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A linguistic view of subject formation process as described by Ranganathan and others

Bidyarthi Dutta[a] and Chaitali Dutta[b]

[a]Assistant Professor, Department of Library & Information Science, Vidyasagar University, Midnapore, WB, India, Email: bidyarthi.bhaswati@gmail.com

[b]Associate Professor, Department of Library & Information Science, Jadavpur University, Kolkata, India, Email: contactcdhere@gmail.com

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The basic implication of a subject in the context of library and information science is outlined here. It is pointed out that the purview of library and information science mostly reckons any subject in the form of some either assigned or derived terms or keywords. The basic concepts of words as per the scope of linguistics are also provided. Different modes of formation of complex and compound subjects as enunciated by Ranganathan are described. The modes of formation of compound words as depicted in linguistics have been described and compared with different modes of formation of complex and compound subjects as portrayed by Ranganathan, Neelameghan, Seetharama and Sen. It has been observed that there are similarities between modes of formation of words and subjects. As similarities are observed at the very basic foundation level between words and subjects, therefore it has been concluded that there may be some similarities of intrinsic properties between them. The specific words belonging to a particular subject domain or subject-specific words that are commonly known as keywords may thus be recognized as eventual denomination or fundamental building block of the concerned subject. The keywords may thus be looked upon as molecule of a subject from linguistic viewpoint.

Keywords: Basic subject; Complex subject; Compound subject, Isolate idea; Root word; Stems word; Compound word; Iinguistic view of subject; Subject formation process; Word formation process

Introduction

The word *subject* bears different implications in different contexts. In general, the *subject* indicates any topic or theme of a work stated explicitly in the concerned text or title or implicit in its message. In library and information science, *subject* holds a special position as some facets of it may be reckoned as subject of subjects, for instance, library classification and library cataloguing. The subject may be imagined as descendant of universe of knowledge, or it is the segmentized forms of the universe. Ranganathan[1] identified five well-known branches of knowledge dealing with knowledge itself as core object of study, viz. psychology, logic, epistemology, ontology and library classification. The subject psychology explores what happens to the mind and in the mind in building up knowledge. The subject logic deals with normative study of valid reasoning involved in steps of development of impressions and gathering of experiences for creation of new impressions and experiences to add something new to the existing knowledge. Epistemology deals with natural aspect of knowledge stored in human memory. Ontology examines possible ways involved in eventual denomination of knowledge to the minimum probable number of ultimates and the correlational nodal points among the ultimates exist both within and outside the knower's mind. The library classification deals with organization of specific subjects in both macroscopic and microscopic forms in some logical order to support different types of helpful sequences with respect to both information organizers as well as searchers.

In library cataloging, however an item is assigned one or more subject headings as access points, to assist information searchers in locating its content by subject. In indexing and abstracting services, the headings or terms assigned to represent the content of a document are called subject descriptors. In library science or library and information science, the *subject* mostly refers topical terms, or some descriptors, or headings etc. Sometimes subject or content of a text or document can be represented by a term or descriptor available in a standard subject access tool like subject heading list or classification schedule. But, in most cases particularly for journal articles the

subject or content is represented by assigned keywords. The former case indicates subject representation through controlled vocabulary or assigned term system while the later one implies the same through uncontrolled vocabulary or derived term system. Whether the content is described through assigned or derived terms, it is true that subject representation always involves some terms or keywords, i.e. special words to describe some special theme. Therefore, a close proximity should exist between these two apparently different concepts, i.e. subject and word. The detail probing of the former term (subject) comes under the scope of above-mentioned five areas along with library and information science, while the same for the later term (word) comes under the purview of linguistics. Hence, some linking nodes should exist between these two subjects, i.e. library and information science, and linguistics. This paper tries to find out the link by comparing subject formation process with word formation process.

