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ДЕРЖАВНИЙ ВИЩИЙ НАВЧАЛЬНИЙ ЗАКЛАД
«ДОНЕЦЬКИЙ НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ»
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МЕТОДИЧНІ ВКАЗІВКИ З ДИСЦИПЛІНИ «АНГЛІЙСЬКА МОВА» ДЛЯ МАГІСТРІВ (ВСІХ СПЕЦІАЛЬНОСТЕЙ ОЧНОЇ ТА ЗАОЧНОЇ ФОРМИ НАВЧАННЯ)

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Методичні вказівки з дисципліни «Англійська мова» для магістрів (всіх спеціальностей очної та заочної форми навчання) [Електронний ресурс] / укладачі: Т. М. Нікульшина, Т. А. Мараховська, М. В. Борисова. – Електрон. дані. – Горлівка: ДВНЗ «ДонНТУ» АДІ, 2012. – 1 електрон. опт. диск (CD-R); 12 см. – Систем. вимоги: Pentium; 32 MB RAM; WINDOWS 98/2000/NT/XP; MS Word 2000. – Назва з титул. екрану.

Методичний посібник передбачено для магістрів усіх спеціальностей очної та заочної форми навчання. Методичний посібник для магістрів містить систематизоване викладення навчальної дисципліни з урахуванням цільової установки чинної програми з англійської мови в немовних ВНЗах.

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ЗМІСТ

PART 1

UNIT 1 THE PURPOSES OF SCIENCE

PRE-TEXT EXERCISES

I. Memorize the pronunciation of the following words:

science	наука;
consequently	таким чином;
phenomenon	явище, феномен;
circumstances	обставини;
myriad	безліч;
celestial	космічний, небесний;
data	факти, дані;
knowledge	знання;
horizon	горизонт;
civilization	цивілізація.

II. How do you understand the notion «an international word»? Illustrate your explanation with examples from the text.

III. Pay attention to «pseudo friends of a translator»:
confusion, intelligence.

IV. Give all meanings of the following words you know:
right, body, present.

V. Explain the difference between the verbs «to solve» and «to decide». Illustrate your explanation with examples.

VI. Read and translate the text.

THE PURPOSES OF SCIENCE

We may ask what we have a right to expect of science in its relation to our natural world. We shall list two general purposes that it may be said to have.

The fundamental aim of science is to describe the facts of nature and natural events and not, as is so commonly thought, to «explain things». Confusion on this point has probably been the cause of the so-called conflict between science and religion.

The basis of science is the belief that natural events have natural causes. Consequently, when science looks for the cause of any given natural phenomenon, it is simply looking for a set of circumstances which gave rise to the event, circumstances which themselves grew out of a still earlier set of conditions. It makes this search by observing facts, by organizing these facts. It does not attempt

to say why the chain of events originated.

For example, it is within the province of science to build a picture of the universe with its myriad celestial bodies, a picture or theory which to be satisfactory must agree with all of the observed facts about the motions, positions, and other attributes of these bodies. It is not a part of the business of science to say why a sequence of occurrences was begun which led to the present astronomical organization. Such a problem involves factors which do not lend themselves to the collection of experimental data.

A secondary purpose of science is the formulation, on the basis of experimental facts, of principles and theories which are generalizations and which will lead to new studies and increased knowledge.

There would seem to be no need to fear that we will soon have solved all the problems and made known the entire unknown. In fact the reverse is much more probable since every new discovery seems to widen the horizon and increase the extent of our contact with unexplored areas.

There can be little doubt that man's technical intelligence rating is very high; whether he is also smart enough to benefit permanently from these advances or so stupid that he will let them destroy his civilization will probably be decided shortly.

TEXT-BASED ASSIGNMENTS

I. Find out scientific terms in the text and fill in the table:

Adjective-terms	Noun-terms	Verb-terms

II. Find in the text words with negative connotation.

III. Give contextual synonyms for the following words:

aim, reason, to create, to start, to cause, to include, to enlarge, clever, to ruin.

IV. Choose antonyms:

A: to ask, natural, to destroy, to disagree, known, to decrease, smart, out-of-date

B: artificial, to increase, new, unknown, to build, stupid, to answer, to agree.

V. Find out English and Ukrainian equivalents:

1. Science	a) дані
2. To solve	b) знання
3. Knowledge	c) явище
4. Discovery	d) наблюдати
5. Aim	e) відкриття

6. Intelligence	f) пояснювати
7. Data	g) наука
8. To observe	h) ум
9. Explain	i) вирішувати
10. Phenomenon	j) мета

VI. Translate the following word-combinations with a key word *«science»:* the purpose of science, to expect of science, the fundamental aim of science, the so-called conflict between science and religion, the basis of science, within the province of science, to be not a part of the business of science, a secondary purpose of science.

