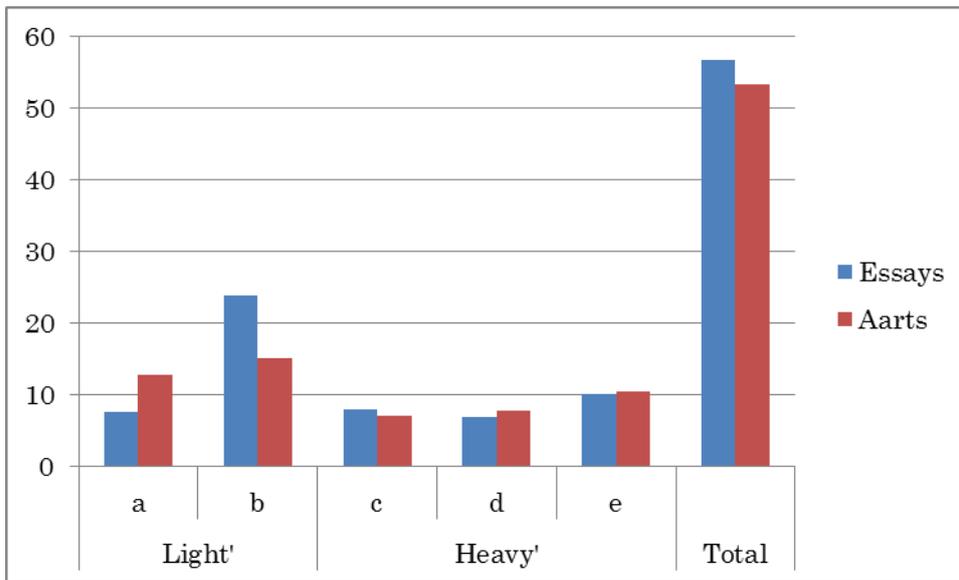


Table 4 (*Essays* and *Aarts*: non-subject NPs distribution in percentage rates)

	'Light'			'Heavy'			Total
	a	b	c	d	e		
<i>Essays</i>	7.6	23.9	8.1	7.0	10.1		
Total	31.5			25.2			56.7
<i>Aarts</i>	12.9	15.1	7.1	7.8	10.5		
Total	28.0			25.4			53.4

Graph 2 (*Essays* and *Aarts*: non-subject NPs distribution)



6. Characteristics of *Essays* compared with Aarts

The NP distribution in subject position (Table 3 and Graph 1) shows an interesting difference. In every item of 'b-e', *Essays* is higher than Aarts. Numerical differences between *Essays* and Aarts are: b (11.1 : 5.5), c (3.6 : 1.7), d (3.0 : 2.4), e (6.1 : 2.7). Items 'b', 'c', 'e' of *Essays* are more than twice those of Aarts; 'b' is just twice that of Aarts. The difference indicates a tendency that the subject position in *Essays* is more frequently occupied by nouns, since 'b-e' are nouns in various structures. The density of 'b-e' type NPs in subject position can be seen in the following examples. Underlines mark 'b-e' type NPs functioning as a subject; head noun are printed in bold face:

Men feare Death, as Children feare to goe in the darke: And as that Natural Feare in Children, is increased with Tales, so is the other. Certainly, the Contemplation of Death, as the wages of sinne, and Passage to another world, is Holy, and Religious; But the Feare of it, as a Tribute due unto Nature, is weake. (II. Of Death. 9)

Riches are for Spending; And Spending for Honour and good Actions. Therefore Extraordinary Expence must be limited by the Worth of the Occasion: For Voluntary Undoing, may be aswell for a Mans Country, as for the Kingdome of Heaven. But Ordinary Expence ought to be limited by a Mans Estate; And governed with such regard, as it be within his Compasse; And not subject to Deceit and Abuse of Servants; And ordered to the best Shew, that the Bills may be lesse, then the Estimation abroad. (XXVIII. Of Expence. 87)

