ABSTRACT

Use of complex noun phrases, complex nominals, and other nominalized expressions has been a controversial characteristic of academic and professional writing. To the specialist community it is an indispensable linguistic device that brings precision and clarity and removes ambiguity by promoting text cohesion and facilitating reference to associated technical concepts already mentioned. To the non-specialist this is often seen as a strategy to promote solidarity within the specialist community and keep non-specialists at a distance. It is argued here that the truth is somewhere in between. A number of texts from three different genres of academic and professional discourse (advertising, academic/scientific, and legislative) are examined for evidence of genre-specific considerations in the use of complex nominals and nominalizations. It was found that in advertising, nominals are more often in the form of complex nominals because the copywriter's main concern is to find as many syntactic slots as possible for adjectival insertion. Scientific research writing uses predominantly compound nominal phrases to refer to concepts either created as the discourse proceeds or refer to further refined and repeated concepts. Legislative language shows extensive nominalization, generally to condense long provisions into more unambiguous and all-inclusive statements. (MSE)
Pragmatics of the Use of Nominals in Academic and Professional Genres

Vijay K. Bhatia
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The use of complex noun phrases, (complex) nominals and other nominalized expressions has been known to be one of the most controversial characteristics of academic and professional writing. To the specialist community this is an indispensable linguistic device which brings in precision, clarity and unambiguity by promoting text cohesion, facilitating reference to (associated) technical concepts already mentioned and so on; however, to the non-specialist outsider this is a mere ploy to promote solidarity between the members of the specialist community and to keep non-specialists at a respectable distance and is hence regarded by them as nothing more than pure linguistic non-sense bringing in pomposity, verbosity, flabbiness and circumlocution in academic and professional writing, particularly in public documents. The truth, however, lies somewhere in between. This paper examines a number of texts from a wide range of academic and professional discourse in an attempt to unravel the importance of 'motive' as a clue to the use of complex nominals and nominalizations in specialist discourse. The paper also discusses some of the tactics specialists use to create (complex) nominals and nominalizations in order to make accessible complex technical concepts in specialist genres.

INTRODUCTION

Complex nominal expressions of various kinds are typically associated with academic and professional genres and have gained a certain degree of notoriety in recent years. To the specialist community this is an indispensable linguistic device which brings in precision, clarity and unambiguity by promoting text cohesion, facilitating reference to (associated) technical concepts already mentioned and so on; however, to the non-specialist outsider this is nothing but one of the common strategies to promote solidarity between the members of the specialist community and to keep non-specialists at a respectable distance and is hence regarded by them as nothing more than pure linguistic non-sense bringing in pomposity and verbosity in academic and professional writing, particularly in public documents. In this paper I wish to consider three areas of academic and professional writing and look at the use of various types of nominal expressions in them in order to study why the academic and professional writers use nominal expressions the way they do. The areas of professional activities I would like to concentrate on are advertisements, scientific and more generally academic and research writing, and legislative provisions.
I would like to look at three major types of nominal expressions. The first type are the complex nominal phrases (Quirk et al., 1982), which are significantly used in advertisements of a particular type. The second type are variously known either as nominal compounds (Williams, 1984) or compound nominal phrases (Salager, 1984), and are typically associated with scientific writing. The third one are conventionally called nominalizations, which are overwhelmingly used in legislative provisions (Bhatia, 1983). Although all three types of nominals are generally grouped together under the broad category of complex noun phrases (see Quirk et al., 1982), it is more appropriate to consider them as distinct for two reasons. First, although they perform more or less similar grammatical functions in the language, they have different grammatical realizations, and secondly, they seem to textualize different aspects of the three genres they have traditionally been associated with. In other words, they have different grammatical as well as discoursal functions in the three genres. Let me give examples from the three genres, first from advertising.

1.

**The world's first packless, cordless, lightweight, compact, integrated video light.**

**The CV-300 from Sunpak.**

Sunpak's advanced video light technology combines the halogen dichronic light and a ni-cad power all in one stylized, compact unit. The CV-300 gives you brilliant light and natural color while shooting remains easy and maneuverable. It tilts down 15 degrees for close-up lighting and up to 45 degrees for soft bounce-lighting effects. All with no separate battery pack to carry or cords to get in your way or come loose.