Word: some basic concepts

The Concise Oxford Dictionary of Current English[2] states six different meanings of 'Word' as listed below:

1) "Any sound or combination of sounds (or its written or printed symbol, customarily shown with a space on either side of it but none within it) forming meaningful element of speech, conveying an idea or alternative ideas, and capable of serving as a member of, the whole of, or a substitute for, a sentence".
2) Speech
3) Thing said or saying, remark, conversation
4) News, intelligence, a message
5) One's promise, assurance or responsible statement
6) Command, order, motto

The Oxford Concise Dictionary of Linguistics[3] states the meaning of the same as follows: "Traditionally the smallest of the units that makes up a sentence, and marked as such in writing. In practice, words are established by various criteria. They are generally the smallest units that can form an utterance on their own".

The former one is a general dictionary, while the latter one is the subject dictionary. A comparison between these two dictionary-based meanings of "Word" instantly reveals that the first meaning by the general dictionary almost accords the second meaning by the subject dictionary. Therefore the first meaning can be accepted as the linguistic meaning of "Word". The other meanings stated by the general dictionary indicate different subjective meanings.

An important feature about the concept of word is that some words carry some meaning, while some others do not have any independent meaning. They imply meaning only in association with other words. This feature was first observed by Sweet[4], the nineteenth-century English grammarian, who defined two distinguished types of words, i.e. 'full word' and 'form word'. Examples of 'full words' are *flower, red, quietly, plant,* etc. and the 'form words' *the, but, so, and,* etc. The meaning of the full words could be found in dictionaries, while the form words belong to the grammar and carry only grammatical implications. According to Bloomfield[5], an American linguist, 'Words' may be thought of as the smallest meaningful unit of speech that can stand by themselves. This concept of word is known as "minimal free forms", which was introduced in 1926 by Adger[6]. Bloomfield[7] also defined an element as a unit of meaning, which is smaller than word. The name given to such unit of meaning was 'morpheme'. The examples of morpheme are, 'like' & 'd' in 'liked' or 'salt' & 'y' in 'salty'. The two elements or morphemes in 'liked' have distinct meanings, 'be fond of' and 'past'. Similarly in the word 'salty', the two morphemes have distinct meanings, i.e. 'a crystalline mineral' and 'tastes like'. But it was difficult to define separate morphemes for the words like 'saw' or 'knew'. The word 'saw' includes both 'see' and 'past'. The same is true for the word 'knew' also, which includes both 'know' and 'past'. To overcome these difficulties, Bloomfield introduced another new technical term to define 'word' in other way. The name given to this new technical term was 'lexeme'[7]. The lexemes provide dictionary headings. There will not be two headings for 'know' and 'knew' in dictionary. The "word" covers several distinct linguistic concepts, including lexeme, word form and grammatical word. A lexeme is a complex representation linking a single meaning with a set of grammatical words. For example, 'child' is a lexeme, which forms different words like 'child's', 'children', 'childish', 'childhood' etc. Therefore, 'child' forms the unit of meaning, while 'ren', 'ish', 'hood' and 's' indicate different grammatical forms. The word therefore may also be

defined as a well-defined set of lexemes or smallest lexical meaningful units along with its different grammatical forms[8]. But there is no rule about an optimal number of lexemes in a word. The association among lexemes determines meaning of a word. But the meaning of a word cannot be always determined from the meanings of individual lexical units or lexemes. In this context, Ullmann[9] defined two types of words, transparent and opaque words. Transparent words are those whose meaning can be determined from the meaning of their parts, and opaque words are those for which this is not possible[7]. Thus 'darkroom' and 'doorman' are transparent words, while 'axe' and 'porter' are opaque words. There are so many types of words in different forms possessing wide varieties of structural aspects.

