In Defense of the Passive Voice in Medical Writing

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Few medical journals specifically instruct authors to use the active voice and avoid the passive voice, but advice to that effect is common in the large number of stylebooks and blogs aimed at medical and scientific writers. Such advice typically revolves around arguments that the passive voice is less clear, less direct, and less concise than the active voice, that it conceals the identity of the person(s) performing the action(s) described, that it obscures meaning, that it is pompous, and that the high rate of passive-voice usage in scientific writing is a result of conformity to an established and old-fashioned style of writing. Some of these arguments are valid with respect to specific examples of passive-voice misuse by some medical (and other) writers, but as arguments for avoiding passive-voice use in general, they are seriously flawed. In addition, many of the examples that stylebook writers give of inappropriate use are actually much more appropriate in certain contexts than the active-voice alternatives they provide. In this review, I examine the advice offered by anti-passive writers, along with some of their examples of “inappropriate” use, and argue that the key factor in voice selection is sentence word order as determined by the natural tendency in English for the topic of discourse (“old” information) to take subject position and for “new” information to come later. Authors who submit to this natural tendency will not have to worry much about voice selection, because it will usually be automatic. (doi: 10.2302/kjm.2014-0009-RE; Keio J Med 64 (1) : 1–10, March 2015)

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Instructions by Medical Journals to Use the Active Voice

In their instructions to authors, most medical journals rightly show much more concern about content, format, and ethical issues than about linguistic matters, but some impart linguistic advice as well. BMJ, for example, under “Grammar” in the “House style” section of its “Resources for authors,” says, “Write in the active and use the first person where necessary.”1 Annals of Internal Medicine (AIM) in its “Information for Authors” instructs writers to “Use active voice whenever possible.”2

Do the Journals Follow Their Own Advice?

Even at the most superficial level, these instructions are unhelpful. It is not clear in BMJ’s guidelines whether “where necessary” is intended to modify “write in the active [voice]” as well as “use the first person,” but if it is not so intended, the injunction can be taken to prohibit use of the passive voice entirely, a prohibition that BMJ itself does not submit to: the “House style” section runs to just over 1,200 words and contains no fewer than 32 passive constructions (both finite and nonfinite*). This is actually significantly higher than the rate of passive constructions one would expect to find in a passage of academic English of that length: Longman Spoken and Written English Corpus (LSWE Corpus) data show that passives occur

*A finite passive construction has a specific tense, number, and person, while a nonfinite passive construction does not (e.g., “The samples used [nonfinite] in the study were obtained [finite] from . . .”).
about 18,500 times per million words of academic prose, which works out at around 22 times per 1,200 words.3 But even if “Write in the active [voice]” is intended to be modified by “where necessary,” many authors, whether native speakers of English or not, may be disconcerted to be left to decide exactly when it is necessary to use the active voice, and indeed when it is necessary to use the first person (i.e., to use “I” or “We” as sentence subjects).

AIM does a little better in following its own advice to use the active voice, with only 35 passive constructions in the first 2,100 words of its “General Guidelines” (not including the table) under “Instructions to Authors,” but this is only slightly lower than the 39 that LSWE Corpus data would predict, even though much of the text is in the form of straight instructions delivered in the imperative mood. AIM’s instruction regarding the active voice is certainly no more helpful than BMJ’s: except in connection with the tiny number of verbs that are used only in the passive voice (e.g., “be born” and “be reputed”), it is always possible to use the active voice. The question is whether it is always desirable to favor the active voice over the passive voice in medical writing or, indeed, in any other field of writing. And if not, what determines appropriate selection of the passive voice over the active voice? Neil Millar et al. do much to clarify this issue in a recent study on the impact of medical journals’ style guidelines on voice selection.4 Their study indicates that avoidance of passive constructions is difficult (“even impossible”) and often undesirable.

**Oblique Advice to Use the Active Voice**

Although BJM and AIM are among the relatively few journals that directly instruct authors to use the active voice, others do so obliquely by referring authors to works that recommend favoring the active voice. Unsurprisingly, the Journal of The American Medical Association (JAMA) points authors in the direction of the AMA Manual of Style: A Guide for Authors and Editors (AMA Manual of Style), which recommends that: “in general, authors should use the active voice, except in instances in which the actor is unknown or the interest focuses on what is acted on.”5 Other journals, including Mayo Clinic Proceedings, The American Journal of Medicine, and Deutsches Ärzteblatt International, also refer authors to the AMA Manual of Style.