The CV-300's special 20 minute Battery Cluster Module can be changed in seconds, so you can continue to shoot during long scenes. Charging time is almost twice as fast as conventional units --just 8 hours. And, additional Battery Cluster Modules are available.

The Sunpak CV-300 Integrated Video Light. It lets there be light...anywhere. [From *Popular Photography*, July 1988, p.41]

The headlines illustrate precisely the true character of the noun phrase in advertising.

**The world's first packless, cordless, lightweight, compact, integrated video light**

The most striking characteristic of this type of complex nominal phrase is the gree and to a lesser extent the complexity of modification of the noun head.
series of adjectives, linearly arranged in the pre-modifying position in such complex nominal phrases is rarely matched elsewhere in English. In the body of the text we have many more examples of this kind:

Sunpak’s advanced video light technology, brilliant light and natural color, The CV-300’s special 20 minute Battery Cluster Module

and a number of others of lesser complexity abound in the text. The typical syntactic structure of such a complex nominal phrase is

\[(M) \ H \ (Q)\]

where \(M\) is realized primarily in terms of a series of linearly arranged attributes as follows:

\[(\text{Det}) \ (\text{adj}) \ (\text{adj}) \ (\text{adj}) \ ... \ H \ (Q)\]

Although scientific English displays a wide range of nominals, we shall take up only one of them here. Williams (1984) calls them nominal compounds and we shall call them compound nominal phrases. Typical examples include:

pulmonary artery mean pressure electrocardiogram VI lead, airport building roof truss failures, nozzle gas ejection space ship attitude control, etc.

The common structure underlying these compound nominal phrases is the following :

\[(M) \ (M) \ (M) \ (M) \ ... \ H \ (Q)\]

where \(M\) is realized primarily in terms of a series of linearly arranged nouns, occasionally incorporating adjectives as well:

\[(N) \ (N) \ (N) \ (N) \ ... \]

The final example comes from legislative provisions, which are notorious for being nominal in character and display an above-average use of nominalization.

2. The power to make regulations under this section shall be exercisable by statutory instrument which shall be subject to annulment in pursuance of a resolution of either House of Parliament. [Ch. 25/78: Nuclear Safeguards and Electricity (Finance Act) 1978, U.K.]

In any other genre, as Swales and Bhatia (1983) point out, it will probably be in its more typical verbal version.

3. A statutory instrument can be used to make regulations under this section and such a statutory instrument can be annulled if either House of Parliament passes a resolution to that effect.
Nominalizations of this kind are also very common in all kinds of academic, particularly scientific research writing but we shall look at that later on. For the time being, we will focus on these three types of nominals and consider why they are typically associated with the three genres referred to above. The questions we would like to ask ourselves would be of the following kind:

Why do the specialist writers of these genres use nominal compounds the way they do?
To what extent do these nominals serve genre-specific functions?
What aspects of generic meaning do they textualize in individual genres?

In order to answer some or all of these questions, we need to look at these texts, taking a genre-perspective as defined in Swales (1981, 1986, 1990) and Bhatia (1988, in preparation).

Taking genre after Swales (1981, 1986, 1990) as a recognizable communicative event characterized by a set of communicative purpose(s), it is identified and mutually understood by the members of the professional or academic community in which it regularly occurs. Generally, it is highly structured and conventionalized with constraints on allowable contributions in terms of their intent, positioning, form and functional value. These constraints are often exploited by the expert members of the discourse community to achieve private intentions within the framework of socially recognized purpose(s). [Bhatia, forthcoming]

Each genre thus is an instance of a successful achievement of a specific communicative purpose using conventionalized knowledge of linguistic and discoursal resources. Since each genre in certain important respects is a typical way of structuring the narrow world of experience or reality, it implies that the same experience or reality will require a different way of structuring, if one were to operate in a different genre. Although it is true that many professional writers do manage to exploit genre constraints to achieve effectiveness and originality in their writing, most of them still operate well within a broad range of generic rules and conventions. In the context of this definition of a genre, let us consider examples of the three genres in question and see what sort of answers we get to the questions we addressed ourselves to in the preceding sections.

