How to Use Active and Passive Voice in Scientific Publications*

A. Active Voice

In active voice, the subject of the sentence performs the action expressed by the verb.

1. Use active voice:

- to create clear and direct sentences. “John called Jane” describes the subject and the action of the episode more sincerely than “Jane was called by John.” For example:
  - The researchers conducted statistical experiments to test the hypothesis.
  - Statistical experiments were conducted by the researchers to test the hypothesis.

- to create shorter sentences:
  - The increased traffic caused congestion.
  - The congestion was caused by the increased traffic.

- with certain verbs that cannot be transformed into passive constructions, such as:
  - to have, to resemble, to look like, to equal, to agree with, to mean, to contain, to hold, to comprise, to lack, to suit, to fit, to become, etc.

2. Avoid the use of active voice:

- when the subject is obvious or unknown. In this case, use passive voice instead:
  - Statistically, nine babies are born every minute.

- to aggressively pursue personal interests:
  - We obtained the impressive results in this paper using...

- to make direct forcible suggestions to the reader:
  - You can see the impressive results in Figure 1.

Also, use a neutral form of expression to address the readers of the journal:
- You can verify the validity of this statement by inspection.
- One [or The reader] can verify the validity of this statement by inspection.

B. Passive Voice

In passive voice, the subject of the sentence receives the action expressed in the verb.
Passive voice constructions: form of “to be” + past participle + “by the…” = passive voice.

1. Use passive voice:

- when the subject is obvious, unknown, or unimportant to the description of analytical expressions, numerical techniques, or experimental procedures. One can omit “by the…” constructions with the use of truncated passive where the subject is not specified:
  - The solution of the equation is obtained using Mathematica.
  - The numerical method is applied to the example at hand.
  - The experiment was conducted [by the author] in three stages.

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- when the emphasis is on the final result rather than on the subject being involved in the action:
  The numerical proof has been confirmed by independent sources.

- when the sentence delivers neutral and universal content that does not depend on the author’s views or personal interests. In such cases, the use of the truncated passive reduces the number of words in the sentence.

- when there is a multitude of subjects (otherwise, in active voice the verb could apparently remain quite at the end of a long sentence):
  The health project is supported by state hospitals, private clinics, academic institutions, medical societies, pharmaceutical companies, and philanthropists.

- when it seems to be rhetorically beneficial within the context of other sentences and the indirect passive construction better describes the main point of the sentence:
  The selected papers will be published in the April issue of the journal.

- when the same subject appears in several subsequent sentences:
  The server of the queuing system reads the source and destination addresses from the packet headers and chooses appropriate relaying ports. Packets of variable lengths will be processed [by the server]....

- when addressing the prospective readers of a paper:
  The validity of this statement can be verified by inspection [by the reader].

- to describe an authoritative statement:
  Genetic manipulation is not allowed on human DNA.

- with some idioms that have no close analog in active voice:
  “The die is cast,” “The race is run,” etc.

2. Avoid the use of passive voice:

- when very long and complicated sentences in passive voice containing several verbs can cause confusion. Present long sentences in active voice with short and clear grammatical constructions for each verb.

- when the truncated passive could be misused to omit important subject(s) being responsible for actions taken:
  Wrong studies were published.

- with active and passive constructions in the same sentence. Avoid starting a sentence in active voice and then changing to passive:
  The increased number of mobile users caused congestion, and the routing policy was changed accordingly.

- to prevent the dependence of one passive upon another in the same sentence:
  The patients have been notified to have been cured with the new treatment.

The final decision on whether to use active or passive voice rests with the authors.