**Prompting Active-voice Use by Example**

Some journals, including AIM, appear to try by example to encourage authors to use the first person and the active voice. Although it only specifically instructs authors to avoid the passive voice when writing the Methods section, the “Specific Requirements (Research)” section of the Canadian Medical Association Journal’s (CMAJ) “Instructions to Authors” relies heavily on short active-voice sentences with “we” in subject position, presumably at least partly to encourage contributors to the journal to follow suit: “We publish research about humans, including patients, diseases, populations and health services. We do not publish research on animals or healthy human volunteers. In addition, we publish research on topics of relevance to the medical profession itself, such as . . .” (underlines mine).6 But the writer clearly has difficulty sustaining this style: the “Specific Requirements (Research)” section contains about 670 words and 11 passive-constructions, including one (nonfinite) that appears incongruously in the sentence immediately following the one that instructs authors to avoid using the passive voice in the Methods section. LSWE Corpus data would lead us to expect about 12 passives in a passage of academic writing of this length, so even when the author was apparently consciously trying to avoid using the passive voice, he/she did not manage to achieve a significant reduction in the normal rate of occurrence.

**Criticism of Medical Writing for Excessive Use of the Passive Voice**

Overt instructions to use the active voice and eschew the passive voice may be relatively rare in medical journals’ instructions to authors, but they are far from rare in the large number of published stylebooks and blogs offering advice to medical writers. Noting that “A common criticism of medical writing is excessive use of the passive voice,” Robert J. Amdur et al. conducted a study in which they measured the frequency of passive-voice occurrence in 30 articles from each of three high-impact-factor journals (90 articles in total); they used 30 front-page articles from The Wall Street Journal (WSJ) for comparative purposes.7 Their findings have certainly reinforced the anti-passive style writers in their prejudice against the passive voice, but as far as the journals are concerned, the findings are not at all surprising: the median percentages of passive-voice sentences in the articles from the three journals they investigated were 20% (JAMA), 26% (New England Journal of Medicine), and 23% (The Lancet), which are, if anything, slightly lower than the figures we would expect from LSWE Corpus data (note that these data cover all academic writing and not only medical writing), according to which passives account for about 25% of all finite verbs in academic prose.3 (It is not clear whether Amdur et al. counted nonfinite as well as finite passives, but the examples they give suggest they did not: “Data were collected by a member of our research team from patients with pneumonia.”) Data were collected from patients with pneumonia.” They state, however, that they counted sentences with two or more passive constructions as one passive sentence, which might account for the slightly lower occurrence rate they found than would be predicted by LSWE Corpus data.)
By contrast, the median percentage of passive-voice sentences Amdur et al. found in WSJ was 3%, a rate that is considerably lower than we would expect from LSWE Corpus data, according to which passives account for about 15% of all finite verbs in news (the lowest register for passive occurrence, according to LSWE Corpus data, is conversation, at about 2%). The LSWE Corpus data are based on a large sample (over 40 million words covering four major registers – conversation, fiction, news, academic prose – of which about 10.7 million are taken from journalistic writing, and about 5.3 million from academic writing), so it seems likely that the low rate of passive occurrence Amdur et al. found in WSJ was either the result of chance, or of deliberate editorial policy to avoid using the passive voice on the part of the newspaper selected. A rate as low as 3% would actually be extremely difficult to achieve in sustained writing of any quality. It would certainly require very focused attention on avoidance, attention that could arguably be directed much more beneficially to other elements of style.

On the basis of their results, Amdur et al. conclude that writers of medical papers do indeed use the passive voice excessively, and they propose, spuriously in my opinion, a 10% upper limit on passive-voice frequency in all types of medical articles.

**Is the Criticism Justified?**

The main problem with the conclusion of the above paper is that there is no established measure of, and no consensus on, what constitutes excessive use of the passive voice. The rate of passive occurrence Amdur et al. found in their study is similar to that predicted by LSWE Corpus data for academic writing in general, so it would appear that any criticism of medical writing in this regard should apply equally to academic writing in any other field. Furthermore, the data they used for comparative purposes appear to be flawed, because the newspaper articles they selected do not reflect average passive-voice occurrence in journalistic writing. But in any case, there is no reason to be surprised that passive-voice occurrence varies from register to register, just as vocabulary selection and other lexical components vary. Nor is there any reason to be alarmed: where is the evidence that it would be desirable for academic research to be presented in the same style as a conversation with a friend or, for that matter, the same style as that used in a particular newspaper? Academic writing is highly specialized: most people do not read it (because they are not interested in the subject matter) and even fewer produce it, so where is the need for it to match more popular registers of communication in terms of style?

