

Controlling technical vocabulary

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Clarity, precision and relevance are the hallmarks of maximally effective technical communication. Of the many features that contribute to the clarity, consistency in the choice of words is one that is often overlooked by writers. It can also be difficult to achieve, especially in long or multi-authored works. Such consistency requires the author or authors to apply consistently – throughout the entire documentation – a decision to use a particular term to describe a particular thing.

The principle of single and distinct denotation

That there is good reason for adopting this practice is easy to demonstrate. If a reader is presented with two terms for one unfamiliar thing, an impression may be created that two distinct things are being discussed, not one thing in two ways. And this is an obvious impediment to swift and direct learning. For instance, if you are learning a word processing application with the help of a user guide and find, after a description of the tool bar, a direction to click on the tool bar rendered as “click on the tool ribbon”, you may well wonder where the tool ribbon is despite having just been shown where the tool bar is. The context of the direction might be rich enough to guide you to the writer’s intended meaning: but then again it may not (for the context may have been left unnurtured by overriding demands of deadline and budget).

Of course, this type of potential for confusion is not limited to specialist vocabularies. For example, writing “the code is allocated by the system” and then later, when referring to the same thing, “after the code is assigned...” is just as likely to cause readers to wonder whether two things are being referred to. (Perhaps the codes that the system allocates need to be assigned beforehand – in hard code or in a lookup table – one to each of the possible things that may need to be coded by the system.)

Even where there is no confusion, or confusion is transient, multiple denotation – that is, using more than one term to denote the one thing – creates an unnecessary burden on the learner, namely, the need to master a vocabulary that is larger than necessary. Such a burden renders the documentation less than maximally effective.

Despite these considerations, there are instances where multiple denotation can be useful. A situation that might benefit from multiple denotation is one in which a new term for a common concept is considered necessary and, to enable familiarity to aid learning, the common term is used in addition to the new term. An example might be “category axis – also known as the x-axis – ...”. Nonetheless, the familiar term paired with the preferred but possibly novel term is usually avoided in the remainder of the documentation.

The case is similar with the contraction to, or expansion of, shortened forms (such as abbreviations, acronyms and other types of diminutive). Once the contraction or expansion has been made, the writer ideally sticks to one form (usually the

contracted form, but sometimes the expanded). Thus we read “The cause of Creutzfeld–Jacob disease (CJD) is unknown ...In Britain, CJD has been found in...”.

With these few exceptions—briefly pairing a new term with a familiar term, and providing or expanding a shortened term—good technical communication favours single denotation, namely, the consistent use of one term in referring to one thing.

The companion principle to the principle of single denotation is the principle of distinct denotation. This latter principle prescribes the use of different terms for describing or referring to different things. In this case, the writer is not so much trying to prevent readers conceiving of two things when only one is meant, as trying to prevent readers from thinking that distinct things are one and the same.

The following example of non-distinct denotation has been abstracted from actual documentation describing a suite of systems one of which generates a software record in response to a customer using a service (a record that is eventually translated into a charge on the customer’s bill). A companion system traps records that may have been generated in error, generated incompletely, or with abnormal values. Staff have to investigate each trapped record and delete, correct or accept it. A record corrected or accepted is then “released” back to the charging process, whereas a record found to have been generated in error is “deleted”.

All this seemed clear enough in the documentation—until the author began discussing the turnover of records passed to the record-trapping system. “Turnover” referred to the number of records “released” from the system each month, but “released” now meant “accepted, corrected or deleted”. In other words, the author was using the term “released” to mean both (a) the return of a trapped record—possibly modified, possibly not—to the charging process and (b) the extraction, purging, removal or whatever of a record from the record-trapping system (which encompassed deleting records as well as returning records to the charging process). Indubitably, some, maybe many, readers will have been confused by this case of unnecessary non-distinct denotation: one word, two things.

Occasionally, non-distinct denotation is unavoidable. For instance, in a poorly designed computer interface, one sometimes finds distinct fields with identical literals. (There might be, say, a **Type** field for the type of customer and a **Type** field—maybe even on the same screen—for the type of product purchased by the customer.) In describing such a system, documenters will be compelled, by their obligation to describe precisely what users will see, to use one term for two distinct notions.

Putting aside these few exceptions and unavoidable limitations, maximally effective technical communication requires adherence to what might be called the *principle of single and distinct denotation* (hereafter PSDD). Single denotation facilitates the associating of description with what is described, while distinct denotation minimises ambiguity. But how, in practice, can technical writers adhere to the PSDD?

Subject-specific thesauri

One solution is to create a *subject-specific thesaurus* (or to use one, if one covering the system, product or subject you are writing about has already been created).

In its simplest form, a thesaurus is a collection of word lists. A word is placed in a particular list according to its meaning or use. *Roget’s Thesaurus* is a familiar example of this type of thesaurus.