What about non-subject NPs? Graph 2 shows that in type 'a' (Pronouns/ names) Aarts is higher than *Essays*; in type 'b' *Essays* is much higher than Aarts, and in types 'c-e', *Essays* and Aarts are alike. The conspicuous distinction is type 'b': *Essays*' bar is much taller than any items including Aarts. *Essays*' percentage of type 'b' (23.9%) means that almost one in four NPs in non-subject position has the structure of type 'b' (\pm Determiner + head), the simplest structure of all noun types. The following examples show the density of type 'b' NPs in non-subject positions. Type 'b' NPs are underlined with the head in bold face:

The greatest Trust, betweene Man and Man, is the Trust of Giving Counsell. For in other Confidences⁴, Men commit the parts of life; Their Lands, their Goods, Their Children, their Credit, some particular Affaire: But to such, as they make their **Counsellours**, they commit the whole: By how much the more, they are obliged to all Faith and integrity⁵. (XX. Of Counsell. 63)

Suspitions amongst Thoughts, are like Bats amongst Birds, they ever fly by Twilight. Certainly, they are to be repressed, or, at the least, well guarded: For they cloud the Minde; they leese Friends; and they checke with Businesse, whereby Businesse cannot goe on, currantly, and constantly. They dispose Kings to Tyranny, Husbands to Jealousie, Wise Men to Irresolution and Melancholy. (XXXI. Of Suspicion. 102)

The Winning of Honour, is but the Revealing of a Mans Vertue and Worth, without Disadvantage. For some in their Actions, doe Wooe and affect Honour, and Reputation⁶: Which Sort of Men, are commonly much Talked of, but inwardly little Admired. And some, contrariwise, darken their Vertue, in the Shew of it; So as they be under-valued in opinion. (LV. Of Honour and Reputation. 163)

7. Comparison with Aarts' four categories

Aarts' Table 12 is the NP distribution of his four text-groups: Light fiction, Scientific writing, Informal speech, and Formal spoken and written English. If we add *Essays* to the table, we have Table 5 which compares five categories. This will allow us to see how *Essays* is similar or dissimilar to the categories of Present-day English. Tables 5 and 6 show the percentages of the five categories: Table 5 for subject NPs, and Table 6 for non-subject NPs. Each table accompanies the corresponding graph.

Table 5 (Five categories: subject NP distribution in percentage rates)

	a	b	c	d	e	Total
S Light fiction	37.1	5.3	1.1	1.1	1.8	46.4
Scientific writing	15.6	8.9	3.5	5.7	6.0	39.7
Informal speech	46.3	2.9	0.9	1.2	1.5	52.8
Formal spoken and written English	32.1	5.8	1.8	2.9	2.8	45.4
<i>Essays</i>	19.4	11.1	3.6	3.0	6.1	43.2

Graph 3 (Five categories: subject NP distribution)