**THE ADVERTISING GENRE**

First, the case of advertising. The main communicative purpose of advertising is to promote a particular product or service to a specific group of potential users of the product or service. In one of the major types of advertisement, this is done by an adequately attractive description of the product or service, which is positive and convincing (see Bhatia and Tay, 1987). Some form of product detailing is necessary if the consumer is to be persuaded to buy the product or use the service. The following is a good example of such a product description. In fact, the most striking linguistic feature of the text is its use of complex nominal phrases.
Mitsubishi Introduces the Shape of Things to Come
THE CORDIA
Shaped by the Wind: Born for the Road

Mitsubishi's Cordia space coupe is the FWD hatchback for the 80s. For two reasons: superb aerodynamics and sophisticated road mechanics.

The Cordia's 0.34 CD aerodynamic efficiency rating, the best in its class and one of the best on the road, helps give the Cordia superb fuel economy.

The Cordia's slippery body shape also works with front-wheel drive to create an exceptionally spacious, comfortable cabin. The Cordia's length, the best in its class, provides room for five.

A 1597 cc engine mated with super shift - Mitsubishi's exclusive set of eight gear ratios - four for fast, hard driving, four for economical cruising - further boosts the Cordia's excellent fuel economy.

The Cordia's stylish cockpit and lively road manners confirm its sporting character. There's a Macpherson strut front, trailing links with Mitsubishi's U-arm rear, rack and pinion steering with negative offset, separate anti-roll bars, vacuum-boosted front disc brakes and steel-belted radial tyres.

Beautiful flowing body lines show the Cordia's breeding. Sophisticated braking, handling and road holding show the Cordia's advanced automotive technology. Together they show two reasons behind the generation of fuel-efficient performance cars to come.

Built by Mitsubishi for You. For the 80s.

MITSUBISHI
Mitsubishi's Cordia space coupe

two reasons: superb aerodynamics and sophisticated road mechanics.

The Cordia's 0.34 CD aerodynamic efficiency rating
superb fuel economy.

The Cordia's slippery body shape
an exceptionally spacious, comfortable cabin
the Cordia's excellent fuel economy

The Cordia's stylish cockpit and lively road manners
Beautiful flowing body lines

Sophisticated braking, handling and road holding
the Cordia's advanced automotive technology

the generation of fuel-efficient performance cars to come.

Even without taking into account many of the ordinarily less complex nominals like, the FWD hatchback for the 80s, superb fuel economy, the Cordia's stylish cockpit, its sporting character, the text displays an overwhelming use of long and complex nominal compounds full of adjectival attributes positively evaluating the detailed descriptive account of the car. Obviously, the use of complex nominal compounds makes available to the copywriter a number of possible syntactic slots to insert suitable modifiers to accomplish the right kind of product-detailing.

THE ACADEMIC AND SCIENTIFIC GENRE

Let us now turn our attention to academic scientific genres. As mentioned in the first section, we find a range of nominal expressions variously used in scientific writing for a variety of purposes. In fact, the nominal phrase is the main carrier of information in academic scientific writing. Compound nominal phrases, nominalization and, to a lesser extent, complex nominal phrases, all are used in academic scientific writing. Let me take the following two examples.

5.

The discrete donor-acceptor pair (DAP) emission bands in ZnSe, which are recognized as the P, Q and R series, have been extensively investigated by means of time-resolved photoluminescence (PL) and selective PL excitation measurements. [Yamada, Kidoguchi, Taguchi and Hiraki, 1989, p. L837]

One of the major concerns of scientific research writing, as we all know, is to communicate very specific, specialized and precise knowledge to an audience who, in a number of ways, seem to share the required level of specialized knowledge of the subject-discipline. It is also well-known that scientists, as part of their specialist expression, constantly not only need to refer to technical concepts like the following:
The discrete donor-acceptor pair (DAP) emission bands in ZnSe, which are recognized as the P, Q and R series

and

time-resolved photoluminescence (PL) and selective PL excitation measurements

in example (9), but also to create new ones as they go on writing, as in the following extracts of a research article.