Subject formation process as described in library science

The results of any experiment, observation and thinking may reveal themselves in a number of ways, forms and styles; which may be a theory, some process, phenomena, application, or else. The final outcome of an experiment, observation and thinking if forms any logical entity in some well-defined shape in human mind, then a subject is incepted in concept space of human brain. A subject is born usually in the form of a research paper, a short communication, or conference proceedings etc at a particular point of time. At that time, it is not known whether the subject will grow further or not. If it has promise, more researchers start working on it, and the subject starts growing and the literature on the subject starts appearing in a scattered way in different journals, conference proceedings, and so on. At a later stage, the scattered literature is gleaned, examined, and a review paper or a book is written where the ideas pertaining to the subject are organized and systematized and in many cases the subject is given a name. Hence at the very beginning, the ideas of a nascent subject is usually not organized or systematized. Secondary sources of information are hardly available for any nascent subject. All information is accumulated and disseminated through primary sources of information. The information from primary sources is gradually absorbed by secondary sources in course of time.

In view of what has been said above, a new definition of 'subject' has been given by Sen[10], "A subject is a segment of the universe of knowledge and possesses all the characteristics a segment possesses. A subject can be composed of single, combined, mixed, overlapping, clustered and other types of segments. A subject is usually identified by a name, a notation or notations, a symbol or symbols, etc. The name can be composed of a single keyword like physics, or a set of keywords like India: History: British period. The name of a subject sometimes undergoes change due to various reasons. For example, the name of our profession has evolved like this: Library economy ─ Librarianship ─ Library science ─ Library and information science. Now, in many cases, it is referred only as Information science/s. With the advent of space age the subject Aeronautical engineering has changed as Aerospace engineering".

In the context of library and information science, the organization of knowledge is actually the organization of documented messages in which knowledge or information is represented. Knowledge is accumulated centering a particular entity that is the nucleus of a subject. An organized set of ideas may or may not represent an individual or a cluster of subjects. Hence, a continuum or universe of knowledge needs to be divided in different segments, which is the process of knowledge classification. This process creates different subjects. Different specialists have recognized different types of relations between the components of a subject or the modes of subject formation in the universe of knowledge.

Ranganathan[11] described *subject* as an organized set of ideas, whose extension and intension are likely to fall coherently within the field of interest and comfortably within the intellectual competence and the field of inevitable specialization of a normal person. The exposition of a subject may extend in print to several volumes at one extreme, or to only a single volume, or to an article in a periodical, or to a part, or a chapter, or a section of a book, or even to a single word at the other extreme. From the multi-volume document to single word, this is the range for suitable manifestation of a subject, i.e. a multi-volume document may belong to a single subject and a single word may also belong to a single subject. He categorized the subject in three main classes from the levels of exposition, i.e. macro-subject (great extension and small intension), micro-subject (small extension and great intension) and spot subject (very tiny extension and enormous intension). These categorization is however highly subjective and cannot segmentise well-defined groups or sets with sharp demarcation among them. As Ranganathan remarked,

Macro subject, micro subject and spot subject are relative terms with their meaning loosely fixed by convention. The measures of their extension forms, so to speak, a continuous spectrum. The change-over from the range of macro subjects to that of micro subjects cannot be fixed to be at a sharp point in the spectrum. At the region of transition, it is difficult to distinguish between a macro subject and a micro subject.

From the compositional viewpoint, the subject was also classified in three main groups, i.e. basic subject (a subject without any isolate idea as a component), compound subject (a subject with a basic subject and one or more isolate ideas as components) and complex subject (subject formed by coupling two or more subjects expounding, or on the basis of some relations between them). This categorization is however far more objective than the previous one. It is possible to find out appropriate examples for basic, compound or complex subjects. But it is not at all possible to exemplify a macro, micro or spot subject. There are so many factors to affect the levels of exposition of a subject. For instance, today's spot subject may be macro entity in future and vice versa. It varies over persons and contexts also. A subject may seem as macro to an expert while a mere word or spot subject to a layman. Ranganathan[11] described five methods of formation of compound and complex subjects from universe of basic subjects and isolates. These are Dissection, Lamination, Denudation, Loose Assemblage and Superimposition. The process of dissection implies cutting a universe of entities into parts of co-ordinate status. When the parts are ranked, they form an array. The array like, *feed plants*, *food plants* and *stimulant plants* are formed when the universe of *agricultural plants* is dissected. The lamination process indicates construction by overlaying facet on facet. When the basic layer is a basic subject and the other layers are isolate ideas, a compound subject is formed. The formation of subjects like *Indian youth* (basic layer is a space isolate), *child psychology* (basic layer is a basic subject) comes under this category. Denudation is the progressive decrease of the extension and the increase of the intension (or the depth) of a basic subject or an isolate idea. The examples of this category include subject formation like, Philosophy → Logic → Deductive logic → Syllogism; or Asia → India → West Bengal → Midnapore. In the former one a basic subject is involved, while in the latter the space isolate is involved. Loose assemblage is the assembling together of two or more of basic or compound subjects and isolate ideas. For instance, subjects like, influence of geography on history, or statistical analysis for railway managers come under this category. Superimposition is connecting together two or more isolate ideas belonging to the same universe of isolate ideas. For instance, subjects like ice-cream manufacture or production of missiles belong to this category.