The information explosion has generated the need for subject-specific thesauri (especially in information management centres, but equally wherever information needs to be imparted). Whereas Roget set out to include every current English term in his thesaurus, a subject-specific thesaurus sets out just the vocabulary that is common to a particular subject, product, system or industry. Furthermore, while a traditional thesaurus of the Roget variety refrains from giving direction to the reader to adopt any particular term over another, a subject-specific thesaurus usually specifies, for each set of like terms, a preferred term. Ideally, a preferred term is the term that, for a specified audience, most clearly expresses the meaning of the concept represented by the set of like-meaning terms.

As in traditional thesauri, each entry in a subject-specific thesaurus is introduced by a keyterm. The preferred term for a keyterm that is not itself the preferred term is usually introduced by the label "USE". For example, an entry in a subject-specific thesaurus that begins:

coil clip USE spring clip

indicates that *spring clip* is the preferred term for *coil clip*. If a keyterm is not followed by "USE" and some alternative term, then the keyterm itself is also the preferred term for whatever concept is represented by it.

A list of keyterms and preferred terms is a minimalist subject-specific thesaurus. Such a list could help writers apply the PSDD and thereby control their language for the sake of greater communicative efficacy. But subject-specific thesauri usually provide considerably more information than this. For instance, a subject-specific thesaurus will often include what are known as *scope notes*. Scope notes give the reader an idea of the particular sense of the keyterm that is being recorded in the thesaurus (and can, if given enough attention, enable the thesaurus to double as a glossary or subject dictionary). Continuing our earlier example, an entry in a subject-specific thesaurus might read:

release (vb) USE resubmit. SN: If referring to the removal of records from the error-trapping system after correction.

Fully-fledged subject-specific thesauri – of the type favoured by records management people and library cataloguers – also provide, for each keyterm, words for concepts that are logically related to the concept expressed by the keyterm. Four types of logical relationship are commonly recorded: synonymy, greater generality, greater specificity and general relatedness. The terms instantiating these relationships are known as *synonyms*, *broader terms*, *narrower terms* and *related terms* respectively.

A synonym (usually indicated by "SY") is a term having the same meaning as, or very close in meaning to, the preferred term. A broader term (BT) is a term representing a concept of which an instance of the preferred term is a type or sort. A narrower term (NT) is a term representing an instance or example of the concept represented by the preferred term. Finally, a related term (RT) represents some instance of the broader term other than the preferred term.

An example of a complete entry in an architectural thesaurus might be:

abode USE residence. SN: When referring to a place where a person might live for some time. SY: home. BT: building. NT: house, flat, unit. RT: factory, church, hall, shop, gallery, office, hotel, motel.

Such an entry indicates that “residence” is to be preferred to “abode” providing that the sense is a place where someone might live for some time. A common synonym is “home” (although “residence” is still the preferred term). A broader term is “building” (since a residence is a type of building) and narrower terms are “house”, “flat” and “unit” (since these are all types of residences). Finally, the related terms refer to buildings that are not residences.

By providing writers with instances and examples, a fully-fledged thesaurus of this sort is a useful aid in setting contexts and associating the unfamiliar with the familiar.

Subject-specific thesauri are also useful for controlling troublesome terms that are not especially technical (nor have anything to do with the subject of the thesaurus). For example, certain words prefixed with *bi-* are troublesome words and might warrant inclusion in a subject-specific thesaurus. (Will your audience understand *bimonthly* to mean *twice a month* or *every two months*? Similarly, an American audience might benefit if material written for it had been controlled by a thesaurus that decreed that *every two weeks* was the preferred term to *fortnightly*, since *fortnightly* is not common in American English).

To sum up: a subject-specific thesaurus helps writers to apply the principle of single denotation by directing them to use one term (the preferred term) where there are a number of terms to describe what needs to be described. A well-constructed thesaurus will also acknowledge the principle of distinct denotation by providing, where practical, preferred terms that denote one thing and one thing alone (or, where this is not practical, providing – via scope notes – a prompt for writers to consider the necessity of spelling out the context of a potentially ambiguous use of a term).

Opportunities to control language

Documenters are rarely invited to participate in the design of new products and systems. Mostly, they join a project when what they are to document has pretty much taken shape. By this time there is already current a sub-language peculiar to the thing to be documented. One might wonder, then, what influence a documenter joining the project at such a late stage can possibly have on the language already in place.

Such doubts overlook three important facts:

1. The sub-language of designers, analysts, engineers and the like rarely encompasses everything that end users need to know. There will be some non-technical material that documenters will need to write, such as business context, policies, procedures, troubleshooting hints, and so on, little of which might be expressible in that sub-language.
2. Where the language directed at users needs to be technical, the language adopted does not always need to be – and in many cases shouldn't be – the language of the designers, analysts and engineers (namely, the sort of technobabble one commonly finds in design documents and functional specifications). There may, for instance, be unlabelled fields on screens that have punishing names in the accompanying functional specification. names which experienced documenters will be quick to ignore in preference to simpler alternatives.

