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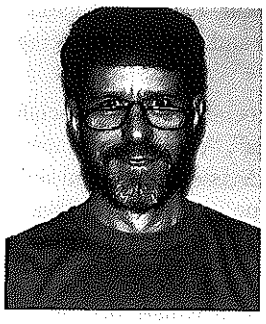

Terms, Symbols and Ordinals: A Taxonomy of Designators

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This article presents a new taxonomy of designators (a.k.a. *designations*), covering terms, symbols and ordinals. Although ordinals are widely used, they have not been conceptualized in terminology literature as designators per se. Each category is broken down according to the basic form of the designator. Term types are monomials, polynomials, and initialisms. Symbol types are alphabetic and graphic. And ordinal types are alphabetic and numeric. Combinations (hybrids) of these types are also discussed. The proposed terms and concepts are contrasted with those in ISO 1087 (*Terminology - Vocabulary*, 1990) and approximately 48 terms are defined. (Author)

0. Introduction

This article presents a new taxonomy of designators (a.k.a. *designations*). It covers *terms* and *symbols*, which is common in the literature, but also identifies a third category, *ordinals*. Although ordinals are widely used, they have generally not been recognized in terminology literature as designators per se, alongside terms and symbols. Each category is broken down according to the basic form of the designator. Term types are monomials, polynomials, and initialisms. Symbol types are alphabetic and graphic. And ordinal types are alphabetic and numeric.

I shall use as a frame of reference ISO 1087 *Terminology - Vocabulary* [1990] (1), which is a glossary of preferred terms for basic terminology concepts. This document is a good framework for comparison because, being an international standard, it largely reflects state-of-the-art formulations. I will focus mainly on part 5.3 (*Representation of a concept*). Table 1 is a list of 48 terms formally defined here.

0.1 Novelty.

The following are facets of this presentation which I believe are new to terminology science. The major points are: (A) Ordinals as a type of designator (along with terms and symbols); (B) hybrid designators, including 13 main types; (C) the *nomial* series (monomial, polynomial, etc.) for terminology science. For the following minor points, the quotes mean that at least the name (if not the concept) is probably new: (a) "alphabetic symbols" vs. "graphic symbols"; (b) "iconic letters" and "letter-like symbols"; (c) "alphabetic ordinals" vs. "numeric ordinals"; (d) "whole ordinals" vs. "subordinated ordinals"; (e) "permanent ordinals" vs. "ad hoc ordinals".

0.2 Preliminary Definitions.

Here are some definitions of terms used in the subsequent discussion. Underlining in a definition indicates terms that are formally defined elsewhere in this article.

designate (verb) SYN: **signify** To stand for, refer to, mean, express, denote, or name. e.g.: *Hydrogen* designates the concept of one-proton atoms. *Earth* designates this planet.

referent Anything that is referred to, denoted, named, signified or 'designated' by a 'designator'.
Two main types of referents are *elements* and *concepts*. There are other types of referents (e.g. particular qualities and adhoc categories). However, since these are generally not given formal designators in the same sense as elements and concepts, they are ignored here.

element SYN: **elemental referent** A particular part, person, place, object, event, phenomenon, substance, activity, process, or domain. A.K.A.: *member, instance, individual, particular, token, example*

abstract symbol	graphic	name	short abbreviation
acronym	graphic symbol	nomial series	signify
ad hoc ordinal	hybrid designator	numeric ordinal	subordinated ordinal
alphabetic ordinal	hybrid ordinal	numeric symbol	symbol
alphabetic symbol	hybrid symbol	ordinal	symbol-ordinal hybrid
binomial	hybrid term	ordinal word	term
concept	iconic letter	ordinary term	term-ordinal hybrid
conceptual referent	iconic symbol	pentanomial	term-symbol hybrid
designate	initialism	permanent ordinal	tetranomial
designator	letter-like symbol	polynomial	trinomial
element	long abbreviation	quantifying descriptor	whole ordinal
elemental referent	monomial	referent	word