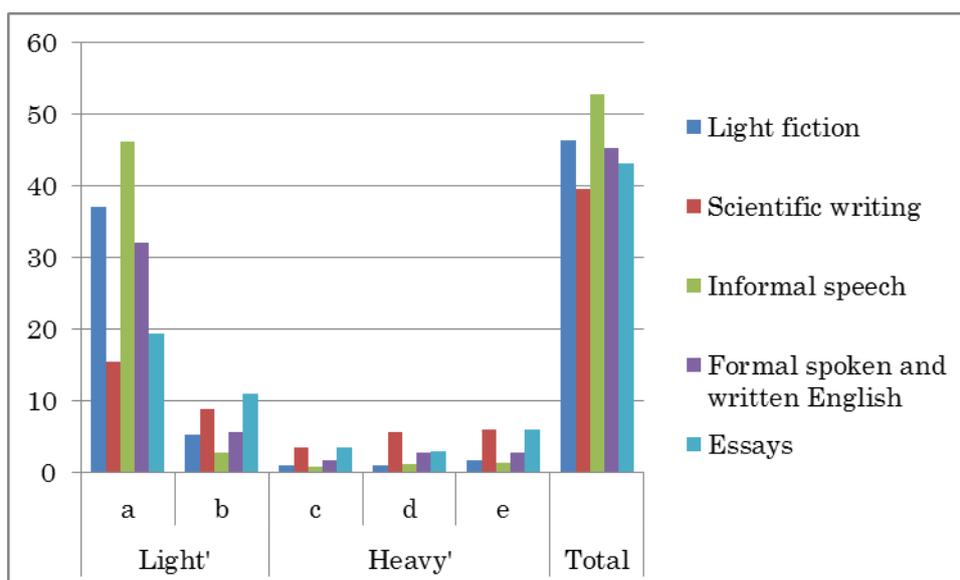
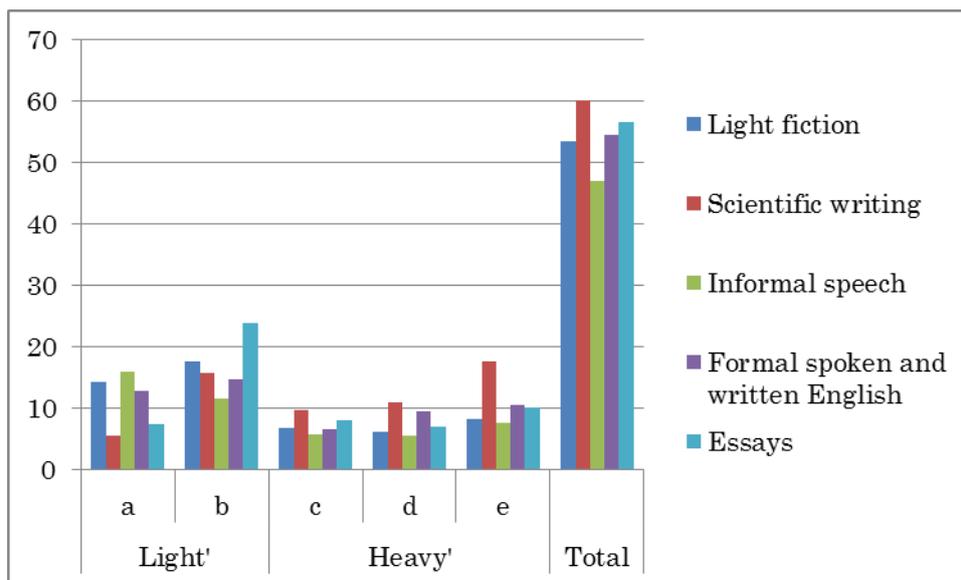


Table 6 (Five categories: non-subject NP distribution in percentage rates)

	a	b	c	d	e	Total
n Light fiction	14.4	17.7	6.9	6.2	8.3	53.5
o Scientific writing	5.6	15.9	9.8	11.1	17.8	60.2
n Informal speech	16.1	11.7	5.9	5.6	7.8	47.1

Formal spoken S and written English <i>Essays</i>	13.0	14.7	6.7	9.5	10.7	54.6
	7.6	23.9	8.1	7.0	10.1	56.7

Graph 4 (Five text groups: non-Subject NP distribution)



7.1. Distributions of subject NPs & non-subject NPs

By comparing the graph bars, we perceive that distribution of subject NPs (Graph 3) can be divided into two groups: One is the group of Light fiction and Informal speech (hereafter ‘Light fiction group’), and the other is the group of Scientific writing and *Essays* (hereafter ‘*Essays* group’); Formal spoken and written English is in the middle, therefore we do not make the third group.