Gopinath[12] and Seetharama carried out further research on Ranganathan's idea and put forward the following seven modes of formation of subjects: Loose Assemblage, Lamination, Fission, Fusion, Distillation, Agglomeration and Cluster. Here *Fission* process is analogous to Ranganathan's *Dissection* process and *Fusion* process is just reverse to the *Fission*. Formation of subjects like biochemistry, astrobiology, sociolinguistics etc. belongs to this category. The cluster process is analogous to Ranganathan's superimposition to some extent, but in cluster process the subject formation is further categorized in three classes, viz. Area studies (examples are Indology, Nipponology etc.), Person studies (Tagore studies, Gandhian studies etc.) and Entity studies (Soil science, Oceanography, Missile production etc.). The Distillation and Agglomeration processes are completely new and were not described by Ranganathan. Some common facets are crystallized from universe of subjects or any broad discipline and separately form new subjects in the process of distillation. The subjects like management science, microbiology come under this category. In the agglomeration process broad disciplines like natural science, social science etc. are formed.

The subject formation process was compared with universal linguistic forms by Neelameghan[13]. He pointed out that the formulation of a generic framework for structuring subjects has a parallel in the search for universal linguistic forms such as that expounded in the works of distinguished linguists like Chomsky, Fodor, Katz, and the generative grammarians. Neelameghan[14] developed a generalised facet structure of subjects as shown in Figure 1. This structure may be shaped in specific models for different subject fields.

Word formation and subject formation: a simultaneous snapshot

In linguistics, word formation indicates the creation of a new word. Word formation is sometimes contrasted with semantic change, which is a change in a single word's meaning. The line between word