Table 1. List of Defined Terms

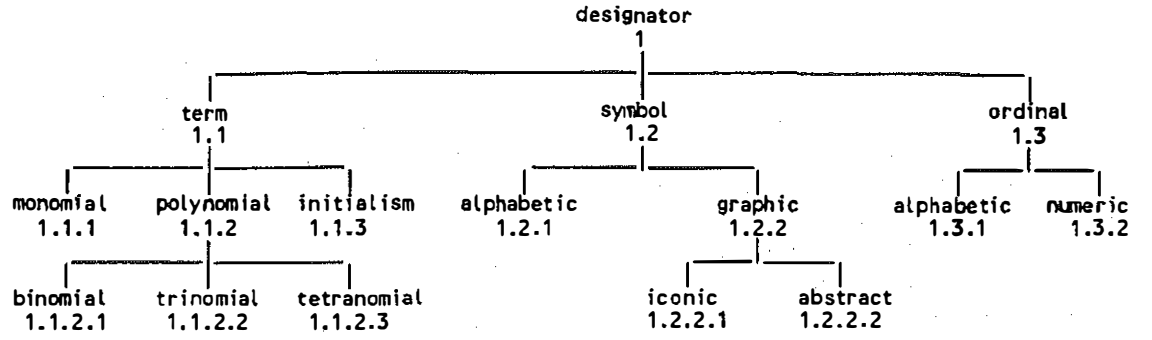

Figure 1 Designator Types by Morphology

ISO 1087 gives no term for the concept of *referent* but uses the term *object* for what I call element. However, this usage is difficult to see in its definition, which is: *object*: "Any part of the perceivable or conceivable world". Only when ISO later characterizes *concept* in terms of "a set of objects" is it apparent that ISO's *object* is equivalent to *element*. I prefer *element* for this concept because I differentiate objects (e.g. the sun) from processes (e.g. radiation), both of which are types of elements. *Element* has strong precedent in set theory, where it designates the same concept.

ISO 1087 gives the following definition of *concept*: "A unit of thought constituted through abstraction on the basis of properties common to a set of objects." I find this definition troublesome on several acounts. However, explaining these is beyond the scope of this article, and instead I will merely propose an alternate definition.

> **concept** A unit of knowledge (excluding ad hoc categories), consisting of a collection of instances having common attributes. E.g.: words, planets, people, common nouns, hydrogen atoms, electricity, sound, starlight.

This definition also has problems, but like ISO's, it is workable for purposes of this article. In English grammar, *proper nouns* are names of *elements* and *common nouns* are names of *concepts*.

1. Designators

In spite of some traditional impetus for calling this concept *designation*, I prefer *designator*, which also has some precedent in the literature. It is slightly more concise (economical) and perhaps slightly more descriptive.

In formally naming this concept (designator), a commitment is necessary regarding how broad is to be the meaning of the word term. Some authors use *term* broadly to include all types of designators. In contrast, *term* is used here (as well as in ISO 1087) in reference to lexical constructions only.

Figure 1 is a comprehensive taxonomy of written designators. There are also *unwritten* designators (e.g. signs in sign language), but these are not covered here. Although not explicitly stated, the qualification of *written* is to be understood here. *Spoken* is not accurate because, graphic symbols are not spoken or pronounced, only their lexical equivalents. The types identified here are *pure types* and are largely mutually exclusive. At the end of this discussion, we will focus on various combinations called *hybrids*.

In the following definitions the bracketed numbers after the definienda correspond with those shown in Figure 1. These ordinals allow unequivocal reference to concepts in certain cases where using only terms might be confusing.

> **designator** [1] A 'term', 'symbol', or 'ordinal' (or combination) that 'signifies' a 'referent'.

ISO 1087 calls it *designation* and gives the following definition: *designation* "Any representation of a concept". This definition is inadequate because "objects" (elements) are not covered, although they are intended, as evident in the following ISO definition: *name* "Designation of an *object* by a linguistic expression."

ISO is restricting *name* to apply only to "objects" (elements); as shown below, *term* applies to concepts. Thus, using ISO's criteria, *Mercury* (the planet) would be a name and not a term; whereas *mercury* (the metal) would be a term and not a name. I hold this usage to be unacceptable. It conflicts with the common practice of distinguishing between proper and common names (2, p.678), with the latter often being synonymous with *common nouns*. In chemistry, for example, common nouns such as *oxygen, mercury, zinc* are called *names* of chemical elements (3, p.1). Thus *name* does not have ISO's restriction to just "objects" but also covers concepts. Here is a proposed definition:

> **name** A 'term' or 'ordinal' which has a noun function and serves as a primary 'designator' of a 'referent'. E.g.: *water, galaxy, common noun, United Nations, UN, Andromeda, M31, 1993, A4.*

Noun function and *primary designator* could be clarified, but such detail would take us beyond the scope of this article, which is only indirectly concerned with names and nouns.