3. The technical vocabulary documenters encounter is often imprecise, ambiguous and connotationally distracting, having arisen without concern for the needs of everyday, common-or-garden users (without a concern, in other words, for the PSDD). If this is acknowledged within the organisation, there may be a willingness to accept an alternative, less troublesome vocabulary.

There is, then, often room for documenters to choose language even where a technical vocabulary already exists. If documenters have a choice, then it is important that the choice be based on solid principles of technical communication, one of which is the PSDD.

Compiling a thesaurus

There is no set way to manage the compilation of a subject-specific thesaurus, although top-down (or decreed) thesauri are less likely to succeed in comprehensively covering the language of any but the smallest projects. More often it is only when writers begin their work that the extent of the language that needs to be controlled becomes apparent. Hence decisions on what should be the preferred term often need to be made on the fly and from the bottom up. This doesn't mean that a project won't benefit from having a thesaurus of core terms in place before writers begin the bulk of their work. But it does mean that processes need to be set up to enable writers to record as they go terms – technical and otherwise – that need controlling.

The terms proposed for controlling need to be reviewed regularly (and, during the early stages of the project, frequently). The quality manager, documentation designer or documentation team leader might be charged with reviewing these terms and deciding which are to be preferred and how each term relates to other terms. This process may benefit from being done in concert with the client, who might have a special interest in pushing a particular language or style of language. It will also benefit from the input of the writers on the team, for their customary initial unfamiliarity, and their special training, makes them best placed to draw out the weaknesses of a sub-language, weaknesses that those familiar with its vocabulary, its special contexts and its arcane connotations often fail to see.

What makes a term a preferred term?

What makes a term a preferred term varies according to whether there are already terms available that describe what needs to be described or whether you need to invent a term. In most cases the preferred term from a set of current terms will be the term with the widest currency (for the term with the widest currency will, usually, be the one understood by most people). Four qualifications to this general rule are necessary if our goal is to maximise the effectiveness of our documentation and meet our client's requirements:

1. Jargon that is likely to mislead or obscure the meaning to *novices* may need to be rephrased in plain English even though it has wide currency amongst the likely initial audience for the documentation. It may not always be possible to provide a suitable succinct replacement term; but where one can be found, this should become the preferred term. An exception may be where the jargon is so well-entrenched that it will be difficult to usurp.
2. Where one term is widely used to refer to two distinct things, it may be wise to use another term for one of those two things (providing, of course, that the new term is more immediately indicative of whatever it is meant to

denote). In such a case, the new term may become the preferred term despite its relative scarcity or newness (although writers may need to include an initial cross-reference to the term that is most widely used at the moment). The important consideration in deciding to prefer a new term is how likely the intended audience will be misled or baffled by the potential for ambiguity implicit in the various uses of the one term. (This qualification is simply a prescription to adopt the principle of distinct denotation.)

3. Where a widely used term is used with grammatical or semantic ineptness and that use is likely to lead to confusion, a thesaurus may suggest a less-common replacement term. (Again, the degree to which the term is entrenched may limit one's success in promoting a new term. For example, preferring *local network* to the redundancy-exhibiting *local area network* is unlikely to succeed.)
4. A particular term may have wide currency – and be particularly fitting – and yet the client may require that some other term be used. (This might be at the request of the client's marketing department, for whom connotation as much as denotation and currency is an important factor.)

The decision to make a term a preferred term may, then, be *descriptive* (What term has the greatest currency?) or *prescriptive* (What term exhibits the greatest clarity and is least likely to lead to impeded communication?). Prescriptive judgements must, of course, be made with care, as some term may be so well-entrenched in a particular sub-language that a recommendation to use some other term – one of greater discriminatory power or linguistic respectability – may ultimately prove fruitless and cause, along the way, the very confusion it was designed to avoid.

Where a neologism is needed, considerations such as the following are useful in choosing a preferred term:

- absence of distracting connotation
- metaphorical aptness
- consistency with the client's wishes
- distinct denotation (within the subject area of the documentation)
- clear indication of the thing the term is to denote
- appropriateness to the language skills and knowledge of the intended audience.

Conclusion

Whatever the product, the benefits accruing from quality-inspired extras are not always immediately apparent. This is equally true of the benefits of controlling the language used in technical documentation. They are there nonetheless. There are benefits such as:

- less call on help desks and customer service staff
- increased effectiveness of training
- easier maintenance of documentation
- increased effectiveness of communication within the client's organisation.

Standardising the vocabulary used in a document is no less important than standardising the visual components of the document, components such as non-semantic punctuation, styles and spellings. Indeed, from a communicative point of view it is far more important. Writers, and managers of writing teams, put

considerable effort into creating a house style and style sheets and in ensuring that punctuation, cross-references and lay-out, for instance, are consistent with the set style. But these features, though important, are akin to the body and duco of a car. Those whose interests extend to what is under the bonnet should have a paramount concern with the message rather than with the appearance, and especially with how much effort it takes to communicate what the writers intend to communicate. And the principle of single and distinct denotation is one of the controls that contribute to the communicative efficacy of technical, and indeed any form of, informational writing.

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