6. Laser Glazing of Sprayed Metal Coatings

I. Introduction
The high power density of lasers permits the surface melting of many materials in a time during which negligible heat conduction occurs to the substrate. The resulting sharp temperature gradients cause rapid quench rates which have been utilized for the production of novel and useful metallurgical microstructures.

We have employed for another purpose the ability of laser melting to maintain low substrate temperatures while fusing a thin surface layer. It is often desirable to impart certain physical or chemical properties of one relatively expensive material to a less expensive substrate by applying a thin coating of the former to the latter. In particular, we wished to apply a thin layer of titanium to a graphite substrate...

Scanning the surface with a laser effectively cauterized the microporosity in the upper half of the titanium coating without causing titanium carbide formation at the titanium/graphite interface...

II. Surface
The preglazed surface consisted of a graphite substrate onto which had been plasma sprayed a titanium coating 50 um thick...

III. Laser Treatment
The microporosity apparent in Fig. 1 renders the titanium coating permeable. If the material is to exhibit the corrosion resistant properties of solid titanium the film must be made impervious by sealing the microporosity endemic to plasma-deposited coatings...

Determination of the optimum conditions for sealing the microporosity involved varying the energy per unit area, as well as the power per unit area, delivered by the laser...

IV. Analysis of Treated Surface
The effect of laser treating the plasma sprayed surface is graphically depicted in Fig. 2, a cross-sectional hotomicrograph of the tita-
nium layer. Figure 3 is an enlargement of a laser treated surface. Comparison with Fig. 1 shows that laser treatment produces a fused skin on the plasma-deposited titanium layer which is smooth and sound. The absence of cracking during the severe thermal cycling caused by the rapid quench rates characteristic of laser melting indicates that the titanium is ductile...

V. Conclusions

The rapid quench rates characteristic of laser melting have been successfully exploited to seal the porosity of titanium coatings, plasma sprayed atop graphite substrates, without the formation of titanium carbide... [Pangborn, R.J. and Laman, D.R., 1980]

The extract not only illustrates how a scientific writer uses nominal expressions to refer to specialized technical terms but also demonstrates how new knowledge is converted into known technical concepts for further reference. In the introductory paragraph of the article the writers refer to the use of lasers for the surface melting of materials and this very knowledge is referred to again in the second paragraph as a new compound nominal phrase laser melting. Similarly, the knowledge that there is negligible heat conduction occurring to the substrate is again converted into another compound nominal phrase low substrate temperatures. This process of creating new compound nominal phrases continues as and when the authors need to refer to the knowledge of the subject-discipline they have already mentioned earlier. In the article, this process of creating new compound as well as complex nominal phrases continues with the need to create new knowledge or to refer to already mentioned concepts, like the following:

titanium carbide formation at the titanium/graphite interface...
the titanium coating
the corrosion resistant properties of solid titanium
the microporosity endemic to plasma-deposited coatings
The effect of laser treating the plasma sprayed surface
a cross-sectional photomicrograph of the titanium layer
enlargement of a laser treated surface
the plasma-deposited titanium layer which is smooth and sound
the rapid quench rates characteristic of laser melting

In the concluding section of the article, the process is taken to its logical extremes when the authors summarize almost the entire article in terms of a few very complex as well as compound nominal phrases.

The rapid quench rates characteristic of laser melting have been successfully exploited to seal the porosity of titanium coatings, plasma sprayed atop graphite substrates, without the formation of titanium carbide...
In academic scientific writing, therefore, the need to create compound nominal phrases arises from the fact that the scientific writer frequently needs to refer to very precise and complex concepts again and again and to facilitate that concise reference, he invariably creates compound nominal phrases, which not only promote discourse coherence but also spare him tedious repetitions of long descriptions.

Of course, good scientific writers are well aware of the difficulties that such compound nominal phrases might cause to their readership, particularly if they do not share the same background knowledge of the subject-discipline at a particular moment. That's why Dubois (1981) rightly argues that example (7) cited below is more likely to appear in the beginning of the article than the one in (8) which contains a relatively more difficult compound nominal phrase at the introductory part of the sentence. (8) is more likely to be suitable for the later parts of the article, where, it is assumed that the reader has acquired the relevant knowledge.