Nor are the five reasons Amdur et al. cite for medical writers’ “excessive” use of the passive voice persuasive: “to reflect objectivity, to avoid first person pronouns, to appear scholarly and sophisticated, to avoid responsibility, and to conform to established writing style.” Actually, there are only two reasons here: the first, second and fourth are basically the same (i.e., writers use the passive voice to conceal the identities of those carrying out the actions described); and the third is a prejudicially perceived result of the fifth. In fact, reasons 1, 2, and 4, although based on highly dubious reasoning, could also be taken as a perceived result of no. 5, so perhaps there is only one reason: “to conform to established writing style.”

Unless the established style is demonstrably bad (i.e., unsuited to the purpose), I do not see how conforming to it can possibly be objectionable to anyone who does not simply reject conformity per se. In fact, adherence to styles and patterns of writing that have become established in particular fields is likely to lead to more effective communication, because information is easier to grasp when it is presented in familiar ways. As Millar et al. point out, “The existence of a conventionalized phraseology in medical writing, passive or otherwise, may well have potential benefits for ease of processing and, therefore, communication.”

It is easy, of course, to point to multiple examples of bad medical writing, and excessive use (or, perhaps more relevantly, inappropriate use) of the passive voice may very well be one of the many features of such writing that make it bad. But it is equally easy to point to many examples of good medical writing that follow the “established style.” The difference between the two extremes lies not in such comparatively trivial details as passive-voice frequency but in the relative facility of the individual authors with the English language in general. Imposing strict limits on passive-voice frequency, as Amdur et al. propose, would do nothing to improve the overall quality of medical writing. Rather, it would almost certainly have the opposite effect, because it would force authors, good and bad alike, to focus on avoiding passive-voice use at the expense of more important elements of style, particularly natural English word order (see Argument 2 below).

**Arguments for Avoiding the Passive Voice in Medical Writing**

The premise on which Amdur et al. based their study stems from the plethora of published criticism of passive-voice usage in medical writing. The issue can arouse considerable passion, as illustrated by the following:

Passive voice is the bane of medical writing. It pervades medical literature with the haze and heaviness of stagnant air. Writers sometimes use passive voice in an attempt to make their work sound scholarly and scientific, when actually they are perpetuating a writing tradition that is fraught with ponderous and obscure language.

How anything as mundane and innocuous as the pas-
Use the active voice unless you have good reason to use the passive.

[. . .] in any type of writing, the active voice is more precise and less wordy than the passive voice. It is the natural voice in which most people speak and write. The active voice also adds energy to your writing, and forces you to decide what you want to say. The passive often obscures your true meaning and compounds your chances of producing pompous prose.9

Although the “scientific passive” has a long and venerable tradition, it is often easier and more direct to write in active voice, which is the mode preferred by many journal editors in the interests of brevity and clarity.10

The active voice is direct (performer–verb–receiver), vigorous, clear, and concise. The reader knows who is responsible for the action. [. . .] The passive voice is indirect (receiver–verb–performer) and can be weak, awkward, and wordy. Passive voice uses a form of the verb to be followed by a past participle (e.g., dispersed, investigated) and a by phrase. If the by phrase is omitted (the truncated passive), the reader will not directly know who or what performed the action.11

Write in active voice unless passive voice is necessary:

• Active voice is generally more effective in scientific writing
  • It is direct, clear, and demonstrates agency12

Use of the passive was once an established convention in scientific writing, but the active voice is now preferred unless otherwise stipulated. It produces clearer, more direct language. Common passive constructions in medical writing include

It was decided to . . . instead of We decided to . . .
Measurements were then taken instead of We then took measurements.
It was felt that . . . instead of We felt that . . .

Some writers feel that the passive voice sounds more modest and ‘scientific’, but the foremost aim should be for clarity and directness, avoiding superfluous words.13

It would be possible to fill many pages with similar quotations, but the arguments would not vary much. What is clear is that the passive voice is very unpopular among most stylebook writers and many writing instructors. Automated grammar-checking software does not buck the fashion, either: Microsoft Word’s built-in grammar checker, for example, routinely questions finite passive constructions by means of a green squiggly underline. At least all the repetition makes it easy to summarize the arguments commonly advanced for preferring the active voice over the passive voice:

• The active voice is easier to use, clearer, more precise, more direct, and more concise.
• The passive voice obscures the identity of the person(s) performing the action; it can also obscure meaning.
• Many medical journal editors prefer the active voice.

Let us consider these common arguments against passive-voice usage individually.