Graph 3 (subject NP distribution) shows that in type ‘a’ the Light fiction group is higher than the *Essays* group, but in types ‘b-e’ the *Essays* group is higher than the Light fiction group. Thus the two groups show an opposite tendency in subject position: The light fiction group prefers type ‘a’ (pronouns and names) but the *Essays* group prefers types ‘b-e’ (nouns of various structures). When we compare ‘b-e’ in each figure, the *Essays* group is far greater than the Light fiction group. Compare Light fiction with *Essays* as a representative of each group— ‘b’ (5.3 : 11.1); ‘c’ (1.1 : 3.6); ‘d’ (1.1 : 3.0); ‘e’ (1.8 : 6.1) — the *Essays* rate is almost twice (in ‘b’) or three times (in ‘c-e’) more than that of Light fiction.

Graph 4 (non-subject NP distribution) shows generally the same tendency with

Graph 3: in ‘a’ the Light fiction group is higher than the *Essays* group, but in ‘b-e’ the *Essays* group is higher than the Light fiction group although the contrast is much smaller than in the case of subject NPs, and in ‘b’ ‘Light fiction’ is slightly higher than ‘Scientific writing’.

We need to pay attention to the two highest bars, which are ‘b’ of *Essays* and ‘e’ of Scientific writing. These two categories generally behave in similar ways in non-subject positions, but in ‘b’ and ‘e’ they seem to claim their identity: *Essays* prefers ‘b’ (± Determiner + head), the simplest structure of nouns, but Scientific writing prefers ‘e’ (Nouns otherwise pre- or post-modified), the most complex structure of nouns.

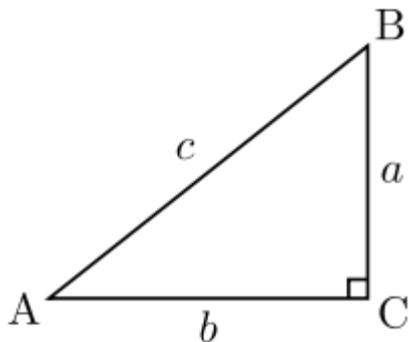
7.2. Descriptions of scientific writing

From the categorical comparison, we find that NPs in *Essays* and Scientific writing show similar behaviors in general. Does it mean that Scientific writing is aphoristic like *Essays*? We need to consider how they are similar and dissimilar. The following are examples of Scientific writing. The first text is an article ‘Meteor Crater’ from an encyclopædia; the second is a mathematical explanation of ‘Right triangle’ taken from Wikipedia; and the third is a passage about ‘natural selection’ from Darwin. NPs both in subject and non-subject positions are underlined with the head (pro-)nouns in bold face. Italics in the article ‘Right triangle’ are original:

<Meteor Crater>

Discovered in 1891, its **age** has been variously estimated at between 5,000 and 50,000 **years**. Large **numbers** of nickel-iron fragments from gravel size to 1,400 pounds (640 kg) have been found in a 100-square-mile (260-square-kilometre)⁷ **area**. The **distribution and composition** of several thousand tons of sand-grain size nickel-iron droplets indicate that **they** condensed from a **cloud** of metallic vapours. **Surveys** show only **fragments** within the pit, but the 1960 **discovery** there of coesite and stishovite, **which** are high-pressure **modifications** of silica, helped to confirm the crater’s meteoritic **origin**. (*The New Encyclopædia Britannica*, 15th ed. Volume 2, s.v. ‘Meteor Crater’)

<Right triangle>



A right **triangle** (American English) or **right-angled triangle** (British English) is a **triangle** in which one angle is a **right angle** (that is, a 90-degree angle). The **relation** between the sides and angles of a right triangle is the **basis** for trigonometry.

The **side** opposite the right angle is called the **hypotenuse** (side *c* in the figure). The **sides** adjacent to the right angle are called **legs** (or *catheti*, singular: *cathetus*). Side *a* may be identified as the **side adjacent to angle B** and **opposed to** (or **opposite**) **angle A**, while **side *b*** is the **side adjacent to angle A** and **opposed to angle B**.