7. Studies of the oxidative NADP in enzymes in *Drosophila melanogaster* have concentrated on the relationship of gene dosage to the in vitro tissue enzyme level and on elloelozyme variation.

8. *Drosophila melanogaster* oxidative NADP-enzymes studies have concentrated on the gene dosage to *in vitro* tissue enzyme level relationship.

**THE LEGISLATIVE GENRE**

Finally, we shall turn our attention to legislative writing, which is notoriously rich in the use of nominals of a third kind, which we have earlier on referred to as nominalizations. Legislative writing is highly impersonal and decontextualized, in the sense that its illocutionary force holds independently of whoever is the 'speaker' (originator) or the 'hearer' (reader) of the document. The general function of this writing is directive. Legislative writing, as Bhatia (1987, p.1) indicates attempts to create a unique and model world of rights and obligations, permissions and prohibitions in which we live as members of civilized society. However, legal draftsmen are well aware of the age-old human capacity to wriggle out of obligations and to stretch rights to unexpected limits, so, in order to guard against such eventualities, they attempt to define their model world of obligations and rights, permissions and prohibitions as precisely, clearly and unambiguously as linguistic resources permit. They are also aware of the fact that they deal with a universe of human behaviour, which is unrestricted, in the sense that it is impossible to predict exactly what may happen within it. Therefore, they attempt to refer to every conceivable contingency within their model world and this gives their writing its second key characteristic of being all-inclusive.
Reconciling the two is not always an easy task. The writer's predicament is well described by Caldwell (1980), an experienced practitioner in the field. ...there's always the problem that at the end of the day there's a system of courts and judges who interpret what the draftsman has done. It is very difficult to box the judge firmly into a corner from which he cannot escape... given enough time and given enough length and complexity you can end up with precision but in practice there comes a point when you can't go on cramming detail after detail into a bin... you've got to rely on the courts getting the message and deducing from what you have said or it may be often from what you haven't said, what implications they are to draw in such and such a case... [Reported in Bhatia (1982:25)]

So, in spite of the seeming impossibility of the task no effort is spared in legislative provisions to 'to box' the reader 'firmly into a corner'. This is generally achieved by making the provision not only clear, precise and unambiguous but all-inclusive too. And it is this seemingly impossible task of achieving the dual characteristic of clarity, precision and unambiguity on the one hand, and all-inclusiveness on the other hand, that makes legislative provisions what they are. One of the many linguistic devices which make this possible is the use of nominalizations, others being the use of qualificational insertions, complex-prepositions, syntactic discontinuities, binomial and multi-nominal expressions etc. (for more details see Bhatia, 1882, 1983, 1984, 1987 and Swales & Bhatia, 1983).

To illustrate how nominalization is used in legislative provisions, let us look at an example from Singapore's Wills Act (1970).

9. No obliteration, interlineation or other alteration made in any will after the execution thereof shall be valid or have effect except so far as the words or effect of the will before such alteration shall not be apparent, unless such alteration shall be executed in like manner as hereinbefore is required for the execution of the will; but the will, with such alteration as part thereof, shall be deemed to be duly executed if the signature of the testator and the subscription of the witnesses be made in the margin or on some other part of the will opposite or near to such alteration or at the foot or end of or opposite to a memorandum referring to such alteration and written at the end or some other part of the will. [Section 16 of the Wills Act, 1970, Republic of Singapore]