1.1 Terms

Let us now focus on terms, the first of the three basic types of designators as shown in Figure 1.

term [1.1] SYN: **lexical designator** A 'monomial', 'polynomial', or 'initialism' that 'designates' a 'referent'.

ISO's definition is: *term* "Designation of a defined concept in a special language by a linguistic expression". Problems with this definition are (a) elements ("objects") are excluded and (b) *linguistic* is too broad, covering not just lexical constructions but also numbers, symbols, and even non-written signs (as in sign language, body language, semaphore, etc.). The second problem is solved by substituting the word *lexical* for *linguistic*.

Figure 1 shows three types of terms: monomials, polynomials, and initialisms. Although not shown in Figure 1, the first two might be subsumed under a broader category called ordinary terms.

ordinary term A 'monomial' or 'polynomial'.

nomial series 'Term' series consisting of the words *monomial, polynomial, binomial, trinomial,* etc.

Before we examine these types, let us briefly note the historical precedent for this series. It is used widely in mathematics (algebra) and biology, occasionally in linguistics, but rarely in terminology science per se. Historically, the series originated not all at once but over time and in the following order. The dates are given in *Webster's Ninth New Collegiate Dictionary* (MW9) (4).

binomial	1557
polynomial	1674
trinomial	1704 ca.
monomial	1706 ca.

In each case these words were born into English with mathematical meanings. For example, *(2x + 3y)* is an algebraic binomial. Subsequently they were taken into biological nomenclature (e.g. *Homo sapiens*) where they continue to be widely used. Regarding the usefulness of this series, it is my hope that terminologists will come to recognize what mathematicians and biologists have long known.

1.1.1 Monomials

monomial [1.1.1] A single-'word designator'. E.g.: *noun, Earth, term, monomial, word, electromagnetism.*

Note that *monomial*, like *polynomial*, applies not just to noun constructions, but other parts of speech as well. Because the term *word* appears frequently in this discussion, a definition is in order.

word A meaningful sequence of letters pronounceable as a unit and not by articulation of individual letters and existing as a separate unit when written in a sentence. NOTE: Exceptions to this definition are the article *a* and pronoun *I*, which are single letters and not sequences.

ISO 1087 gives the following definition: *word* "Smallest linguistic unit conveying a specific meaning and capable of existing as a separate unit in a sentence." The problem with this definition is that it covers ordinals (e.g. *1087, 1993*), quantities, and symbols (e.g. *500 km,* H_2) which are generally not considered as words.

Let us consider two abbreviated forms which are classified here as monomials. These are *acronyms* and *long abbreviations.*

acronym: an abbreviation pronounced as a 'word' and not as an 'initialism'. E.g.: *ISO, UNICEF, UNESCO NASA, radar, laser, quasar, pulsar.*

Acronyms, whether written in uppercase or lowercase, are considered here as true words because they are pronounced syllabically and not letter by letter. In exceptional cases, a term (e.g. *DOS*) is an initialism in one pronunciation and an acronym in the other.

long abbreviation An abbreviated 'monomial' consisting of three or more letters and not qualifying as an 'alphabetic symbol'. E.g.: *sec.* (second), *vol.* (volume), *cat.* (catalog), *parag.* (paragraph), *abbrev.* (abbreviation). CONTRAST: *short abbreviation*', defined under '*Symbols*' [1.2].

Long abbreviations, having three or more letters, are contrasted with short abbreviations, having one or two letters. In the proposed nomenclature, long abbreviations are classified as (monomial) terms and short abbreviations as symbols.

The case can be made for classifying short abbreviations as terms instead of symbols because they are the same form as long abbreviations and differ only in their brevity. However, the practice of calling short abbreviations symbols is too widespread (in chemistry, physics, astronomy, mathematics, etc.) for such a designation to be widely acceptable.