([http://en.wikipedia.org/wiki/Right triangle](http://en.wikipedia.org/wiki/Right_triangle))

Natural **Selection** acts exclusively by the **preservation and accumulation** of variations, **which** are beneficial under the organic and inorganic **conditions** to which each creature is exposed at all periods of life. The ultimate **result** is that each **creature** tends to become more and more improved in **relation** to its conditions. (Darwin, 1975: 73)

My classification of NP types of the above three texts in total is as follows. The double slash '/' shows the division between the texts, followed by the number of the functions 'S' and 'non-S':

a= **they//which// which** (S=3; non-S=0)

b= its **age/ Surveys** (S=2)

c= 5,000 and 50,000 **years// Side *a*/ side *b*/ Natural **Selection/ The ultimate **result/ each creature**** (S=5; non-S= 1)**

d= a **cloud** of metallic vapours/ **fragments** within the pit// the **basis** for trigonometry// The **side** opposite the right angle/ The **sides** adjacent to the right angle// the **preservation and accumulation** of variations/ **relation** to its conditions (S=2; non-S=5)

e= Large **numbers** of nickel-iron fragments from gravel size to 1,400 pounds (640 kg)/ a 100-square-mile (260-square-kilometre) **area**^{7/} The **distribution and composition** of several thousand tons of sand-grain size nickel-iron droplets/ the 1960 **discovery** there

of coesite and stishovite/ high-pressure **modifications** of silica/ the crater's meteoritic **origin**// A **right triangle** (American English)/ **right-angled triangle** (British English)/ a **triangle** in which one angle is a right angle (that is, a 90-degree angle)/ The **relation** between the sides and angles of a right triangle/ the **hypotenuse** (side *c* in the figure)⁸/ The **sides** adjacent to the right angle/ **legs** (or *catheti*, singular: *cathetus*)/ the **side adjacent to angle B** and *opposed to* (or *opposite*) **angle A**/ the **side adjacent to angle A** and *opposed to angle B*// the organic and inorganic **conditions** to which each creature is exposed at all periods of life (S=7; non-S=9)

Total:

S:	a=3	b=2	c=5	d=2	e=7
non-S:	a=0	b=0	c=1	d=5	e=9
Total	3	2	6	7	16

7.3. Differences between scientific writing and *Essays*

The above figures show that 'e' is bigger than any other types both in S and non-S distribution. This tendency almost coincides with Graphs 3 and 4. Especially in Graph 4, we marked the two highest bars: one was the *Essays* bar in type 'b' and the other was the Scientific writing bar in type 'e'. The two categories seem to reveal the distinction with each other by the type of noun phrases: *Essays* by type 'b', Scientific writing by 'e'. Both 'b' and 'e' are nouns, but 'b' has the simplest structure and 'e' has the most complex structure. We need to know the meaning of the contrast. Quirk et al.'s following examples and his comment about the relation between a nominalization and explicitness of a noun phrase seem to answer this problem (1289):

The reviewers criticized his play in a hostile manner.	[3]
<i>the reviewers' hostile criticizing of his play</i>	[3a]
<i>the reviewers' hostile criticism of his play</i>	[3b]
<i>the reviewers' criticism of his play</i>	[3c]
<i>the reviewers' criticism</i>	[3d]
<i>their criticism</i>	[3e]
<i>the criticism</i>	[3f]

These noun phrases are ordered from most explicit [3a] to least explicit [3f], ...

The extreme of inexplicitness is reached with an abstract or agential noun standing on its own as a noun phrase: *Criticism is always helpful.*

The intelligibility gradually becomes lower as we move from [3a] to [3f]. The above quoted scientific writing abounds with complex structured noun phrases like [3a], which are type 'e' NPs having 'criticizing' as the head noun. On the other hand, *Essays* abounds with the simple structured noun phrases like [3e&f], which are type 'b' NPs. What will be the reason to prefer one to the other?

We can imagine that the author of scientific writing tries to convey the scientific truth as clearly as possible. If he wants to tell about a scientific discovery, for example, the words he chooses must be clear in order to prevent different interpretations from his own. The complex NPs like type 'e' will be preferred because of such necessity.