Argument 1: The active voice is easier to use

This is undeniably true. At least, it is true that the mechanics of forming the active voice are simpler than those of forming the passive voice. However, this hardly constitutes a valid argument for not using the latter. If it did, it could be applied to any remotely complicated linguistic pattern, and we might all end up communicating entirely in <10-word single-clause sentences with no verb inflections! In any case, it is fairly inconceivable that anyone sufficiently educated to attempt to publish medical research findings will have problems with the simple mechanics of English passive formation. Nonnative speakers of English who do have difficulty with such elementary grammar would be well advised to stick to their native language and have their writing translated professionally.

Argument 2: The active voice is more precise and more direct than the passive voice

This argument is untenable. I do not deny that many published sentences with verbs in the passive voice are imprecise and indirect, but that is the fault of those who compose the sentences and not of the passive voice itself. Furthermore, a far greater number of sentences with verbs in the active voice must be imprecise and indirect, simply because the active voice occurs much more frequently than the passive voice (by a ratio of three to one in academic writing, according to LSWE Corpus data): the imprecision of those who write imprecisely is not confined to one area of verb usage. When active-voice and passive-voice sentences are properly composed and appropriate to the context in which they are used, there are no grounds whatsoever for claiming that one voice is clearer or more direct than the other. Take the two following sentences, for example:

1. Columbus discovered America in 1492. (Active)
2. America was discovered by Columbus in 1492. (Passive)
   Both sentences are equally valid in and of themselves. Which one should be selected depends mainly on the context in which it is to be used: if the topic under consideration is Columbus, the active-voice version is appropriate; if America is being discussed, the passive-voice version is appropriate. Such logic is based on the clear tendency in English for new information to appear toward the end of clauses, and for elements that are already known about or under discussion to appear in subject position. This can be illustrated with two versions of a simple account:

1. Something terrible happened to Sally yesterday. **A car ran her over while she was crossing the street. An ambulance rushed her to the hospital. The emergency room doctors gave her a blood transfusion, but her death couldn’t be prevented.**

2. **Something terrible happened to Sally yesterday. She was run over (by a car) while (she was) crossing the street. She was rushed to the hospital (by an ambulance) and was given a blood transfusion (by the emergency room doctors), but she died.**

   The positioning of new information (marked in bold) at the beginning of each clause in the first version makes the style excruciatingly inept. The topic of discourse is Sally, and normal English sentence structure dictates that she take subject position for as long as she remains the topic of discourse, and that new information be introduced later in each clause, as in the second version. In this particular example, putting the account into natural English required conversion of three of the original sentences from active to passive voice, and one from passive to active, but that is merely coincidental: other examples might well require more passive to active correction. It is worth noting, however, that use of the passive voice in the revised version allows the omission of irrelevant or obvious information. For example, it is natural to assume that Sally was taken to the hospital by ambulance, and it is not at all necessary to specify the means of transportation unless it is in any way relevant to what happened: had she been transported by forklift truck, and the resulting slow arrival was perceived to have affected the outcome, the means of transportation would certainly be mentioned.

**Argument 3: The active voice is more concise**

Long passive constructions contain both an inflected form of the verb “be” before the past participle and the preposition “by” to introduce the agent, so they are typically two words longer than their active-voice “equivalents,” as is the case with the Columbus example under Argument 2. On the other hand, short passives, in which the agent is omitted (“She was rushed to the hospital by an ambulance.”), are no longer than their active-voice “equivalents.” While long passives are considerably more common in academic and journalistic writing than they are in other registers, they are still overwhelmingly outnumbered by short passives: LSWE Corpus data give an occurrence rate of about 2,500 long passives per million words of academic prose against a rate of about 16,000 short passives (the corresponding figures for news are 2,500 and 9,000). Short passives omit the agent, so they are the same length as their active-voice “equivalents” when the agent is expressed in one word, and they are shorter when the agent is expressed in two words or more:

**We stored the samples at room temperature for 24 hours.**

**The samples were stored at room temperature for 24 hours.**

Because short passives occur far more frequently than long passives, there is no reason to believe that use of the passive voice significantly increases the overall word count of academic writing. In fact, the reverse may be true. The Sally example under Argument 2 is hardly academic, but the omission of the obvious/irrelevant information about agency enabled by use of the passive voice (and of the redundant repetition of “was” before “crossing” and “given” enabled by the positioning of Sally in subject position) reduces the total word count from 39 words (active version) to 28. Furthermore, avoiding nonfinite short passive constructions used to postmodify nouns is often very difficult without substantially increasing verbiage (see Argument 5).

