

ENLIGHTENED USE OF THE PASSIVE VOICE IN TECHNICAL WRITING

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Pick up virtually any technical or scientific writing text published during the past ten years, check the index for "passive" or "voice," turn to the pages to which you are thereby referred, and what will you find? Sternness, censures, and caveats--all directed against the use of the passive voice. You will find qualifiers like "lifeless," "wordy," "unnatural," "indirect," "pompous," "impersonal," "unclear," and "inappropriate" applied to the passive. If you are a technical writing student, you will assume that the fewer passives you use, the better your chances for earning an "A" in the course. I feel these textbook jeremiads on the passive voice are misleading students.

To be fair, I must point out that the authors of some contemporary scientific writing texts admit the passive can "sometimes" be "useful."¹ John Brogan even feels that "the passive voice is indispensable for a flexible style."² But always the warning follows: "Use the passive, but use it sparingly."³

The technical text authors give the impression that, if the passive is necessary, it is a necessary evil. Normally, they treat the passive under a heading like "Common Technical Writing Errors," along with tense shifts and tautologies.⁴ Sentences with passive verbs are denominated "problem sentences,"⁵ and students are asked to provide "correct revisions" for the offending forms. Under the heading "Active Verbs," one author even makes the suggestion that a passive sentence is one in which "the finite verb does not function properly."⁶ Steven Pauley's instructions summarize the sentiments of most current technical text writers concerning the passive:

Whenever possible, use the active verbs for descriptions of operations and for most other kinds of technical writing.

Robert Day uses even stronger rhetoric in How to Write and Publish a Scientific Paper. Labeling the use of the passive in scientific writing a "bad habit," he appeals:

I herewith ask all young scientists to renounce the false modesty of previous generations of scientists. Do not be afraid to name the agent of the action in a sentence, even when it is "I" or "we."⁸

Day's reference to "generations" of scientific-users is historically accurate. Generations--in fact, centuries--of technical writers have found that the passive voice was specially suitable for their subject matter and professional objectivity. Of course, they have not used the passive exclusively, but in ratios ranging between 1:5 and 1:3 (passive to active).⁹ As early as the

seventeenth century, Sir Frances Bacon (who might well be thought of as the father of English technical writing) used the passive without compunction. Of the 61 finite verbs in his "Essay 10, Of Love," for instance, 12 are passive and 49 active, roughly a 1:5 ratio.¹⁰ As recently as 1966, Svartvik found a 1:3 passive-active ratio in a "scientific exposition" identified as typical of its genre in terms of voice distribution. This voice ratio contrasts sharply with those of two novel texts Svartvik examined, where passives averaged only 6% of the total finite verb count, yielding an active-passive ratio close to 1:17.¹¹

Have stylists always complained about the scientific predilection for the passive? No. As a matter of fact, one author who decries the passive in his 1980 technical writing text wrote not a word on the subject in his 1958 text. But his practice belies his words in the 1980 text, where his examples and his own prose feature the passive prominently, in ratios as high as 2:1 (passive-active) on selected pages.¹²

During this century, the scholarly winds have shifted 180 degrees on the use of the passive in technical writing. T. A. Rickard used the passive freely in his 1931 text, Technical Writing. Although voice is nowhere discussed as such in the work, Rickard's corrections of "verbose and confused" passages show his own clear preference for the passive as the more direct and professional-sounding voice. Passive verbs he almost invariably leaves alone in his revisions, and active verbs he frequently converts to passive.¹³ In 1962, David Comer and Ralph Spillman were still recommending the passive as a means of producing the "completely impersonal language style" most appropriate for technical writing.¹⁴ Even in 1965, W. Paul Jones (then in the seventh edition of his Writing Scientific Papers and Reports) was maintaining that the third person passive was the preferable point of view for scientific writing, "mainly because it emphasizes the action and the thing done and minimizes the importance of the doer." But he apparently felt the winds shifting and so qualified his stand by commenting that the passive is "devoid of human interest and color" and that the third person active "may" be suitable for process descriptions.¹⁵

During the late 1960's, the academic weathercocks turned and the passive became unfashionable. The passive has always had its critics, of course, usually purists who have regarded it as abnormal. Many linguists objected to the introduction of the passive progressive in the eighteenth century, for instance. But their oratory was anachronistic. The populace had long since innovated, approved, and adopted the form into colloquial usage.¹⁶ As Svartvik indicated in 1965, a dichotomy still exists between the passivists and the anti-passivists (the terms are mine), between those who see the passive as a significant and natural construction and those who feel "the only reason for keeping the category 'passive' is that it has come down to us as part of our classical grammatical heritage."¹⁷ The most frequently quoted modern anti-passivists are Strunk and White in The Elements of Style (1959).¹⁸ Their advice on the matter is simple and pungent: "Use the active voice."¹⁸

However, current practice (not theory) in technical writing, together with a solid body of evidence and theory compiled by the most recent syntactical researchers, all urge that the passive is viable and suitable for this genre of writing. There is no indication that the passive will or should supplant the active in technical writing. But neither is there any evidence that the passive

will or should be eradicated from the genre. The few reasons advanced in recent technical writing texts for banishing the passive are all essentially mythic and could, in many cases, be turned against the active as well as the passive. The bias of the textbook authors is nowhere clearer than in the examples they choose to demonstrate the impracticality of the form. It would be rather easy to come up with equally tendentious examples to prove another preposterous theory--that the active voice ought to be extirpated from technical literature.