1.1.2 Polynomials

polynomial [1.1.2] A multi-'word designator'. E.g.: *common noun, the sun, ad hoc, name-worthy, three-word term, four-word concept-designator, five-part concept-denoting term.*

We can further specify types of polynomials as **binomials** [1.1.2.1] (two-word terms), **trinomials** [1.1.2.2] (three-word terms), **tetranomials** [1.1.2.3] (four-word terms], **pentanomials** (five), etc. I have not found the last two in the literature, and perhaps the trinomial alternatives (e.g. *four-word term*) are preferable.

ISO does not identify or name concepts 1.1.1 (monomial) or 1.1.2. (polynomial). Its definition of *simple term* as "Term consisting of only one stem with or without affixes" is close to 1.1.1 (monomial). However, multi-stem words (e.g. *bookmaker, sunshine, geothermal,*

electromagnetic) are not considered "simple" by ISO, although they are clearly monomials.

ISO defines *compound term* as "Complex term in which the elements have a fixed position within the term as a whole but are not linked by morphological devices." At least in the examples given (*book fair, communication adapter unit, fault recognition circuit*) this concept appears similar to 1.1.2 (polynomial). However, the presence of a hyphen (a "morphological device") disqualifies hyphenated polynomials as "compound terms". In fact, the example "fault recognition circuit" should read *fault-recognition circuit*.

Hyphenated binomials (e.g. *twenty-first, two-word, four-door, case-based)* function as single compound words (5, p.185) but are counted here as two words or two-word terms. As for hyphenations involving a word and a non-word (e.g. *4-door, A-frame, γ-ray*), perhaps they are best regarded as a special type of hybrid binomial.

Hyphenation is often but not always an indication of polynomial status. For example, terms such as *knowledge-based, two-word, four-cylinder, light-emitting* are polynomials. Occasionally, however, hyphens are used to visually separate parts of a single word. For example, *non-monotonic, anti-federalist, non-mnemonic, multi-institutional* are still monomials. Notably, British English makes greater use of hyphenations for visual enhancement of monomials than does American English. For example, compare the series of *non-* entries in MW9 (4) versus the same series in *The Concise Oxford Dictionary* (6).

As a rule, if the hyphen is used mainly for visual effect and technically can be omitted, the term is a monomial. However, if removing the hyphen and fusing the parts into a single unit produces an invalid construction, as in *two-word, casebased, conceptone,* then the term is a polynomial.

1.1.3 Initialisms

From the outset, note that there is no general agreement in the literature regarding the meaning of *initialism.*

initialism [1.1.3] An abbreviated 'designator' based on the initial letters of 'words' in a 'polynomial' and pronounced not as a 'word' but as a string of letters. E.g.: *UN, EC, USA, IMF, AI, KO, GNP, CPU, PC, e.g., i.e., etc.*

ISO 1087 Gives the following definition: *initialism* "Abbreviated complex term or name made up of the first letters of the term elements." ISO adds: "An initialism may be pronounced letter by letter, syllabically, or both." This is not concept 1.1.3 because (a) "complex term" is not the same as *polynomial* and (b) ISO's "initialism" can be pronounced "syllabically".

Recall that in the proposed nomenclature, abbreviated strings that are pronounced as words (syllabically) are called *acronyms* and considered as true words, not as initialisms. Alphabetic symbols like *Hz* (hertz), km (kilometer), and *UV* (ultraviolet), although pronounceable in the same way as initialisms, are not true initialisms (according to the above definition [1.1.3]) because their full forms are not polynomials.

1.2 Symbols

symbol [1.2] A 'designator' that is an 'icon', an abstract figure, or a 'short abbreviation' of a 'monomial'.

alphabetic symbol [1.2.1] SYN: **alpha symbol** A 'short abbreviation' of a 'monomial'. E.g.: *H* (hydrogen), *C* (carbon), *c* (constant), *v* (velocity), *He* (helium), *km* (kilometer), *Hz* (hertz), *kHz* (kilohertz), *kpc* (kiloparsec).