**Argument 4: The passive voice obscures the identity of the person(s) performing the action**

The high occurrence of short passives in medical and other academic writing is fodder to the many style advisors who write that the passive voice conceals the identity of the person(s) performing the action. It is true that short passives can indeed be used for this purpose: “I’ve been told that you’re moving to Osaka.” However, deliberate concealment of the agent is a relatively unusual function of short passives. In most cases, short passives are used when the agent is obvious or irrelevant, i.e., when there is no informational value in stating who or what the agent is. They are also often used when the agent is unknown (e.g., “The painting was stolen during the night of March 10.”), but this function is probably less common in scientific writing than it is in other registers, such as journalism. Without dwelling on the point that it is often just as easy to conceal agency with the active voice (e.g., “I’ve heard that you’re moving to Osaka.”), I would agree that inten-
tional concealment of the agent for ulterior motives, or careless concealment when agency should be stated, has no place in scientific (or other) writing, that it can cloud meaning, and that it should be corrected. However, when used appropriately in scientific writing, or writing in general, short passives do not conceal anything, because the agent is either obvious or irrelevant. For example, if the Methods section of a paper contains “The samples were stored at room temperature for 24 hours,” the question of who did the storing is almost certainly irrelevant. Furthermore, if the samples are already the topic of discourse at the point where this sentence appears, as they most probably are, it is quite natural that they (rather than the authors of the paper or their laboratory assistants) should take subject position. There is no advantage in using the active version of this sentence with “We” as the subject, because it simply interrupts the natural word flow. Using “The authors” as the subject is even worse, because it increases the word count and could much more justifiably be labeled pompous than could use of the passive voice!

**Argument 5: Many medical journal editors prefer the active voice**

It may be true that many journal editors pay lip service to the widespread misconception that the active voice is fundamentally more precise, concise, etc. than the passive voice, but the BJM, AIM and CMAJ examples given in the first section of this paper indicate that those editors who are responsible for producing their journals’ instructions to authors do not, or perhaps cannot, follow their own instructions to avoid using the passive voice. It is an admittedly small sample, but it is probably a true reflection of the actual situation: even conscious efforts to stick faithfully to the active voice are very likely to fail, simply because the passive voice is a natural element of good writing. As mentioned under Argument 3, active-voice rephrasing of nonfinite passive constructions used to postmodify nouns is particularly difficult without increasing verbiage. The following example (1.) from AIM contains two nonfinite passive constructions (underlined). The sentence can only be rendered in the active voice by making it longer and clumsier, as in version 2.

1. When citing an article or book accepted for publication but not yet published, include the title of the journal (or name of the publisher) and the year of expected publication.

2. When citing an article or book that a journal has accepted for publication but has not yet published, include the title of the journal (or name of the publisher) and the year of expected publication.

Recasting finite passive constructions does not usually lead to unnecessary wordiness of this sort, but it can be even more undesirable.

**Specific Examples of Flawed Advice**

In this section, I would like to examine a few examples given by style writers to bolster their claims that the active voice is preferable to the passive voice.

**Example 1. Prefer the active voice if the actor is mentioned**

To illustrate its recommendation that “in general, authors should use the active voice, except in instances in which the actor is unknown or the interest focuses on what is acted on,” the AMA Manual of Style provides the following passive/active pairs, along with the comment that the active voice is preferred if the actor is mentioned:

<table>
<thead>
<tr>
<th>Passive</th>
<th>Active (better)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data were collected from 5000 patients by physicians.</td>
<td>Physicians collected data from 5000 patients.</td>
</tr>
<tr>
<td>The definition of bullying used in the survey was taken from previous studies.</td>
<td>The authors used previous definitions of bullying in the survey.</td>
</tr>
</tbody>
</table>

