

## **Why Are the Questions Important in Scientific Prose?**

**Rusudan Kavtiashvili**

David Aghmashenebeli University of Georgia

DOI: <https://doi.org/10.52340/spectri.2025.11.01.06>

### **Abstract**

The criteria that characterize scientific prose are: clarity, logical judgement and argumentation, exactness, concreteness. A scientist always tries to reveal his/her judgement deep of the material by answering questions, that lead us to its information efficacy. Titles expressed by interrogative sentences practically guarantee readers/listeners to meet aims and basic ideas of the scientific text. Titles are also characterized by information clarity.

Generally, questions in scientific prose focus on carrying significant data in the given information of the research. In case any challenges, hypotheses or vagueness arise in research, a scientist often refers to questions in order to comprehend content deeper. In answers he/she states the concrete viewpoints to prove correctness.

Scientific prose tries to avoid ambiguity and strives to provide precise information. So, questions are helpful means to focus on the main purpose of the research.

key words: interrogative sentences, title, exactness, concreteness, clarity, content comprehension

**რატომ არიან კითხვითი წინადადებები მნიშვნელოვანი სამეცნიერო პროზაში?**

**რუსუდან კავთიაშვილი**

საქართველოს დავით აღმაშენებლის სახელობის უნივერსიტეტი

**აბსტრაქტი**

კრიტერიუმები, რომლებიც ახასიათებენ სამეცნიერო პროზას შემდეგია: გარკვეულობა, ლოგიკური მსჯელობა და არგუმენტირება, სიზუსტე, კონკრეტულობა. მეცნიერი ყოველთვის ცდილობს აჩვენოს მოცემული მასალა სიღრმისეულად კითხვებზე პასუხის გაცემით, რასაც მივყავართ ინფორმაციის ეფექტურობისაკენ. სათაურები მოცემული კითხვითი წინადადებებით, არიან გარანტი გააცნონ მსმენელს/მკითხველს სამეცნიერო ტექსტის მიზნები და მთავარი იდეა. სათაურები ასევე ხასიათდებიან სწორი ინფორმაციის მიწოდებით.

ზოგადად, კითხვები სამეცნიერო პროზაში ფოკუსირდებიან მოცემულ ინფორმაციაში მთავარ მონაცემებზე. იმ შემთხვევაში თუ რაიმე გამოწვევა, ჰიპოთეზა ან ბუნდოვანება

წამოიჭრება, მეცნიერები ხშირად მიმართავენ კითხვების დასმას კონტენტის ღრმად შესაცნობად. პასუხებში მკვლევარი ადასტურებს მის კონკრეტულ მოსაზრებებს, სისწორის დასადასტურებლად.

სამეცნიერო პროზა ცდილობს თავიდან აიცილოს ორაზროვნება და მიისწრაფვის ინფორმაციის სიზუსტისაკენ. ამგვარად, კითხვითი წინადადებები სასარგებლო საშუალებებია საკვლევი მასალის მთავარ მიზანზე ფოკუსირებისათვის..

საკვანძო სიტყვები: კითხვითი წინადადებები, სათაური, სიზუსტე, კონკრეტულობა, სიცხადე, კონტენტის შეცნობა

One and all agree that academic writing is a complex sphere. It leads us to discussion of issues of our interest in various directions. This process itself causes putting questions for the information exactness. As Vale R.P. (6) says: “The science begins by asking questions and then seeking answers”.

Generally speaking, subjective judgement and interest always take place while putting questions. Subjectiveness, on the one hand, reveals personal features, views and arguments; but on the other hand, questions avoid vagueness and hesitation that is very important for scientific

prose. The reader of scientific writing will meet a lot of questions in lengthy texts to prove the importance of the author's private viewpoint. According to Vale R.P. "You can't expect to wake up one morning and run a marathon without training. Similarly asking good questions is a skill that requires practice, training and mentoring".

Do questions improve the clarity and conscience in scientific prose? The answer to this question is undeniably positive and undoubtful. It is of common knowledge that scientific prose requires correctness, concreteness, author's strict position in discussion and argumentation while informing research results. I do agree to the viewpoint that it is necessary to expose clear and objective judgement. Generally, the factual material analyzed by a scientist, aims at informing available results and gained conclusions.

In scientific prose titles/ headings/ are frequently given in question forms. In this case the information for the reader/hearer becomes more or less clear and gives ground for concrete queries. There is no doubt that addressee quickly focuses on the main idea without reading lengthy texts when they are given titles in question forms; though it is of common knowledge that titles are preferred to be translated after perception of texts and not before, as they may cause hypotheses, ambiguity and so on. This is still an acute problem for linguists but we do not refer to this issue here.

For me, it's convenient to put titles in a question forms as I did in the article. It is an effective way to engage readers or audience rise the corresponding curiosity in problem discussion. It invites us to think about the main topic considering answers. We do agree with scientists (6,4) that questions given as titles increase comprehension of the basic idea. It is also well known that titles help to realize the author's argumentation and lead us through the research. Practically they cover the essence of the information (2). There are several reasons why it is better to put titles in question form: they can cause interest of the discussed issues; they make us focus on the analyzed problem; they have the ability in general to determine the investigated material; they can decode, prove or deny a scientist's view about brought in information :

e.g. – How does Linguistics differ from Traditional Grammar?

- What is the structure of problem-solution texts?

- What is language?

- Why did you choose the transformation way?

and so on .

Such examples require answer and judgement of the material given in the researches. So, titles in question forms are beneficial and profitable for scientific prose readers and listeners.

Majority of scientists (3,4,5) strive to put questions through texts by the same reasons we discussed about titles. This is done for being precise and exact in the presented material. Through scientific texts we can often meet such kinds and types of questions:

e.g. - Can you think of other reasons for coming to it?