VII. Translate the following word-combinations into Ukrainian:

головна мета науки, зображувати та пояснювати природні явища, картина всесвіту, так званий конфлікт, набір експериментальних даних, вирішувати всі проблеми, бути достатньо розумним.

VIII. Choose the correct definition:

1. A useful thing or idea is produced by scientists for the first time.	a) discovery
2. Knowledge or skill which comes from practice rather than books.	b) problem
3. A trial or a test which is made usually by scientists to learn something or to prove a scientific idea.	c) invention
4. Finding something which existed before but was not known to people. It is often a place or a scientific fact.	d) experiment
5. A difficulty that needs attention or thought.	e) experience

IX. Ask questions of your own on the text.

X. Make up sentences according to the pattern:

Pattern: It is *important* (1) *to know* (2) *how theories grow* (3).

(1)	**(2)**	**(3)**
Interesting	to understand	the purpose of science
necessary	to study	the fundamental aim of science
essential	to find out	the basis of science
desirable	to consider	a secondary purpose of science
advisable		

XI. Give arguments for the following statements:

1. The fundamental aim of science is to describe the facts of nature and natural facts.

2. The basis of science is the belief that natural events have natural causes.

3. A secondary purpose of science is the formulation, on the basis of experimental facts, of principles and theories.

XII. Read the texts and answer the following questions:

What are predictions usually based upon?

Predictions

The basis of a science is its ability to predict. To predict means to tell what will happen in an experiment that has never been done. How can we do that? By assuming that we know what is there, independent of the experiment. We must extrapolate the experiments to a region where they have been done. We must take our concepts and extend them to places where they have not yet been checked. If we do not do that, we have no prediction.

When does a hypothesis become a principle of science?

Pure and applied science

As students of science you are probably sometimes puzzled by the terms «pure» and «applied» science. Are these two totally different activities, having little or no interconnection? Let us begin by examining what is done by each.

Pure science is primarily concerned with the development of theories (or models) establishing relationships between the phenomena of the universe. When sufficiently validated these theories (hypothesis, models) become the working laws or principles of science. In carrying out this work, the pure scientist usually disregards its application to practical affairs, confining his attention to explanations of how and why events occur.

UNIT 2 THE SCIENTIFIC METHOD

PRE-TEXT EXERCISES

I. Memorize the pronunciation of the following words:

knowledge
phenomena
scientific
procedure
emphasis
hypothesis

II. Translate:

a) international words:

result, method, procedure, emphasis, problem, analysis, experiment, modification, theory, fact, reputation;

b) word-combinations:

natural phenomenon, collection of experimental facts, the result of experiment, experimental facts, emotional reaction.

III. Give all meanings of the following words you know:

performance, test, light, rank, to adopt.

IV. Read and translate the text.

THE SCIENTIFIC METHOD

As man's knowledge of natural phenomena increased, there came a time when he recognized that his growing knowledge of nature was the result of his application of a particular method of investigation. This rather well defined procedure has come to be known as the Scientific Method. Consequently the emphasis passed from the knowledge itself to the method by which that knowledge was obtained. Let us explore the possibilities and implications of the scientific method. The steps in the procedure may be listed as follows:

First – The recognition of the problem.

Second – Collection of experimental facts or data.

Third – Analysis of data and setting up of a tentative hypothesis.

Fourth – Performance of test experiments.

Fifth – Substantiation, modification, or abandonment of the hypothesis in the light of the results of the test experiments.

If the hypothesis is discarded as the result of the test experiments, a new one will be set up and steps three, four and five will be repeated until an explanation is found which accounts satisfactorily for all the known experimental facts. As the amount of substantiating data becomes larger and larger, the hypothesis advances to the rank of a theory and eventually may be accepted as true.

It should be noted that in general one adopts first the most obvious hypothesis; that is, the one that at the moment seems to offer the simplest explanation of the observed facts. This hypothesis may or may not prove to be satisfactory in the light of later evidence.

In coming to a conclusion about any hypothesis, the true scientist is swayed only by experimental evidence. He is not, for instance, governed principally by what he or anyone else wants the results to be, by the reputation of the man who advanced the hypothesis, by what the majority of people think about it, or by any similar emotional reaction to the problem. He will constantly check his conclusions and hypotheses by experiment and he will be guided solely by the results thus obtained.

TEXT-BASED ASSIGNMENTS

I. Define what origin the following words are of:

phenomenon, hypothesis, data.