As previously noted, the practice of calling short abbreviations symbols is widespread. In chemistry, for example, *hydrogen* and *helium* are *names,* and *H* and *He* are *symbols* (3, p.1). Thus the proposed usage is consonant with this practice.

short abbreviation An abbreviation consisting (usually) of one or two letters. NOTE: In exceptional cases (e.g. *kHz*), an abbreviation can have three letters and still be considered short. CONTRAST: long abbreviation, defined under 'Monomials' [1.1.1].
In most cases, a three-letter abbreviation will be considered long. For example, *sec.* (second) and *vol.* (volume) are long and thus are not symbols, unlike *s* and *v*.

graphic symbol [1.2.2] SYN: **graphic designator** A 'designator' which is an 'iconic symbol' or an 'abstract symbol'. CONTRAST: 'alphabetic symbol'.

iconic symbol [1.2.2.1] SYN: **icon** A 'graphic' 'designator' which visually resembles to some extent its 'referent'. E.g.: %, *, =.

abstract symbol [1.2.2.2] A 'graphic' 'designator' which does not resemble its 'referent'. E.g.: $, *, #.

graphic Pertaining to pictures, figures, geometric shapes, etc. as opposed to letters and 'words'.

It is fairly easy to distinguish an alphabetic symbol from a graphic one. However, to distinguish an iconic symbol from an abstract one requires reference to the symbol's referent. If the symbol resembles the referent in some way, it is *iconic.* For example, the *percentage* [%] symbol resembles the fraction 1/100

which it denotes; likewise, the *equal* [=] symbol resembles the *parallel* status of equated expressions. In contrast, *abstract symbols* do not resemble their referents. For example, the *dollar* symbol [$] bears no likeness to the

dollar, nor does the crosshatch [#] in music notations resemble the meaning of sharp.

Some symbols may be iconic in one sense and abstract in another. For example, if a triangle [Δ] denotes a prism or pyramid, it is iconic. If it denotes something like *head* in biology or *behavior* in architecture (7), it is abstract. Likewise if an asterisk [*] denotes *star* or *flower* it is iconic. If it denotes *footnote* or some other dissimilar referent, it is abstract.

ISO 1087 gives the following definition: *symbol* "Designation of a concept by letters, numerals, pictograms or any combination thereof." Technically, there is nothing wrong with this conception, but clearly it is not the same concept as 1.2. The proposed nomenclature distinguishes between symbolic and ordinal letters, and the latter are excluded from concept 1.2 although they are included in the ISO concept of "symbol".

In essence, the ISO dichotomy of *terms-symbols* is contrasted with the proposed trichotomy of *terms-symbols-ordinals*. The latter has higher resolution as a taxonomy and, I believe, has greater naturalness of categories in differentiating ordinals from symbols.

As a note, ISO 1087 includes numerals as symbols, although my Figure 1 shows no concept of a *numeric symbol*. Numerals are in a sense numeric symbols, a type of *alphanumeric* symbol that is coordinate with *alphabetic symbols*. In reality, however, the preponderance of numeric designators are not symbols but ordinals, so only *alphabetic* symbols [1.2.1] are posited in Figure 1.

1.2.3 Iconic Letters and Letter-Like Symbols

Before concluding this discussion of symbols, let us consider two special cases. Although iconic generally applies to graphic symbols, there is the special case of letters which are also iconic.

iconic letter A letter which (visually) resembles its 'referent'. E.g.: A-frame, I-beam, O-ring , U-turn, S-curve, T-square.

Another special case is the iconic symbol which resembles not its referent but an alphabetic character.

letter-like symbol A 'graphic symbol' which resembles the initial letter of a 'word' designating the same 'referent'. E.g.: § (Section), ¢ (Cent), ¶ (Paragraph), ¥ (Yen), ℞ (Remedy), ♇ (Pluto), 🜁 (Air).

The main advantage of letter-like symbols is the mnemonic value of associating symbol shapes with (abbreviations of) keywords.

1.3 Ordinals

In the following discussion of ordinals, we part from ISO 1087, which does not discuss this type of designator.

ordinal [1.3] SYN: **ordinal designator** A numeric or alphabetic 'designator' (or combination) which indicates the order of a referent within a broader system and (usually) not formed by abbreviation. E.g.: *A-1-A, 2.A.1.b.. 1.3, A4, M31*; ALSO: phone #, house #, zip code, area code, call #, ISBN #, serial #, model #, entry #, page#.