Ironically, these very authors provide a convincing case in favor of preserving the passive voice, at least in technical writing. Why? Because they themselves use it repeatedly--not only in their texts proper but also (this is positively comic in some cases!) in their models. Joseph Williams regaled CCC readers just last month with selections from George Orwell and (more important for this study) from S. J. Reisman in A Style Manual for Technical Writers, violating their own dictums against the passive, and doing so "in the very act of criticising the passive."¹⁹ The citation from Reisman is splendidly self-contradictory:

Emphasis is often achieved by the use of verbs rather than nouns formed from them, ²⁰ and by the use of verbs in the active rather than in the passive voice.

Other anti-passivists have slipped into the passive while proscribing it. Objecting to "could be heard," Strunk and White use "can be made":

Many a tame sentence of description or exposition can be made lively and emphatic by substituting a transitive in the active voice for some such perfunctory expression as there is, or could be heard.²¹

Day, too, catches himself in his own trap:

The passive voice could be avoided by saying "The authors found" instead of "it was found."²²

Space simply will not permit me to rehearse all the passives that occur and recur in technical writing models constructed by the anti-passivists. However, the following instances are typical. In a 24-page model report entitled "The Feasibility of Removing Sediment and Muck from Wyoming Lake," Houpp and Pearsall use the finite passive at least once on every page (except those pages with no finite verbs), in passive-active ratios ranging from 1:7 to 2:1. The average passive-active ratio in this 1980 model is a little better than 1:3, roughly the same ratio Svartvik found in a typical scientific text 16 years ago.²³ An even more startling passive-active ratio (7:12!) can be found in model sentences Day provides on the page just opposite his assertion that the passive is a "bad habit." Certainly the passive is a habit--one Day (to his credit) has not yet shed.²⁴

Of the current myths concerning the passive, some are intertwined. Such is the case with these three erroneous notions: (1) that the passive utilizes an abnormal and artificial word order, (2) that the passive is lifeless, and (3) that the passive is indirect. Fear, for example, combines the three issues into

a single line of argument. He asserts the passive "reverses the normal flow of a sentence" and is therefore "less direct than the active patterns it substitutes for." "Don't overdo the passive," he concludes, "or you'll risk sounding lifeless and stuffy."²⁵ Expanding on the passive's lifelessness, Pauley argues:

When a sentence is in the active voice, the subject does something. If the sentence is in passive voice, the subject does nothing; instead of acting, the subject is acted on.²⁶

Actually, the passive is a long-established, fully normal syntactic form. It is well represented even in the first systematic English grammars. John Fell's grammar of 1784 includes not only complete conjugations of all the passive tenses (except the progressive) but also the "Infinitive Mode" and participial passives.²⁷ And as early as 1731, in Duncan Daniel's A New English Grammar, an astounding thrust is made at defining the agentless or intransitive passive, a form not precisely identified until this century:

Of Neuter Verbs, some are Neuter-Actives, and take the Verb I have for their Auxiliary; as I have dwelt, I have run &c. Some are Neuter-Passives; and these take the Verb I am for their Auxiliary. Ex. I am gone; He is ascended.²⁸

If the passive form needed further legitimizing, it was Chomsky who completed the process by establishing the essential equivalency of a transitive, active sentence with "its passive counterpart."²⁹ For Chomsky, the active-passive relationship epitomizes and provides the model for the transformational process which lies at the heart of his generative grammar. He demonstrates the following two sentences to be "cognitively synonymous," one being the natural by-product of the other:

- (i) I expected a specialist to examine John.
- (ii) I expected John to be examined by a specialist.

He then goes on to prove that, in terms of their "underlying deep structures," the two sentences are "essentially the same":

- (i) Noun Phrase -- Verb -- Sentence
(I -- expected -- a specialist will examine John)
- (ii) Noun Phrase -- Verb -- Sentence
(I -- expected -- a specialist will examine John)³⁰

In terms of their "acceptability" (Chomsky's label for "utterances that are perfectly natural and immediately comprehensible"³¹), the two sentences are equivalent as well. To put it another way, the "passivization" of sentence₃₂(ii) in no way makes it less acceptable than (i), according to Chomsky's scheme.