II. Compile as many words as you can of the letters of the word «scientific».

III. Find out in the text noun terms and translate them.

IV. Give verbs of the following nouns:

knowledge, application, investigation, implications, recognition, collection, performance, modification, abandonment, explanation, conclusion, reaction.

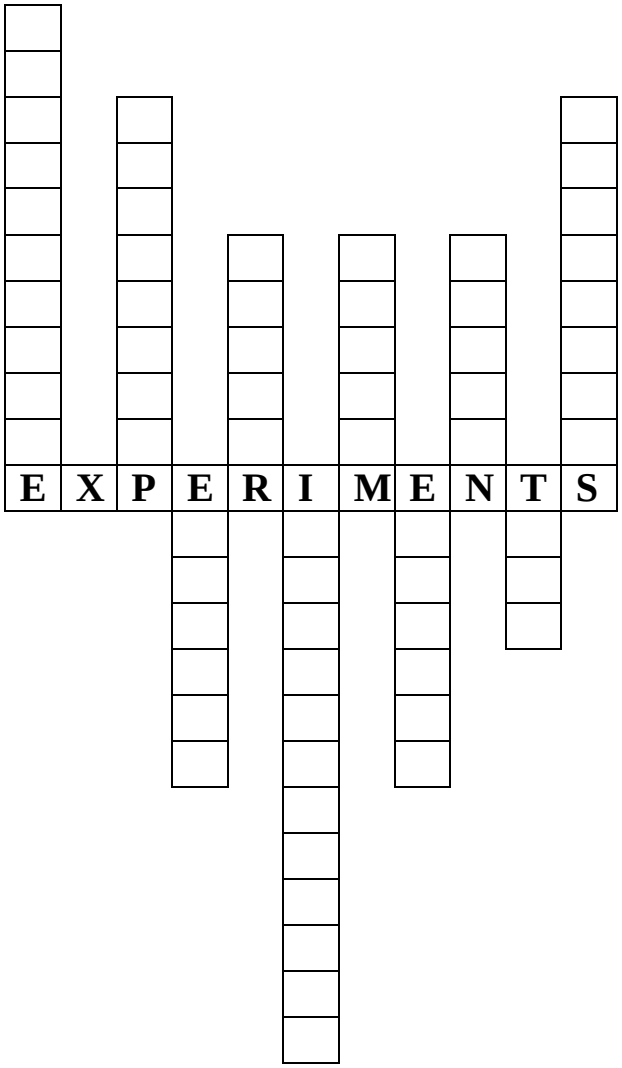
V. Give contextual synonyms for the italicized words:

he *understood*, *to get* results, *to analyze* the possibilities and implications, *stages* in the procedure, *to change* the hypothesis, *to accept* first the most obvious hypothesis, emotional *attitude* to the problem.

VI. Define degrees of comparison of the following words:

larger, the simplest, later.

VII. Solve the crossword.



E – пояснення
X – -------
P – явища
E – досліджувати
R – результат
I – дослідження
M – метод
E – доказ
N – природа
T – тест, спроба
S – вчений

VIII. Find out English and Ukrainian equivalents:

1. Conclusion	a) науковий
2. Explanation	b) очевидний
3. Knowledge	c) кількість
4. Possibility	d) застосування
5. Evidence	e) перевіряти
6. Amount	f) висновок
7. Scientific	g) знання
8. Obvious	h) можливість
9. Application	i) доказ
10. Check	j) пояснення

IX. Find in the text word combinations with key words «*knowledge», «method», «hypothesis»* and translate them.

X. Translate the following word combinations into English: науковий метод, знання природних явищ, застосування конкретного методу, отримувати результати, визначення проблеми, результати експериментів, треба

зазначити, взагалі, запропонувати просте пояснення, справжній вчений, постійно перевіряти висновки, реакція на проблему.

XI. Write true (T) or false (F) for the sentences below according to the information given. If the information is not given, put a question mark (?). Correct the statements if necessary using the phrases of agreement or disagreement:

AGREEMENT	**DISAGREEMENT**
You are quite right.	You are wrong.
I agree with you.	I disagree with you.
Your statement is correct.	Your statement is not correct.
I share your point of view.	I do not share your point of view.

1. In general one adopts first the most obvious hypothesis.
2. Today we say that the law of relatively is supposed to be true at all energies.
3. The hypothesis is always proved.
4. The only way to find out that we are wrong is to find out what our predictions are.
5. As the amount of substantiating data becomes larger and larger, the hypothesis can advance to the rank of a theory.
6. The only step in exploring the possibilities and implications of the scientific method is the performance of test experiments.
7. The true scientist is swayed only by experimental evidence.