The most striking characteristic of this type of writing is the way the verbal expressions are turned into nominals. If we count the number of nominalized expressions in the above sentence we find 11 of them in a sentence which, by legal standards, is no exceptionally long, a mere 132-words. In these 11 instances we find 5 different verbs being nominalized. Of these 11, there are only 2 which have
been repeatedly used, execution twice, and alteration, which is the topic of the section, six times. This means that the legislative draftsman uses nominalization for two reasons. Firstly, of course, to refer to the same concept or idea repeatedly and, as in academic and scientific discourse, this promotes coherence and saves the writer from repeating lengthy descriptions. Secondly, and perhaps more typically, it is a convenient device to refer to as many aspects of human behaviour as required and at the same time to be able to incorporate as many qualificational insertions as necessary at various syntactic points in the legislative sentence. The use of nominal rather than verbal elements is likely to provide 'more mileage' as it were to the legislative writer when one of his main concerns is to be able to cram detail after detail and qualification after qualification in his legislative sentence. It is an entirely different matter that such a highly-nominal style is bound to create processing difficulties for the un-initiated readership in what Halliday calls the 'unpacking' of such expressions. Sometimes, even a seemingly simple and innocent-looking provision, like the one in (10) below, can make one wonder whether it is the best and the only way of putting it, when one finds that, of the three nominals, at least two are rarely, if ever, used in everyday normal discourse.

10. No will shall be revoked by any presumption of an intention on the ground of an alteration in circumstances. [Section 14 of the Wills Act, Republic of Singapore]

CONCLUSION

Although nominals have traditionally been treated as a single entity, particularly for various applied linguistic purposes, and there are good reasons for treating them so for some language teaching purposes, especially at lower levels, there are equally compelling reasons for treating them as distinct linguistic devices, particularly for more advanced and specialized language teaching purposes. Firstly, they display not only distinct linguistic forms but also seem to have a very different distribution in academic and professional genres. Secondly, and more importantly, they also realize somewhat different aspects of the genres in which they are often used. The writers of these genres are often led to the use of one or the other of these different nominal forms for very different genre-specific considerations. In order to understand and appreciate the full potential of these linguistic forms one essentially needs to adopt a generic perspective.

In advertising, nominals are more often in the form of complex nominals because the copywriter's main concern is to find as many syntactic slots as possible for adjectival insertions. This facilitates suitably precise, desirably positive and effective description of the product or service being advertised. Scientific research writing predominantly uses compound nominal phrases to refer to concepts which are either created as the discourse proceeds or to refer to further refined and often repeated scientific concepts. In this case, the use of compound nominal phrases is a convenient linguistic device to create and refer to technical terms. In legislative
rules and regulations, we find an overwhelming use of nominalizations, simply be-
cause the parliamentary draftsman needs to condense his often longish provisions
into somewhat more precise, unambiguous and all-inclusive statements by incorpo-
rating all types of possible conditions and contingencies that may arise during the
course of the interpretation of a particular legislative provision. Nominalization has
been a very ancient and trusted linguistic device used by the legal expert to achieve
condensation and all-inclusiveness in his writing.

The analysis of nominal use presented here has strong implications for many
applied linguistic purposes, particularly for ESL, ESP and the teaching of profes-
sional and academic writing. Grammar has long been an integral part of our lan-
guage teaching programmes. In earlier days our approach was invariably prescrip-
tive. With the availability of various linguistic descriptions of language, we brought
in an important element of description in our language teaching programmes and
then language teaching became more descriptive. Now, with the advent of discourse
and genre analysis in recent years, our language teaching programmes need to be
made more effective by making them explanatory so that the learner consciously
knows why he is writing a particular essay, an academic or professional text the way
he has been asked to. This will make him better aware of the rationale of the text-
genres that he is required to read and write. After all, the most important function of
learning is not simply to be able to read and produce a piece of text as a computer
does, but to become sensitive to the conventions in order to ensure its pragmatic
success in the academic or the professional context in which it is likely to be used.

This can be effectively achieved in language teaching by using a genre-based
approach to syllabus specification and materials development. Instead of selecting
and specifying texts and tasks on the basis of grammar, content, subject-matter,
topic or theme, one could select syllabus content in terms of genres and specify text-
task relationships (Swales, 1990, p.77) based on the findings of genre analysis of
the selected text-types. Once this has been achieved, the choice of specific examples
of text-genres in the classrooms can be left to individual teachers and even to learn-
ers themselves. This will give enough freedom to the teacher and the learner in the
selection of texts, thereby ensuring their participation in the decision making pro-
cess. This kind of genre-based approach to syllabus design and materials develop-
ment will not only ensure greater flexibility in syllabus specification and learner
participation in the learning process but also sensititize the learner to the value of
linguistic expressions that they carry in specific generic contexts.

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REFERENCES