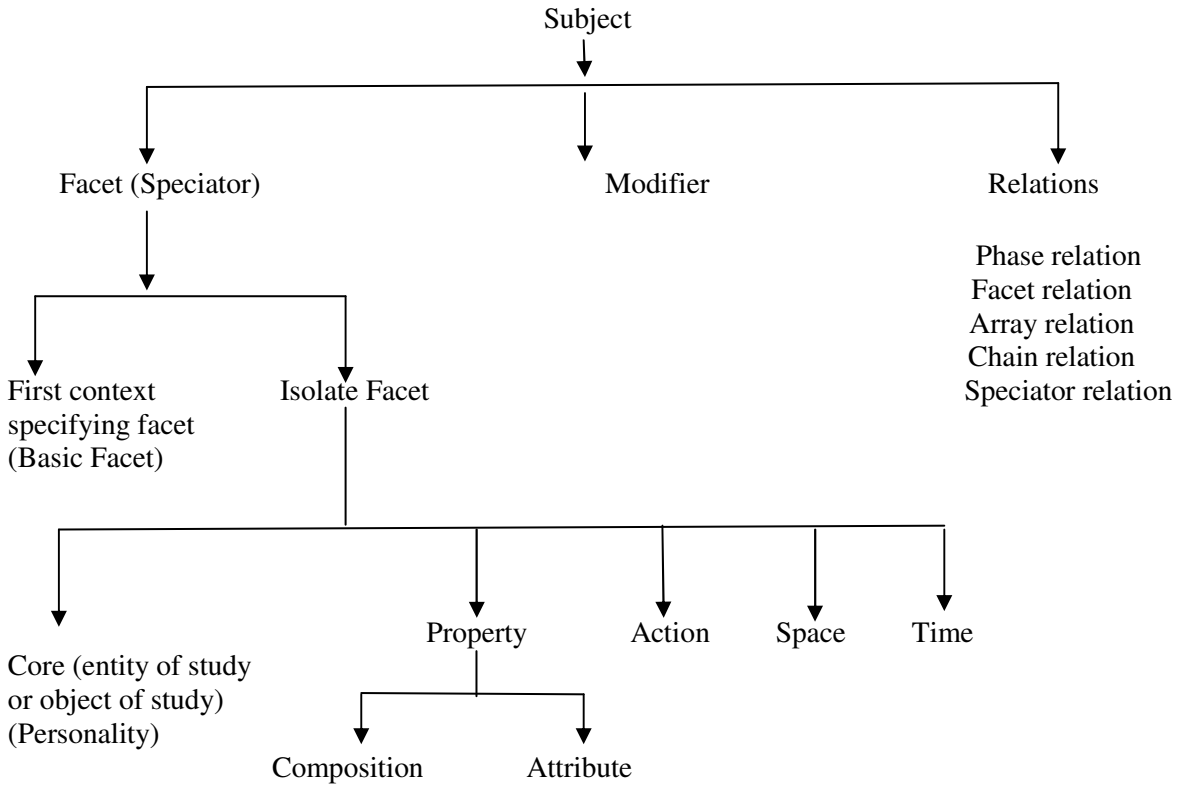

Figure 1—Generalised facet structure of subject as developed by Neelameghan

formation and semantic change is sometimes a bit blurry; what one person views as a new use of an old word, another person might view as a new word derived from an old one. Word formation can also be contrasted with the formation of idiomatic expressions, though sometimes words can be formed from multi-word phrases. From the point of view of structural aspect a word may be classed in three categories:

1) Root word
2) Stem word
3) Compound word

The compound words may be classed in four categories[15], i.e. (1) exocentric compound (2) endocentric compound (3) copulative compound and (4) appositional compound.

The primary lexical unit of a word is known as root word. It carries the most significant aspects of semantic content and cannot be reduced into smaller constituents. The stem indicates a part of word that may be either prefixed or suffixed to a root word to add a new form to its meaning. For instance, if 'child' is a root word, then it has several stem words like 'childish', 'childhood', 'children' etc. Here, the central theme of all stem words is same as the root word, but the forms are a bit different. The attachment of more than one primary lexical units or roots creates compound words. The compounds may also contain stems in different forms. Now, let us say a compound word that is formed from two different primary lexical units or roots, viz. A & B. Let us denote the said compound word, i.e. the combination of A & B as (A + B). Suppose, the meaning of A is M, and that of B is N. Then following four cases may arrive:

Case 1: (A + B) ⇨ N, i.e. (A + B) indicates a particular kind of B, which means N only, but not (M + N). Examples of such kind of compounding are *darkroom*, *football*, *roommate, birthday, bedtime* etc. For instance, the word *darkroom* is formed from two root words *dark* and *room* (may be reckoned as A and B respectively), but the complete word *darkroom* indicates a special type of *room*, but not any kind of *darkness*. This kind of compounding is known as 'endocentric compounding'. The meaning is contained here within the components. In case of subject formation, there are similar kinds of examples, i.e. organic chemistry, nuclear physics, labour economics,

animal physiology, urban sociology etc. The subject *organic chemistry* deals with a particular branch of *chemistry*, but no organs and so on.