Then what might be the reason to prefer type 'b'? Why did Bacon prefer inexplicit to explicit writing? Probably he would have used type 'b' for stylistic effect. Look at the following examples which have many type 'b' nouns. Type 'b' nouns both in subject and non-subject positions are in bold face:

Persons of Noble Bloud, are lesse envied, in **their Rising**: For it seemeth, but **Right**, done to **their Birth**. Besides, there seemeth not much added to **their Fortune**; And **Envy** is as the Sunne Beames, that beat hotter, upon **a Bank** or steepe rising Ground; then upon **a Flat**. And for the same reason, those that are advanced by degrees, are lesse envied, then those that are advanced suddainly, and *per saltum*. (IX. Of Envy. 29)

Nature is Often Hidden; Sometimes Overcome; Seldome Extinguished. **Force** maketh **Nature** more violent in **the Returne**: **Doctrine and Discourse** maketh **Nature** lesse Importune: But **Custom** onely doth alter and subdue **Nature**. (XXXVIII. Of Nature in Men. 118-19)

Studies serve for **Delight**, for **Ornament**, and for **Ability**. Their Chiefe Use for Delight, is in **Privatenesse** and **Retiring**; For **Ornament**, is in **Discourse**; And for **Ability**, is in the Judgement and Disposition of Businesse. (L. Of Studies. 152)

The density of type 'b' is clearly seen. The question we have to answer is what is the stylistic effect?

8. Nominalization and conversion

In *Essays*, many head nouns of the type 'b' nouns have grammatical characteristics of nominalization and conversion. The term 'nominalization' means 'To convert into a noun'

(OED. s.v. ‘nominalize’). *The Concise Oxford Dictionary of Linguistics* gives a more detailed explanation (Matthews, 2007: s.v. ‘nominalization’):

‘Any process by which either a noun or a syntactic unit functioning as a noun phrase is derived from any other kind of unit. E.g. the nouns *sadness* and *government* are nominalizations of the adjective *sad* and the verb *govern*; ...

Along with nominalizations, we see conversions as well. Quirk et al. (1985: 1558) explain the term as ‘Conversion is the derivational process whereby an item is adapted or converted to a new word class without the addition of an affix,’ and give the following examples:

They *released* him. (‘release’ is a verb)
They ordered his *release*. (‘release’ is a noun)

From the 7.3 quotations from *Essays*, we can make the list of nominalizations and conversions like the following. The corresponding word is in parentheses together with the parts of speech. All the nouns in the left column are nominalizations, or nouns converted from verbs or adjectives in parentheses:

their rising	(rise, v.)
Right	(right, adj.)
their Birth	(bear, v.)
Envy	(envy, v.)
a Flat	(flat, adj.)
Force	(force, v.)
the Returne	(return, v.)
Doctrine	(† doctrine, v. Obs.)
Discourse	(discourse, v.)
Customs	(† custom, v. Obs. or arch.)
Studies	(study, v.)
Delight	(delight, v.)
Ornament	(ornament, v.)
Ability	(able, adj.)
Privatenesse	(private, adj.)
Retiring	(retire, v.)

Discourse (discourse, v.)

The list shows the individual switch to the noun form. Bacon could have made descriptions using verbs and adjectives as we saw in [3] in 7.3. The switching means that Bacon chose noun forms rather than verb or adjective forms. The process of switching is induction, the reasoning process from the particular to the general. In the above list, nouns in the left column are inexplicit. They refer to a quality or idea rather than to a concrete object. The word ‘their rising’ does not give us a clear image. The user of this word has seen many cases of people who have risen in the social or business post. The ‘rising’ is a generalization of the many cases which people have seen or experienced. Therefore experienced people can clearly understand the situation from the NP ‘their rising’. For them the above quotations from *Essays* will sound deep, but those who are inexperienced may not understand.