If the passive is a normal and acceptable form, why does it sound awkward and abnormal in some of the examples given in the anti-passivist texts? Because their authors have chosen contexts in which the passive is, for one reason or another, infeasible. Look, for instance, at an active sentence Strunk and White offer in their discussion of the passive:

I shall always remember my first visit to Boston.

Naturally, this sentence "is much better than" its horrendous passive conversions:

My first visit to Boston will always be remembered by me.

My first trip to Boston will always be remembered.³³

Svartvik explains exactly why this sort of inversion fails:

A general difficulty with using transformations of sentences in context is the imbalance that may result. It may be caused by discrepancies in the lengths of clause elements, such as personal pronouns and other short exponents occurring with long subject exponents. We have found that agents are generally heavier than subjects.³⁴ Pronouns are very frequent as subjects but extremely rare as agents.

In the first of Strunk's passive versions, he uses the "very rare" (and very awkward) pronoun agent Svartvik warns against. The second passive version, of course, is agentless in a context that simply demands definition of who did the remembering.

Svartvik uncovers other conditions within which the passive conversion is impracticable. What he calls "restrictions" on the passive forms of such verbs as "have, lack; contain, hold; become, fit, suit; mean, resemble; befall; cost, last, take, walk, weigh" keep them from making acceptable passives. "She has a fine job," for example, does not convert well into "A fine job is had by her." Nor does "Disaster befell the building project" translate well into "The building project was befallen by disaster." Also, Svartvik gives examples of some contexts within which "prepositional verbs" cannot convert into the passive. "The conclusion³⁴ was arrived at" sounds fine; "The town was arrived at" does not. Therefore, whenever an active sentence presents one of the conditions outlined above--(1) a short nominal or pronominal subject or (2) a verb with restrictions on its passive use--the passive version will be unattractive, if not incoherent. Obviously, textbook examples drawn from these categories are biased and cannot possibly show the potential of the passive.

Nearly all the anti-passivist texts perpetuate a myth that the passive is always wordy. Only in some cases is this true. One cannot argue with Day's observation that "S. aureus produced lactate" is shorter than "Lactate was produced by S. aureus."³⁵ Yet what if the agent "S. aureus" is unimportant? Or what if "S. aureus" has already been mentioned, or should not be mentioned yet? Then "Lactate was produced" will be briefer (Note that the passive's "was" is six letter spaces shorter than "S. aureus"). In their study of voice, Gordon Mills and John Walter offer another context in which the agentless passive is more economical and specific than its active counterparts:

Discussion at the meeting of the Board of Directors clearly revealed the weakness of plan X. Plan Y was adopted.

They go on to comment:

The second of these two sentences is passive, yet it seems to do very well. You could write, "They adopted plan Y" but it's no shorter, and the referent of "they" is disturbingly vague. "The Board adopted plan Y" is still one word longer than the original and perhaps, you will feel that the repetition of "the Board" is slightly unpleasant.³⁶

The charge of wordiness can, thus, be turned against the active, for in cases where it is feasible to drop the agent, the passive is usually the more efficient construction. Further, elimination of the animate agent can often handily eliminate the difficult choices connected with generic pronoun use, now that exclusive use of "he" is considered sexist.

What about the myth that the passive presents tonal problems--that it is pulseless and impersonal because it can eliminate the actor/agent? Here the anti-passivists have confused matters by embroiling the passive in an unrelated debate over point of view in technical writing. The old guard feels the scientific point of view should be strictly impersonal and that the pronouns "I" and "you" should almost never be used. Reflecting this opinion, Comer and Spillman have these instructions for the technical writer:

He has but to remember that he is talking to no one; that he is talking about a subject and the things that concern that subject; and that the talker himself never comes upon the stage.³⁷

The newer (but not necessarily prevalent) trend in technical literature is toward a more personal style which features an onstage experimenter/technician (usually "I" or "we") as well as a reader who looks on from the wings (often as "you"). The passive voice was historically the standard vehicle by which the old guard eliminated the experimenter/technician from impersonal writing. "I dipped the litmus" normally became "The litmus was dipped." Unfortunately, however, the passive somehow became actually synonymous with impersonal writing, so far as the composition texts of the 1970's were concerned. In nearly all these books, the passive and the impersonal style are treated jointly or consecutively. But it is irrational and short-sighted to vilify the passive simply because of its long association with the impersonal style. Ironically, the new onstage experimenter/technician will be as dependent on the passive as his/her off-stage predecessor, if the "I/me" syndrome is to be avoided.