Case 2: (A + B) ⇨ P, where P ≠ M, P ≠ N, P ≠ (M + N) or any other combination of M & N, i.e. (A + B) indicates a special kind of an unexpressed semantic head, which neither expresses A, nor B, but a completely new theme. This kind of compounding is known as 'exocentric compounding'. Examples of such kind of compounding are *breakfast, pickpocket, paperback, egghead, ladyfinger* etc. For instance, the word *breakfast* is formed from two root words *break* and *fast* (may be reckoned as A and B respectively), but the complete word *breakfast* indicates a completely new concept (a meal) that has no conceptual vicinity with either *break* or *fast*. Here the meaning is not contained within the components. Similar examples from subject formation include, black hole theory, Fermi liquid, string theory, rare earth study, neural network etc. The subject *black hole theory* neither deals with any kind of blackness or colour nor any kind of hole. The central theme of this subject is *stellar phenomenon* in the context of astrophysics. The term *black hole* indicates *dead star* in astrophysics. Similarly the subject Fermi liquid does not include anything either about the physicist Enrico Fermi or any liquid. This subject deals with interacting fermions that describes the normal state of metals at sufficiently low temperature.

Case 3: (A + B) ⇨ (M + N), i.e. (A + B) denotes the sum total of what A and B denotes. This kind of compounding is known as 'copulative compounding'. Examples of such kind of compounding are *bookstore*, *eggshell*, *sleepwalk*, *eyelid*, *newspaper* etc. For instance, the word *bookstore* is formed from two root words *book* and *store* (may be reckoned as A and B respectively), while the complete word *bookstore* also indicates nothing but the storehouse of book. Here also the meaning is contained within the components. Examples from subject formation include biochemistry, astrobiology, geophysics, biophysics, sociolinguistics etc. For instance, the subject *biochemistry* from the viewpoint of content reveals the sum total of both *biology* and *chemistry* and so on.

Case 4: (A + B) ⇨ R, where R = M = N, i.e. (A + B) denotes different descriptions of the same referent. This kind of compounding is known as 'appositional compounding'. Examples of such kind of compounding are *managing-director, founder-member, player-coach, student-worker, singer-actor* etc. For instance, the word *managing-director* is formed from two root words *managing* and *director* (may be reckoned as A and B respectively), while the complete word *managing-director* indicates one particular person (not two) who simultaneously acts both as manager and also as director. Examples from subject formation include, optics/light, acoustics/sound, paleontology/fossil science etc. Sometimes a particular subject is known by several names, for instance light and optics, sound and acoustics etc.

Ranganathan[11] categorized subject in three classes:

(1) Basic subject
(2) Compound subject
(3) Complex subject

Basic subject was defined by him as "a subject without any isolate idea as a component". The examples of basic subjects are *physics*, *mathematics*, *chemistry* etc. The compound subject was defined as "a subject with a basic subject and one or more isolate ideas as components". The examples of compound subjects are *development of physics in nineteenth century, research trend of chemistry in India* etc. The complex subject was defined as "subject formed by coupling two or more subjects expounding, or on the basis of, some relation between them". The examples are *mathematics for physicists, difference between physics and chemistry, geo-politics* etc.

The isolate ideas may be defined as discrete ideas or idea-complexes that itself does not represent any subject but may fit with any subject to give it new shape and dimension. Isolates are also known as form subjects. Examples are *theory*, *dictionary, research, periodicals* etc. Ranganathan categorized isolate ideas in five fundamental categories, *personality, matter, energy, space* and *time* (PMEST). The fundamental category *matter* was further divided in three classes, i.e. *material*, *property* and *method*.

From the very definition of isolate ideas it may be resembled with word stems, as stems do not represent any independent and meaningful word but may fit with any word to modulate its meaning towards a new orientation. The root words may thus be resembled with basic subjects. The stem words may be resembled with compound subjects, as:

Stem word = root word + word stem and

Compound subject = basic subject + isolate ideas

(Since Root word ≡ basic subject and word stem ≡ isolate ideas)

Similarly, the compound words may be resembled with complex subjects, as

Compound word = root word + root word e.g. darkroom or sleepwalk) and

Complex subject = basic subject + basic subject (biochemistry or geophysics)

The symbol used above stands for 'equivalent to'.

