

A Summary of "The Science of Scientific Writing"

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Expectation The meaning of any prose is not that which the writer intends, but that which readers interpret. Readers interpret prose more easily and more uniformly if information is placed where they expect it. When readers' expectations are met, they are more likely to get the "correct" interpretation.

Furthermore, by working to meet readers' expectations, writers can identify logical gaps, insert missing information, and improve the prose substantively.

Function Readers expect each unit of discourse (sentence, paragraph, section) to serve a single function. When a unit serves more than one function, readers become confused about the point of the unit. To avoid confusion, make each unit of discourse serve a single function.

Action Readers expect the action of a sentence to be in its verb. When it is not, they find the text dull, boring, and confusing. To keep the reader interested, place the action of a sentence in its verb.

Readers interpret any information between the grammatical subject of a sentence and its verb as an unimportant interruption. To avoid a loss of information, follow a grammatical subject as soon as possible with its verb.

Topic The topic position in a unit of discourse is the beginning of the unit. Readers expect the topic position to provide one of three kinds of information: focus the person, place, thing, or concept that the story is about, linkage looking back to define relationships between past information and upcoming information, and context looking forward to establish relevance of upcoming information. To avoid confusing the reader about the focus, relationships, or relevance of one unit of the prose to others, place focus, linkage, and context information in the topic position.

Stress Stress positions are at points of syntactic closure, e.g. the ends of clauses, sentences, and sections. Readers need and expect closure; when they receive it, they assign extra emphasis to information at those positions. In other words, the syntactic structure of the prose stresses certain information. If the important points of the material do not appear at stress positions, the reader will not perceive the important points. To help the reader get the "correct" interpretation, ensure that the relative emphasis of the material matches the relative emphasis of the structure.

When there are fewer stress positions in a sentence than candidates for stress, the sentence becomes hard to read. To make the sentence easier to read, introduce new stress positions by introducing clauses. Clauses are marked by ":" or ";" and should be structurally the same as sentences, i.e. they have both a subject and a verb.

Flow Readers interpret prose more easily when it flows well, from old information to new information, from context to conclusion. To provide good flow, place old information in topic positions, and place new, emphasis-worthy information in stress positions.

Logical Gaps New information that occurs in a stress position and is not subsequently used may indicate a logical gap in the prose. Ensure that new information in a stress position is either a final conclusion, or is used subsequently as old information.