Presumably, the writers of the manual prefer the active-voice version in the first pair because the actor (agent) is mentioned. It is difficult to be specific with out-of-context examples of this kind, but it is certainly impossible to insist that the active version is “better” without considering why the actor (i.e., “physicians”) is mentioned in the long passive construction. If the identity of the actor were obvious or irrelevant, a short passive would be used, and the long-passive version would certainly be stylistically inept. However, the long-passive version may well be highly appropriate in context if the physicians constitute new information, as their prominent mention at the end of the sentence indicates they do. If they had already been mentioned, this would be signaled by the presence of a definite article (“by the physicians”), so the absence of one allows us to assume that they are being mentioned for the first time. This is consistent with their location at the end of the sentence, and it also makes their subject position in the active-voice version extremely dubious from the point of view of natural sentence flow. It is also probably safe to assume that the data have already been mentioned, that the nature of these data is already clear, and that the data (in relation to the survey that was presumably carried out) are the topic of discourse; otherwise, both the passive and active versions would be fairly bewildering. Therefore, giving “Data” subject position is perfectly normal, as they constitute old information and not new. In the passive version, then, the focus is not par-
ticularly on “what is acted on” (i.e., the data, with their old-information status) but rather on the action carried out in relation to those data (collection from 5000 patients), and on who carried out the action. Particular focus is given to the physicians by the use of the long passive construction and their resultant positioning in the prime new-information sentence location. Thus, the passive version is perfectly valid if its purpose is to emphasize that it was physicians who collected the data (rather than, say, second-year medical students) and that the data can, by implication, be considered reliable. If this is indeed the purpose (and it is difficult to imagine any other purpose of the long passive), then the passive version is incomparably “better” than the active version, which ineptly interrupts natural word order by giving previously unmentioned physicians old-information status, and thereby focusing attention not on the physicians but on the rest of the sentence, i.e., the data (“what was acted on”) and from whom they were collected.

It is also easy to conceive of contexts in which the passive version would be appropriate with a definite article before “physicians” to indicate that they had already been mentioned. We could imagine, for example, that the survey had been carried out by a group of physicians and a group of nurses, in which case the function of the long passive (ending with “by the physicians”) is to specify that it was the physicians, and by clear implication not the nurses, who collected the data; although the physicians have already been mentioned, this information about them is new and justifies their position at the end of the sentence.

Thus, the AMA Manual of Style’s blanket instruction to prefer the active voice “if the actor is mentioned” is unhelpful, because it ignores the many possible situations in which there are good reasons for according the actor new-information status and for not giving it old-information status. As Millar et al. note, “it seems that often guidelines concerning the use of grammatical voice do not depict the reality of how the passive is actually used. They imply that the active and passive voice can be used interchangeably, and, that where possible, authors should choose the active voice.”

In many cases, especially when generalizations are being made, the active and passive versions of sentences are by no means equivalent or interchangeable in terms of the information they convey, as shown by the following short examples:

1. Adults usually consume alcohol.
2. Alcohol is usually consumed by adults.

The information conveyed by the active-voice version (1.) is patently false, but it purports to be a statement about something that adults in general usually do. By contrast, the passive-voice version tells us that it is adults (and by clear implication not children) who generally consume alcohol. To express this meaning in the active voice, it would be necessary to use an emphatic construction, such as “It is usually adults who consume alcohol,” which is not only longer than the passive version but also conflicts with the natural tendency for new information to be placed later in the sentence if alcohol (and not adults) is the topic already under discussion. In generalizations of this sort, use of long passives to allow the agent to be expressed at the end of the sentence is very useful, not only from the point of view of allowing natural word order, but also in clearly implying that agency is limited to the agent specified.

Long passives are also useful when multiple agents are in play: “The idea has been put forward by the Royal College of Surgeons, the General Medical Council, The Royal College of Obstetricians and Gynaecologists, and the Royal College of Nursing.” Clearly, an active-voice version of this sentence would have an intolerably long subject before the verb, but again, the word order is almost certainly dictated anyway by the natural tendency for what is already being discussed (in this case “the idea”) to take subject position in the sentence.

The AMA Manual of Style’s comment on reserving the passive voice for cases in which “the interest focuses on what is acted on” is also out of touch with the reality of passive-voice usage. Of course interest is focused on the subject of the sentence, simply by virtue of the fact that it is the topic of discourse, but by giving “what is acted on” sentence-subject status (i.e., old-information status), passive constructions actually direct more immediate attention to the action performed on the subject (what is done) and, in the case of long passives, on who or what does it, because these elements of the sentence constitute new information. It is active-voice constructions, by contrast, that focus immediate attention on “what is acted on” by giving it new-information status. But in any case, it would be much more helpful to advise writers to begin sentences with what is already known about and to introduce new information later: if writers pay attention to the positioning of information in each sentence, the selection of active or passive voice will normally take care of itself. This is not a fail-safe method of determining voice, of course, because factors other than new-old-information status also play roles in sentence word order and voice selection, but as a general guideline it is far more pertinent and practical than such nebulous and confusing tasks as trying to work out how much interest is focused on “what is acted on.”