The "usually" hedge in this definition (as elsewhere) indicates that there are exceptions. In this case, the exceptions are abbreviations which identify the ordering system. For example, in the expression *M31*, the *M* is an abbreviation of the *Messier* system for designating galaxies. (M31 is Andromeda, the spiral galaxy closest to the Milky Way). Examples of better known ordering systems are the *LC* (Library of Congress) and *UDC* (Universal Decimal) classification systems. Thus, system-identifying abbreviations do not disqualify a designator from being a pure ordinal. However, most other types of abbreviations will turn pure ordinals into hybrids (discussed shortly). For example, if *M31* meant *mountain-31* or *meteorite-31*, then *M31* would be a symbol-ordinal hybrid.

alphabetic ordinal [1.3.1] SYN: **alpha ordinal** A letter or subordinated sequence of letters indicating the order of a referent within a broader ordering system and not formed by abbreviation. E.g.: *A, (a), A-b, A.B.A.C*

numeric ordinal [1.3.2] An ordinal number, either 'whole' or 'subordinated', that serves as a 'designator'. E.g.: *1, [1], 1.1.1.1, (17), xvii, <3>, III.*

Letters which are abbreviations are considered as (alpha) symbols and not ordinals (e.g. *B* [boron], *C* [carbon], *X* [eXperimental]. In contrast, *B*, *C* or *X* (e.g. *x-axis*) based on the alphabetic ordering system (A-B-C...X-Y-Z) are ordinals and not symbols. Greek letters (α, β, γ) are sometimes used in place of Roman letters to form such ordinals.

Ordinal numerals (whether Roman or Arabic) should not be confused with cardinal (or quantifying) numerals. In the preponderance of cases in which a number appears in a designator, that number will be an ordinal. E.g: *Boeing 747, X-15, Chapter III, Bldg 500, 1993.* However, occasionally **cardinal numbers** are used, as in *4-door car* or *10-story building*. (See also Figure 2: *Hybrid Designators*) Cardinals also appear in the designators of chemical notation (e.g. CO_2, NH_3). In addition, numeric designators should not be confused with **quantifying descriptors** (e.g. *94km, 111 kg, 5 years, 3000 Hz, 344 pages*). These usually are not designators but quantities.

We can further distinguish between *ad hoc* and *permanent* ordinals.

ad hoc ordinal An 'ordinal' assigned only for a limited purpose and not intended to apply outside of that context. E.g.: *1.3* (ordinal concept), *[a]* (first expository point), *A.1.2.b* (a heading number).

permanent ordinal An 'ordinal' assigned as a permanent 'designator'. E.g.: *A4* (page size), *A-1-A* (US coastal highway), *M31* (Andromeda galaxy).

Notably, all of the concept-designating ordinals in this article (excepting the examples) are ad hoc and apply only within this expository context. Only the *terms* are suggested to be permanent. Now, let us make one final distinction.

whole ordinal An 'ordinal' which does not show subordination. E.g.: *A, 1., (b), [3], iii,* α, β, γ.

subordinated ordinal An 'ordinal' having two or more alphanumeric characters which show subordination and which may be separated by a punctuation mark such as a decimal point or hyphen. E.g.: *1.3.2, 1-3-2, A.c., A-c, 1.A.3.B, 1A3B.*

This distinction should be clear without further elaboration, so let us now turn to designators which mix terms, symbols, and ordinals in various combinations.

1.4 Hybrid Designators

As with ordinals, the following discussion of hybrid designators goes considerably beyond the treatment given in ISO 1087, which only briefly mentions *combinations* of letters, numerals and pictograms in clause 5.3.1.1. ["symbol"].

As previously noted, the types of designators given in Figure 1 are pure types. However, in practice they are often combined. I will call these *hybrid designators* or *hybrids.* Figure 2 shows and exemplifies thirteen of the more common forms.