As for nominal description, Halliday’s comments are enlightening (Halliday, 2004: 102):

I recently noticed a care label, of the type that is attached to clothing. It said: ‘Prolonged exposure will result in rapid deterioration of the item’.... I asked myself: why didn’t they say: ‘If the item is exposed for long it will rapidly deteriorate?’... Somehow the version they used carries greater value. It is more weighty: what it is telling us is not just a fact, but a solemn, proven fact, pregnant with authority and wisdom. In other words it is more scientific.

The first sentence Halliday quotes has two nominalized word: ‘exposure’ and ‘deterioration’. Halliday judges the first sentence as ‘scientific’, but the judgement has the same value as ‘aphoristic’ in the case of *Essays*. In the preface of the volume, the editor says that Halliday’s volume is ‘much more than a volume of papers on scientific language. It is about that most fundamental ability of human kind, the ability to theorize about ourselves and our world. It is about how we move from commonsense theories of everyday experience to technical and scientific theories of knowledge (id. vii)’. This is what I consider the process of induction. Nominalizations and conversion-nouns are the language of induction. Both Scientific writing and *Essays* are written in ‘nominal (nominalizing) style’ in Rulon Well’s words (1960: 214). However, their nominal styles are contrastive: Scientific writing prefers type ‘e’, while *Essays* prefers type ‘b’. Bacon no doubt intended to produce weighty, solemn and pregnant style.

9. Final remarks

We can conclude that the main factor of aphoristic style is in Bacon's words of induction which are symbolically realized in type 'b' noun phrases. Besides type 'b' NPs, we notice that lots of type 'c-e' NPs have the head of nominalization and conversion. Furthermore, Bacon uses other devices to describe generalizations. All of them are also words of induction like follows. Type 'c-e' NPs are underlined with the head in bold face:

NPs having 'c-e' type:

Wives are young Mens **Mistesses**; **Companions** for middle Age; and old Mens **Nurses**.

There are no worse **Instruments**, then these Generall **Contrivers** of Sutes; For they are but a **Kinde of Poyson and Infection** to Publique Proceedings. (XLIX. Of Sutours. 152)

NPs of generalization:

Men in Great Place, are thrice **Servants**: **Servants** of the Sovereigne or State; **Servants** of Fame; and **Servants** of Businesse. (XI. Of Great Place. 33)

He that is only Reall, had need have Exceeding great **Parts** of Vertue; As the Stone had need to be Rich, that is set without Foile. (LII. Of Ceremonies and Respects. 157)

The investigation in this paper has been on noun phrase types and their distribution. It has partially explained the factor behind the aphoristic style of *Essays*. The study of noun phrase types interest me to investigate the clause types as another factor, because they seem to interact with each other. The study of their interaction should provide a topic for the future research.

Notes

1. Aarts' grammatical terms are used following R. W. Zandvoort, *A Handbook of English Grammar*, 11th ed (Aarts, 1971: 282 footnote). I could not find some grammatical terms, for instance, 'determiner', in Zandvoort. I had to judge, therefore, the conception of such terms from the context of Aarts' paper.
2. In Aarts' Table 12, I have used the letters 'a-e' to save space; they correspond to the 'a-e' in Aarts' Table 9.
3. The reference to *Essays* '(V. Of Adversitie. 18-19)' are: from left, the title number in

Roman numerals, the title, and the page(s) in Kiernan's edition.

- 4 & 5. In the two NPs, 'other' in 'other Confidences' is a post-determiner, and 'all' in 'all Faith and integrity' is a pre-determiner. As Aarts probably has regarded only central determiner as a determiner, these NPs are not included in type 'b' but in 'c'.
6. 'Honour, and Reputation' is a pair word which can be thought to express one idea, therefore I have regarded the two-word form as a single NP of type 'b'.
7. The parentheses '(260-square-kilometre)' function as 'complements or in adjuncts' in Aarts' Table 9, therefore I have regarded the NPs 'a 100-square-mile (260-square-kilometre) area' as type 'e'.
8. By the same reason with the above note 7, 'the hypotenuse (side *c* in the figure)' is a type 'e'.

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