XII. Make up sentences according to the pattern:

Example: By means of *this theory* (1) it is possible *to explain* (2) *many things* (3).

(1)	**(2)**	**(3)**
experiment	to investigate	the nature of phenomenon
data	to study	the experiments performed
results	to explain	the existence of unknown elements
hypothesis	to understand	practical application
formula	to interpret	
equation	to realize	

XIII. Answer the following questions using the phrases given below:

As far as I know
As far as I can judge
In my opinion
To my mind
For all I know
It is evident that

1. What is a hypothesis?
2. When does the hypothesis advance to the rank of theory?
3. What is the most obvious hypothesis?
4. Does the most obvious hypothesis always prove to be satisfactorily?
5. What facts is a true scientist governed by?

XIV. Discuss in pairs the problem you work at using the following word combinations: to be complicated, to solve, to formulate, to obtain good results, to succeed (to fail) in solving the problem, to test data experimentally, to publish results, to be obtained by numerous tests, the application of a new method.

XV. Read the text and find sentences which express two viewpoints on the existence of «scientific method».

Scientific method and methods of science

They say that there is no such thing as the so-called «scientific method»; there are only the methods used in science. Nevertheless, it seems clear that there is often a special procedures which is involved in the establishment of the working principles of science. This sequence is as follows: 1) a problem is recognized, and as much information is collected as possible; 2) a solution (i. e. hypothesis) is proposed and the consequences arising out of this solution are deduced; 3) these deductions are tested by experiment, and as a result the hypothesis is accepted, modified or discarded.

XVI. Speak about steps in studying natural phenomena.

XVII. Prepare a report on methods you are going to use while doing your research using the following word-combinations: to achieve the desired results, to analyze data, to be reliable, to be accurate, to predict results, to classify some facts, to come to certain conclusions, to test the validity of a theory with the aid of.

XVIII. Read the text and answer the following questions:
What qualities do we expect to find in a successful scientist?

SCIENTIFIC ATTITUDE

What is the nature of the scientific attitude, the attitude of the man or woman who studies and applies physics, biology or any other science? What are their special methods of thinking and acting? What qualities do we usually expect them possess?

To begin with, we expect a successful scientist to be full of curiosity – he wants to find out how and why the universe works. He usually directs his attention

towards problems which have no satisfactory explanation, and his curiosity makes him look for the underlying relationships even if the data to be analyzed are not apparently interrelated. He is a good observer, accurate, patient and objective. Furthermore, he is not only critical of the work of others, but also of his own, since he knows man to be the least reliable of scientific instruments.

And to conclude, he is to be highly imaginative since he often looks for data which are not only complex, but also incomplete.

XIX. Give a characteristic of a true scientist using the following word-combinations:

not to adopt the first obvious hypothesis, to be swayed only by experimental evidence, to be governed by, to check constantly conclusions and hypothesis, to be guided solely by the obtained results, direct and indirect evidence.

XX. Points for discussion.

1. The steps in the scientific method.
2. Scientific approach to the solution of a problem.
3. What hypothesis may be said to be entirely satisfactory?

UNIT 3 YOUR SCIENTIFIC RESEARCH WORK

1.

Are you a	scientist? (post)graduate student? biologist? geographer? mathematician? specialist in information technology? physicist? chemist? linguist?

I wonder	if whether	you are a

Yes, that's right.
I'm afraid that's wrong.

2. What is your educational background?

I graduated from ... in ...
I have graduated from...

3. Who is your	research advisor? supervisor?

Academician ...
Professor ...
Doctor ...

4. What is the subject / topic of your	research?
What do you mean by ...	investigation?
Explain the term ...	thesis?
	dissertation?

5. Why is your work important?

It reveals some new facts	*about ...*
	indispensable for ...

It deals with the problems that have not been studied before.
It is an insight into ...

6. What is the aim / goal / objective / of your research?

In order to reach my goal I have to ...	*obtain* *show* *verify* *demonstrate* *confirm*

7. What are the	*methods* *procedures* *techniques*	*of you research?*

8. What is the possible application of your work?

Is your work	*theoretical?* *applied?* *both theoretical and applied?* *purely theoretical?* *part of your Institute Research Program?*

9. Have you already obtained any valuable results?

Yes, I have. (…)	
I do hope to obtain (more) promising results	*in the near future.* *soon.*

What do you do with the data you obtain?
Is it difficult to analyze the results?
(How) can you claim that the problem you studied is solved?

10. What (equipment) do you use in your work?

I use sophisticated devices; laboratory equipment.
I don't use any special equipment (devices).