- How can you support your hypothesis?
- Which of the given arguments is stronger in your view?
- What is the next suggestion?
- Will you give some other reasons?

Semantically much stronger in demand requiring answers are:

- Aren't you over-simplifying this acute problem?
- Where are alternative conclusions?
- How much is a matter of belief in the research?

and so on.

The given examples serve to avoid vagueness or ambiguity in the argumentations. So, it is advisable to use questions in texts in order to be laconic and exact about the issues of the material or in definitions of main purposes and case explanations. Questions, in my opinion, provide awareness while making assumptions, besides they ensure the accuracy of the material.

According to authors ( 5,6) the questions help us to gain the main purpose of the investigated material. From the given examples above, we can see that questions are different and cause grammatical variety of an author's style. We can meet all kinds and types of question that require answers:

General questions are used in order to understand the subject or case better and gain the knowledge for being exact.

There are also special questions that are necessary in every sphere of science. For example in medicine, special questions are very useful in order to define concrete situations:

- What side effects are observed?
- Which drugs did the patient take?

- How do you feel after the operation?

Putting a rhetoric question is a try to get an adequate answer and attract, gain the supporters of the introduced idea(s) :

Don't you agree with the statement?

- Isn't this viewpoint ideal?

The answer will provoke success of the argumentation.

Tag questions aren't frequent in science but still could be found:

- You do agree with the assumption, don't you?

Alternative questions manage to divide the given conception on equal parts/ components for making choice. The conjunctions "and", "or" are frequently used in them:

- Do you except my viewpoint or accept it?

As means for relevant clarity, questions forward us to reliable and satisfactory answers.

It is accepted in linguistics that indirect speech- questions define the purpose of the issue and have the ability to confirm the obtained results (4). Observation showed that scientists often refer to indirect questions. As it is known that they don't need subject-verb inversion.

e.g. – I wonder if the statements are real.

- We are interested if you have got any available data.

What question are frequent in science? Generally, they are special questions starting with Why? and What? The reason is that special questions are always clearly focused on the important problem; by meaning they are analytical and not descriptive, though

they may be subjective as well as objective. When they are built well the addressee concentrates better on the subject, thinks about various decisions , practical possibilities and theoretical significance of the stated and reached goals in researches.

For me, all kinds of questions are useful for information definiteness. Practically all new ideas, individual analysis cause putting questions, as they help to determine interesting and relevant for us information. In order to accept his/her viewpoints, the author of the presented work answers the given questions and claims the results. Given answers are

able to get rid of various, hypothetical views of a research. Researcher's answers minimize vagueness in discussion.

So, the questions guarantee content accuracy; help to defend gained goals and main ideas. Questions are the productive ways to be accurate and exact in judgement of the analyzed task.

Some questions arise in the process of discussions:

- Do questions determine the direction of our views to reach the goals?
- Do questions help to sum up the issues of our interest?
- Do they lessen ambiguity and vagueness in analysis? and so on.

For sure they do for many reasons: they show that we got interested in the work; that we care about the issue and information; they define our ways of thinking; suggest new ways and can change scientist's proposed direction of the analysis.

Putting questions in scientific discussions is a natural and logical process.

Why do we put questions? Is it done only for curiosity? Are they put for solving challenges of scientific issues? To my mind, we put questions for our interest satisfactions, to determine and solve issues, to avoid uncertainty. Discussion of the problem causing argumentation is often supported by: factual material, citation, investigated content, evidence of the material, figures, diagrams etc. that give the bases for strong judgement.

In my article ( Ambiguity and Scientific Prose 2018 Spectri #2) I have tried to prove that scientific prose avoids ambiguity though some hypothetical ideas still cause doubts. Ambiguity sometimes depends on addressee's impressions, interpretations, chance to think deeper about the problem and so on. It is customary for scientists to think and give contradictory views by asking questions. Even already stated (5) and accepted warning like: "Smoking kills" -

requires preciseness and causes some questions: - Does smoking kill everyone? Isn't it a scarifying warning? Isn't it very strict announcement?

Ambiguity can be caused by one word, phrase, sentence/statement, paragraph etc. containing more than one meaning.

Some warning signs may lead us to vagueness and even to confusion as well:

- "Don't Drink And Drive", (5) perhaps an Englishman easily understands and perceives this warning sign but for us -foreigners, such questions may arise: a) does it forbid drivers to drink any kind of liquid? b) doesn't it permit any drink while driving?

I think it would be better to have such warning - “Don’t Drink Alcohol And Drive”. It sounds more exact, isn’t it?

The judgement in the given article, to my mind, is free from ambiguity or any confusion in meaning.

In conclusion I can say that, evidence of question necessity and importance in scientific prose is preferable and profitable, as it claims views, identifies reasons for making statements. Questions help to understand main idea of a research, avoid ambiguity, lessen vagueness or doubts of the introduced results. Questions in scientific prose reduce unexpectedness, confusion as giving way to exactness, concreteness supported by factual material.

#### Literature:

1. Erin K.Johns Speese (2013) Prose Studies, History, Theory Criticism vol.35
2. Gopen GD, Swan JA. The science of scientific writing. American scientist. 1990 Nov 1;78(6):550-8.
3. Waller, N. G., Yonce, L. J., Grove, W. M., Faust, D., & Lenzenweger, M. F. (2013). *A Paul Meehl reader: Essays on the practice of scientific psychology*. Routledge.
4. Schmidt, F. L., Oh, I. S., & Le, H. (2006). Increasing the accuracy of corrections for range restriction: Implications for selection procedure validities and other research results. *Personnel Psychology*, 59(2), 281-305.
5. Swatridge Colin (2014) The Oxford Guide to Effective Argument and Critical Thinking, Oxford Univ. Press