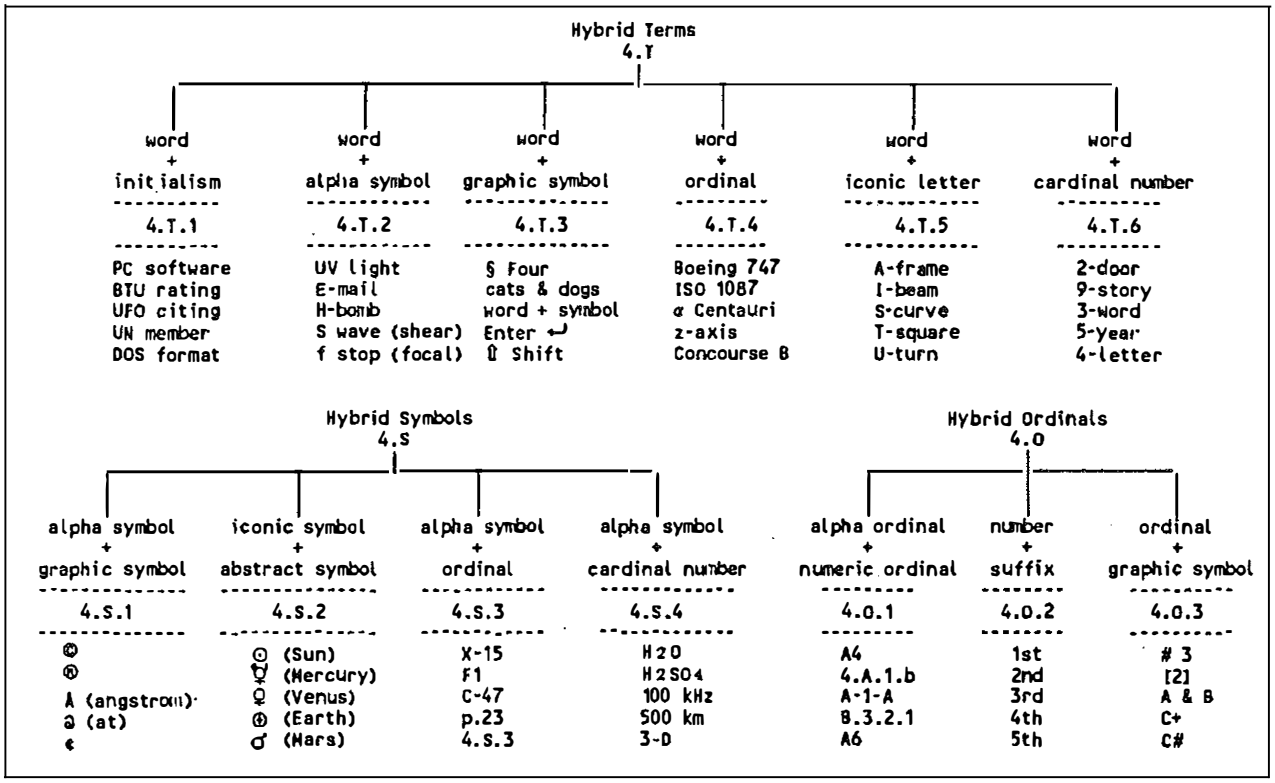

Figure 2. **Hybrid Designators**

The organization in Figure 2 is somewhat arbitrary in the sense that hybrids can be subsumed under either of the pure forms they contain. For example, category 4.S.3 [symbol-ordinal] is placed under *hybrid symbols* although it could also be placed under *hybrid ordinals.* Formal names for these categories are suggested in Table 2. The ordinals assigned here are type 4.S.3 [alpha symbol-ordinal hybrids] because the letters T, S, O are abbreviations and not alpha ordinals.

4.T	Hybrid term
4.T.1	Word-initialism hybrid term
4.T.2	Word-alpha symbol hybrid term
4.T.3	Word-graphic symbol hybrid term
4.T.4	Word-ordinal hybrid term
4.T.5	Word-iconic letter hybrid term
4.T.6	Word-Cardinal hybrid term
4.S	Hybrid Symbol
4.S.1	Alpha-graphic hybrid symbol
4.S.2	Iconic-abstract hybrid symbol
4.S.3	Ordinal-alpha symbol hybrid
4.S.4	Cardinal-alpha symbol hybrid
4.O	Hybrid Ordinal
4.O.1	Alpha-numeric hybrid ordinal
4.O.2	Number-suffix hybrid ordinal
4.O.3	Graphic symbol-ordinal hybrid