The mode of formation of all kinds of words may be broadly classified into following six categories by Bussmann[16]:

Agglutination

This is the process of forming new stem words from existing root words by adding word stems to them. The examples are, *child* + *hood* → *childhood, dark* + *ness* = *darkness, rest* + *less* + *ness* = *restlessness* etc. Stem words are formed from root words and word stems in this process. It may be analogized with the process of *lamination*, through which compound subjects like *rural sociology in India*, *Indian economy in 21st century* etc. are formed.

Back-formation

This is the process of forming words through removing seeming affixes from existing stem words, like forming *edit* from *editor*. Similarly the word *gene* is formed from *genetics*. Root words are formed from stem words in this process. This process is just reverse of *agglutination*. This process may be compared to the process of *denudation*, through which specific subjects are formed from a basic subject, for instance, formation of *inductive logic* and *deductive logic* from *logic*, which was also formed from *philosophy*. The subject *philosophy* is considered as a basic subject.

Blending

This process of forming words involved joining parts of two or more older words to form a new one, like *smog*, which comes from synthesizing *smoke* and *fog*; or blog, which comes from *web* and *log*. There are so many similar type words, e.g. *bit* = *binary* + *digit, fortnight* = *fourteen* + *nights, intercom* = *internal* + *communication, modem* = *modulator* + *demodulator, pixel* = *picture* + *element* etc. The acronym-like words may also be formed through this process, like *laser*, which is formed from the initial letters of the phrase *light amplification by stimulated emission of radiation*. Some other examples are, *aids (acquired immune deficiency syndrome)*, *CD-ROM* (*compact disc read only memory*), *radar* (*radio detection and ranging*) etc. The formation of clip-words is another example of this mode, like forming *lunch* from *luncheon*, *fridge* from *refrigerator*, *mike* from *microphone*, *van* from *caravan*, *taxi* from *taxicab* etc.

In acronym-like word formation, several words from a complete phrase contribute their first letters only to form the whole word. An acronym-like word expresses the sum total of theme expressed by constituent words. For instance, the word CD-ROM means the sum total of meanings expressed by four different words, i.e. compact, disc, read-only and memory. Therefore, from the linguistic point of view, the acronym-like words may be categorized as *copulative compound words*. Whereas, in case of other blended words, some parts containing more than one letters from each of the two words are combined to form the whole word. The blended words are also *copulative compound words* on the basis of same logic of acronym-like words. The formation of clip words, on the other hand involves reverse blending, that is, a portion of a word is truncated to form the new word. The clip words are root words derived from either stem or compound words. As ingredients from different words are filtered in the form of a single word, this mode of word formation may be analogized with the process of *distillation*, in which excerpts from several basic subjects are first differentially accumulated and then accreted in the form of a new subject. The subjects like management, microbiology, forestry, ergonomics, anesthesiology etc. are formed through this process.

Calque

This process involves borrowing a word or phrase from another language by literal, word-for-word or root-for-root translation, for instance the English phrase *superconductor* is a calque from Dutch language, where the original Dutch word was *supergeleider*. There are similar examples like

governor-general from *Gouverneur Général* (French), *antibody* from *Antikörper* (German), *rainforest* from *Regenwald* (German), *rest in peace* from *requiescat in pace* (Latin), *blue-blood* from *sangre azul* (Spanish) etc. Two words from two different languages are related through semantic meaning only. The words from different languages are not amalgamated in any way to form new words, but independent existence of all constituent words is prominent in all cases. The relationship between words from different languages is rather weak, for instance, the two words *antibody* and *Antikörper* are similar from the viewpoint of meaning only, but they are completely different entities. One word is formed by taking only the meaning from the other word, but independent existence of two words totally sustains. They are semantically similar, but not syntactically. The words formed through this process are *loan words*. There are other examples in English language also, like medical library, science faculty etc. This mode of word formation may therefore be analogized with the process of *loose assemblage*, where two or more simple or compound subjects and/or isolate ideas are assembled together to express some relationships between the components of the assembly. Also, the characteristic features of the component subjects remain unchanged in the resultant subject. Some examples are, *relation between political science and economics, comparative study between anatomy and physiology, Bengali music through Hindustani music, influence of Christianity on Islam,* etc.