In the AMA Manual of Style’s second pair of examples, it is not at all clear, at least to me, why “definition” is plural in the active version and singular in the passive version, why the source of the definition(s) is cited in the passive version but not in the active version, or indeed why the active version should be considered “better,” especially when no context is provided. But the same ob-
servations apply: if “bullying” is already the topic under consideration, as seems likely, it is perfectly natural to give it (and its definition) subject status, and there is no fundamental problem with the passive constructions that follow it (nonfinite “used” and finite “was taken”). Furthermore, the passive version is vastly superior in terms of clarity. It is not clear in the active version whether “in the survey” is supposed to modify “used” or “previous definitions of bullying.” Its peculiar location at the end of the sentence (in prime new-information position) actually suggests the latter, making it a dangling modifier (see the following section). By contrast, it is crystal clear what “in the survey” modifies in the passive version, so from the point of view not only of clarity and precision but also probably of natural English word order, the passive version is much “better” than the active version. It may be longer, but brevity is no advantage if it comes at the expense of clarity and natural word order.

**Example 2. Use of the passive voice leads to dangling modifiers**

Stylebook writers and others regularly attribute dangling modifiers to the use of the passive voice. Their arguments are fallacious, because dangling modifiers also occur commonly in association with the active voice. The following is typical of the arguments commonly presented (the bold script and italics are as in the original):

> Here’s an example of a dangling modifier (in bold): Using sarkosyl to induce nuclear run-on, the transcriptionally inactive b-globin gene in mature erythrocytes was demonstrated to harbor high levels of Pol II at 5′ proximal regulatory regions.

The introductory clause (Using sarkosyl...) has an implied subject: a researcher. But the explicit subject of the sentence turns out to be the transcriptionally inactive b-globin gene. This means that the modifier (Using sarkosyl) is dangling, because its subject is not the same as the subject of the clause it modifies (the transcriptionally inactive...).

In modern English usage, dangling modifiers are considered errors. Unfortunately, they are rampant in scientific writing. I believe this is a result of religious reliance on passive voice. This seems to be the case in the above example.20

The writer of the above does not provide a correction, but I shall: Using sarkosyl to induce nuclear run-on, we demonstrated that the transcriptionally inactive b-globin gene in mature erythrocytes harbored high levels of Pol II at 5′ proximal regulatory regions. Because the sentence is presented out of context, it is impossible to know who was using sarkosyl, but I assumed it was the authors of the report and accordingly rewrote the sentence with “we” as the subject of the main clause.

Yes, dangling modifiers are considered errors, and as the writer quoted above says, they are rampant in scientific writing. However, it is disingenuous of him to limit his comments to scientific writing, because dangling modifiers are also common in all other kinds of writing and conversation. But more significant is the fact that if their occurrence is an argument against using the passive voice, it is also an argument against using the active voice. Consider the following: “Based on these results, we decided to operate.” Just as in the “sarkosyl” example, the participle (a past participle in this case) is dangling: what was “based on” the results was the decision to operate, and not “we.” (A possible correction would be “Based on these results, a decision was made to operate,” but other options exist, of course.) Such mistakes, particularly with “based on” but also involving other past participles, are common, but should I claim that they are a result of “religious reliance” on the active voice? I think not. Dangling modifiers occur frequently, regardless of whether they involve present or past participles (or adverbials, or whatever), and regardless of the voice of the verb in the main clause. Here are two examples, the first with a dangling present participle and active-voice main clause, and the second with a dangling past participle and passive-voice main clause:

1. After completing the surgical procedure, the patient recovered completely.
2. If found effective, the possible application of this treatment to other motor neuron disorders will be discussed.

The common occurrence of dangling modifiers has nothing to do with voice but everything to do with the fact that many writers do not realize (or care) that they have committed a solecism when they compose one.

**Example 3. Passive constructions with “it” in subject position are ambiguous**

Writers of stylebooks and blogs on scientific writing often take exception to passive constructions starting with “it”:

A particularly awkward and ambiguous form of the passive voice occurs when an author uses it as the receiver rather than the first-person pronouns I or we: It is concluded that the treatment is effective.11

In the following example, active voice is preferred because it may be important to know who made (or what demonstrated) the conclusion:

- Passive Voice: It was concluded that the river is contaminated.
- Active Voice: Researchers concluded that the river is contaminated.

Results demonstrate that the river is contaminated.12
Such patterns (short finite passive constructions with "it" in subject position ["it passives"]) can indeed be ambiguous, and it is not hard to find examples of their ambiguous use in scientific writing. But whether the above examples are ambiguous or not depends entirely on the contexts in which they are used. Presented as single sentences out of context, they are not so much ambiguous as meaningless: certainly, they do not allow the reader to infer who is drawing the conclusions, but neither do they tell the reader which treatment is being referred to or what it is effective against/which river is being referred to or what it is contaminated with. The style writers who present these examples are presumably happy to assume that the latter information is readily discernable from the contexts, so why are they so happy to assume that the former is not? If the identities of the agents were not clear from the contexts, I would be the first to agree that the sentences need correcting. Otherwise, however, I submit that they are perfectly valid.