Table 2. Suggested Names for Hybrid Forms

The meanings of these terms should be clear from the descriptive names and the examples shown in Figure 2. However, here are few formal definitions.

hybrid designator [4] SYN: **hybrid** A 'designator' which combines either two or more pure forms or else types within a pure form.

hybrid term [4.T] A 'term' used with a 'symbol' or 'ordinal' or else an 'ordinary term' used with an 'initialism'. E.g.: *E-mail, Grade A, UN General Assembly.*

hybrid symbol [4.S] A 'symbol' used with an 'ordinal' or else an 'alpha symbol' used with a 'graphic symbol'. E.g.: *C#, B+,*

hybrid ordinal [4-O] A 'numeric ordinal' used with and either an 'alpha ordinal' or an 'alpha suffix'. E.g.: *1.A.3.b, A4, 1st, 2nd.*

alpha suffix Two-letter endings [*-st, -nd. -rd, -th*] added to numeric ordinals. E.g.: *1st, 2nd, 3rd.*

term-symbol hybrid A 'term' used with an 'alpha symbol' or a 'graphic symbol'. E.g.: *E-mail, § One.*

term-ordinal hybrid A 'term' used with an 'ordinal'. E.g.: *ISO 1087, x-axis,* α *Centauri.*

symbol-ordinal hybrid A 'symbol' used with an 'ordinal'. E..: *C#, # 1, p.1, v.2.*

Punctuation marks (e.g. decimals, hyphens, colons) in an ordinal are not considered as graphic symbols per se. Likewise parentheses, brackets, quotation marks, etc. are not symbols if merely used for punctuation in text. They are symbols, however, if integral to the designator.

There is a special form which might be mentioned here. I will call it the *ordinal word.* Although it has an ordinal function, it has a lexical form. Thus it is considered a lexical and not ordinal form. Accordingly, the following examples are not hybrids but pure binomials.

ordinal word A 'word' having an 'ordinal' function. E.g.: *first*-order logic, Chapter *Two*, *Fifth* Avenue, *Alpha* Centauri, *Beta* Centauri, *beta* particle.
The examples of *number-suffix* hybrids cited at [4.O.2] in Figure 2 are equivalent to the ordinal words: *first, second, third, fourth,* and *fifth.*

As a note, Alpha Centauri is the star closest to the sun. Actual it is a double star, with the brightest called *Alpha Centauri A* and the other *Alpha Centauri B.* Written with Greek letter, α *Centauri A* is a word-ordinal hybrid with both Greek and Roman ordinal letters.

There is subtle difference among hybrids that needs to be explained. Some hybrids, combining two forms, are more of one form than another. Examples are shown at Category 4.S.3 [symbol-ordinal] in Figure 2. Some cases are best viewed as *mainly symbols* which happen to contain ordinals and others as *mainly ordinals* which happen to contain symbols. The designator 4.S.3, for example, is mainly an ordinal; in contrast, *X-15* (eXperimental plane) and *C-47* (Cargo plane) are mainly symbols. Likewise, examples in category 4.T.4 [word-ordinal] are mainly terms (words) which happen to contain ordinals.

This tendency for hybrids to be *mainly* one form over another holds for most forms and is probably related to the fact that many hybrids, like pure binomial terms, have a primary root element and a secondary modifier element. Thus if the "root" is a word and the modifier is an ordinal, then probably it will be *mainly* a word. Of course there are borderline cases where mainly will be difficult to apply.

2. Conclusion

In presenting a new taxonomy of designators, I have formally defined approximately 48 terms. The taxonomy covers terms, symbols, and ordinals, both in their pure and hybrid forms. Of the pure forms, ordinals have generally been neglected in terminology literature. Borrowing from mathematics and biology, I have shown that the terms *monomial, binomial, trinomial,* etc. are useful also in terminology science.

I have used ISO 1087 as a frame of reference and have pointed out certain inadequacies in that standard. I believe the proposed taxonomy is fairly comprehensive, but it should be viewed as a starting point rather than the final word. As new categories are found or better terms and definitions are suggested, then this postulation will be improved.

References

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