Compounding

This is the process where a compound word is formed by stringing together older root words, like *earthquake (earth + quake), darkroom (dark + room), paperback, bookstore, managing-director,* etc. There are four types of compound words, i.e. *endocentric compound, exocentric compound, copulative compound* and *appositional compound,* which have been already discussed. Here, two different words are fused to form a new word, where the characteristic features of old componential words are not distinctly present. Therefore this process may be analogized with the process of *fusion*. The subjects formed through fusion process are *biochemistry*, *astrobiology, sociolinguistics, geophysics, biophysics*, etc. In the subject *biochemistry*, say, one cannot find *biology* and *chemistry* separately, but it is a completely new subject with new characteristic features.

Conversion

This is the process of forming new words by converting an already existing word to a new part of speech or syntactic category. One of the major features of this process is verbalization of a noun, like forming the verb *green* from the existing adjective. The phrase *to green* means *to make environmentally friendly*. There are so many types of conversions, i.e. *noun to verb*, or *verb to noun*, or *adjective to verb* etc. Some examples are given below:

Noun to verb:	Google – to google
Eye – to eye	Shape – to shape
Name – to name	Torch – to torch
Verb to noun:	Adjective to verb:
To alert – alert	Green – to green
To cover – cover	Large – to enlarge
To call – call	White – to whiten
To rise – rise	Able – enable
To start – start	Possible – to possible

No new word is created in this process, but the old word has been used in a new way. The syntactic category of the word is only changed. This process may be compared to the *form-based segment* (Sen, 2009), which describes development of a particular subject based on a particular form. For instance, there are so many form isolates exist in universe of isolate ideas, e.g. dictionary, encyclopedia, periodical, bibliography, research report etc. The subject matter pertaining to a subject may be presented in any of these forms. Sometimes a subject develops basing a form, e.g. *lexicology, lexicography, journalism* etc. Here the form isolates are shaped into subject, but the basic concept remains unchanged. The central theme of both *dictionary* and *lexicography* are identical. Similarly, the central theme of both *Google* and *to google* are same, only the syntactic uses are different.

In all, six modes of formation of words have been discussed here and a comparative study with six modes of formation of subjects has been carried out. It has been observed that there are so many similarities between both kinds of modes of formation. Since both words and subjects are formed from similar kinds of processes, therefore it is also logical to assume that there may be so many similarities between the very nature of both of them. The concept of word pertains to linguistics and the concept of subject pertains to library and information

science. The comparative layout between modes of formation of words and subjects is summarized below:

Mode of formation of subjects		Mode of formation of Words
Lamination	⟺	Agglutination
Denudation	⟺	Back-formation
Distillation	⟺	Blending
Loose Assemblage	⟺	Calque
Fusion	⟺	Compounding
Form-based segment	⟺	Conversion

Conclusion

The concept of *subject* from the viewpoint of linguistics has been discussed here. Researches in LIS generally emphasize on subject as subject heading or term descriptor that are useful for indexing and cataloguing. The concept of subject in the context of LIS is thus, by and large term-dependent or keyword-centric. In this paper, the *subject* has been described from a new perspective, i.e. from linguistic point of view. It has been observed that the formation processes of both compound words and complex or compound subjects have so many similarities. As the processes of creation are alike in nature, thus it may be logically inferred that both compound words and compound or complex subjects may possess sets of similar intrinsic characteristics. It is obvious that conceptually words are tinier entities than subjects. The words are small, piecemeal and discrete entities, while subjects are larger and continuous entities. From this logical view also, it can be concluded that well-defined and semantically-related sets of words form the eventual denomination of a subject that may be termed as molecule of a subject. A subject may thus be well interpreted from the viewpoint of linguistics.

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