Since ambiguity cannot be confirmed or denied without reference to context, the only real argument against the above examples is that they are "awkward" or "pompous." This is a matter of subjective opinion. Personally, I would not use them if I were the person drawing the conclusions, but that is because I have no objection to the use of the first person, I do find them slightly pompous, and I would, therefore, see no reason to use them. (I would feel less averse to using the second example ["It was concluded that the river is contaminated."] — past tense — if the omitted agent were someone other than me and it were clear from the context who it was.) However, there are many people who prefer to avoid using the first person in academic writing, and it would be bigoted to criticize them for their personal preference (as long as they write well).

It is also important to note that many "it passives" cannot be converted to first-person active-voice versions without drastically changing the meaning. Here are some examples (the underlines are mine):

1. The pattern of obesity may be more important than BMI; for example, it is thought that abdominal obesity is a risk factor for GERD. It is known that by drawing attention to the agents of the first person, people in medicine may very well make it worse. Keeping the natural flow of writing and presentation of information, it is essential for good writing. Its function is not to conceal or obfuscate, but to maintain stylistic patterns, concealed agency, verbosity, conformity, and pomposity. The passive voice is an intrinsic part of the English language, and used appropriately to maintain the natural flow of writing and presentation of information, it is an essential feature of good writing. Its function is not to conceal or obfuscate, but to maintain stylistic patterns in the presentation of information that have established themselves for very valid reasons in the English language over centuries of usage. The railing of those with unjustifiable prejudices against passive-voice usage will not result in any improvement in the overall quality of scientific writing and may very well make it worse. Keeping the topic of discourse in subject position and presenting new information later in each sentence is the natural pattern in English and will normally determine the selection of voice automatically.

2. It is estimated that, worldwide, 140,000 women die of postpartum hemorrhage each year—one every 4 minutes.

Writers who use such "it passives" when they actually mean "I/We think that . . . .", etc. certainly deserve censure, but again, the problem is caused by misuse of the patterns and not by the passive constructions themselves, which are not ambiguous when used appropriately. Generalizations of the kind made in the above examples are easy to convert into third-person active-voice versions ("Experts/Researchers think that abdominal obesity . . . ."); but such conversion does not lead to any greater clarity on the actual identity of the agents, because, by convention, the agents are assumed to be experts anyway. In everyday usage, the agent is often simply people in general, e.g., "In Copernicus’s time, it was thought that the Sun went around the Earth." This could be rewritten in the active voice with “Most people” or even “Everyone” in subject position, but again, this would do nothing to improve clarity: a generalization is a generalization! In some registers, especially conversation and probably also fiction, active-voice versions are more common and arguably more appropriate, but there is no reason to assert that they are more appropriate in academic writing. In fact, it could be argued that by drawing attention to the agents and therefore away from the generalization itself, they are less appropriate. And if the agents constitute new information, as is likely, giving them sentence-subject status is probably undesirable from a stylistic point of view.

**Conclusion**

It is undeniable that inappropriate use of the passive voice is common in medical (and other) writing. Most anti-passive advisers provide multiple good examples of inappropriate use; unfortunately, many also provide examples that may very well be appropriate in context, and fallaciously label them inappropriate. In the end, however, good examples of inappropriate use are just that: examples of inappropriate use by careless or inept writers. Examining such examples may be valuable from a pedagogical point of view, but taking them as a general indictment of the passive voice itself is far from logical: it is like blaming automobiles for traffic accidents rather than the drivers who actually cause them. The resulting advice to avoid the passive voice is similarly unsound, based as it is on flawed arguments about clarity, precision, concealed agency, verbosity, conformity, and pomposity. The passive voice is an intrinsic part of the English language, and used appropriately to maintain the natural flow of writing and presentation of information, it is an essential feature of good writing. Its function is not to conceal or obfuscate, but to maintain stylistic patterns in the presentation of information that have established themselves for very valid reasons in the English language over centuries of usage. The railing of those with unjustifiable prejudices against passive-voice usage will not result in any improvement in the overall quality of scientific writing and may very well make it worse. Keeping the topic of discourse in subject position and presenting new information later in each sentence is the natural pattern in English and will normally determine the selection of voice automatically.
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