The remaining myths about use of the passive in technical writing amount to fears that the construction will somehow lead to other, graver errors--such as dangling modifiers and foginess. Yet to maintain that one ought not to use the passive because the effort might result in a dangling modifier is like forbidding students to begin sentences with "because" for fear they might write a fragment. One of the texts seriously argues that "passive voice does, indeed, cause many dangling participles" and gives the following as a prime instance of the problem:

While conducting these³⁸ experiments, the chickens were seen to panic every time a hawk flew over.

A writer who would construct such a sentence needs an emergency lesson in modifier placement, not a discussion on the passive voice.

The argument that the passive is ambiguous or vague is just as easily dispensed with. This criticism rests on two false assumptions: (1) that the passive will always be used without an agent, and (2) that the reader will always need to know who the agent is. An excerpt from the Council of Biology Editors Style Manual summarizes this line of reasoning:

"I discovered" is shorter and less likely to be ambiguous than "it was discovered." When you write "Experiments were conducted," ³⁹ the reader cannot tell whether you or some other scientist conducted them.

The editors underestimate the good sense of both writers and readers. No scientific writer would use the agentless passive in this instance without clarifying in advance just who the experimenter is, if that information is indeed important in the context. And no reader needs to be reminded in every single sentence who the experimenter is.

What is saliently missing in the treatment of voice by recent technical writing textbook authors is, first, a complete and realistic view of the passive's potential. Comments in these books are almost always limited to agentful passives with the "be" auxiliary alone and to finite verbs. But Svartvik's excellent study establishes that the term "passive" should be "used in a very wide sense" as "verb combinations of be (or auxiliaries commutable with be) and a past participle."⁴⁰ "Can," "may," "could," "have to," "should," and "get" are just a few of the commonly used passive auxiliaries that recent texts take little account of. Further, these books treat only the passive constructions listed in Svartvik's class A (clauses with animate agents) and class B (clauses with inanimate agents). Actually, 80% of the passive constructions normally used fall into Svartvik's class y (clauses ⁴² without agents) and are virtually intransitive and equative in character. In other words, the texts ignore all but the first one or two types in Svartvik's "passive scale," arranged below from agentful transitive to non-agentful intransitive types:

The house was built by experts.
The house was built of wood.
His bills are paid.
His bills are paid regularly every month.
His bills are paid, so he owes nothing now.
The snow was piled high by the wind.
The snow was piled high by the door.
The village was (appeared, lay, looked, seemed) quite deserted.
He felt thoroughly disappointed.
The door remained locked.⁴³

Second, the anti-passivists fail to identify the special advantages the passive voice offers a writer, particularly a technical writer. For example, the passive is uniquely suitable to and frequently used with long nominal groupings at the end of a sentence. Where an actor or agent is, therefore, part of a bulky nominal grouping (as is often the case in technical writing), ⁴⁵ it is better placed at the end of the sentence than in the subject position. That is why the passive version of the following idea sounds more efficient than the active:

The fabric was bleached with a pink, filmy liquid which the acid solution had produced.

The pink, filmy liquid which the acid solution had produced bleached the fabric.

Also, the passive can help the technical writer maintain proper FSP (functional sentence perspective) flow--that is, the logical progression from known to unknown.⁴⁶ The principle of FSP may even make the passive "obligatory" in a definition like this one:

Sediment will be defined in this study as residue of dirt or decayed organic matter resting on the ocean floor within 20 feet of the Nassau shore.

It goes almost without saying that the passive is obligatory where the agent is unknown or irrelevant, a circumstance quite common in scientific writing. In this sentence

Eight minutes later, the patient was exhausted.

the patient was undoubtedly exhausted by something, but the cause of exhaustion (if extraneous to the report or unknown) need not be considered if the passive is used.

This discussion would not be complete without reference to the usefulness of the participial and infinitive passives, both of which are liberally (and, I am sure, unwittingly) incorporated into current technical writing text models. In the following sentence from Houp and Pearsall's text, "needed" is a participial passive and "to be taken" and infinitive passive. Of course, the main verb ("must be considered") is also passive:

In establishing a method to remove the lake deposits, three factors must be considered: needed₄₇ equipment, legal steps to be taken, and the disposition of the deposits.

The phrase "needed equipment" is clearly some sort of elliptical construction signifying "The equipment is needed." Similarly, "legal steps to be taken" is a shorthand construction signifying "Some unidentified subject should take legal steps." These infinitive and participial genres of the passive, which have not been included in the verb counts used in this article, warrant further study. Even in non-technical writing, these forms are important shorthand by-products of the passive transformation.

The passive voice is not an anachronism. It is an essential and acceptable function of English syntax because it facilitates certain identifiable arrangements of information and coordinates well with a variety of tones and points of view. Under certain circumstances which arise frequently in technical writing, passive is actually preferable to active. When used properly and intelligently, it is a clear and economical form of expression fully appropriate in the technical context. The 1980's should signal a shift in the scholarly winds--and a full vindication of the passive in technical writing.

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