Do you use a computer?
What for?

I use a computer to store and to process the necessary data.

What software do you use?

11. Have you got any publications on the subject you study?

I have already published	*several* *a number of*	*articles.* *papers.*

Not yet.

12. Did you take part in any scientific conference?

Where?
When?

13. Do you carry out research individually or in a team?

I work in a team.
I do independent research. / I work independently.

14. What (scientific) journals do you read?

What do you like to read?

I am fond of…
I prefer…to…

15. Are you interested in…?

Is this problem	interesting?
	of interest?
	important?
	of importance?
	of significance?

16. What part of your dissertation have you already completed?

PART 2

UNIT 1 ACADEMIC WRITING IN ENGLISH

PRE-TEXT EXERCISES

I. Memorize the pronunciation of the following words:

footnote	зноска, примітка;
disruptive	розірваний;
editorial style	видавничій, редакційний;
legwork	чорнова робота;
ponderous	важкий, важковаговий;
to strive	добиватися, старатися, боротися;
to clog	забруднювати, забивати;
to impede	перешкоджати, затримувати;
to defy	викликати (на спір, на боротьбу), не піддаватися;
precision	точність, чіткість;
supposition	припущення;
malady	хвороба;
accomplish	здійснювати, виконувати;
outrageously	надзвичайно, обурливо;
equation	рівняння;
to afflict	засмучувати, приносити страждання.

II. Read and translate the international words:

manuscript, citation, ingredients, organization, abstract, journal, iceberg, result, imitation, syndrome, jargon.

III. Give all meanings of the following words you know:

a manuscript, a paper, an ingredient.

IV. Read and translate the text.

ACADEMIC WRITING IN ENGLISH

1. Students must learn how to write, because science demands written expression. The goal of scientific research is publication. The scientist must not only «do» science, he must «write» science. A poorly prepared manuscript is, almost without fail, the carrier vehicle of poor science. Scientists become known (or remain unknown), by their publications.

A scientific paper is primarily an exercise in organization, with distinctive and clearly evident component parts. Good organization is the key to good writing. If the ingredients are properly organized, the paper will virtually write itself. Footnotes are disruptive to readers, making papers more difficult to read quickly with comprehension. Avoidance of footnotes is encouraged for most kinds of writing,

and it is strongly encouraged for the writing of scientific papers.

Pay particular attention to those aspects of editorial style which tend to vary widely from journal to journal, such as the style of literature citation. In addition to organization, the second principal ingredient of a scientific paper should be appropriate language within that organization.

The best English is that which gives the sense in the fewest short words. What is a good title? The title should be the fewest possible words that adequately describe the content of the paper. An improperly titled paper may be virtually lost and never reach the audience for which it was intended. An overly long title is often less meaningful than a short title. In scientific writing generally, and especially in titles, a good rule is: use the specific word, the familiar word, the short word. The title of a paper is a «label», it is not a sentence, and the order of the words becomes very important.

Talk on paper; shortening your sentences is the easiest way to improve your style. The occasional 4–6 word sentence is the mark of future success. Use short words; long words are a curtain that prevents people from understanding each other. The professional does his work on the «iceberg principle»: he collects masses of data and after he's done his legwork he produces his article letting you see one-ninth of the stuff he's got. The result is a piece of writing that's solid, because the writer knows eight times more than he's telling us.

2. Abstract nouns are almost always longer than their corresponding verbs; both their length and their abstract quality contribute to the ponderous effect for which you are probably striving in imitation of your British and American models. Any narrative written in abstract nouns is clogged with words like «of». Many of them disappear when the abstract nouns are replaced by corresponding verbs. Learn to suspect that inside every abstract noun there is an active verb struggling to be let out. Phrases like «adult sheep muscle protein iron» impede understanding and may even defy it. Break up these clusters by inserting verbs and prepositions: «protein iron found in the muscle tissue of adult sheep». Look with suspicion at strings of three or more nouns and separate the cluster to give increased precision as well as clarity.

If you want to write effective prose, search for simplest, most direct way to express your thoughts. Be brave and say «It is most often found in the heart», not «The most frequent among its localizations is the cardiac one». Beware of hedging over uncertainties or suppositions: «It may seem reasonable to suggest that necrotic effects may possibly be due to involvement of some toxin-like substances» contains eight degrees of uncertainty and only means «Necrosis may be due to toxins». And do not suddenly hedge or hesitate after a positive phrase.

In any type of writing, the active voice is usually more precise and less wordy than the passive voice. The use of «we» by a single author is outrageously pedantic. One of the most frequent errors committed in scientific papers is the use of plural forms of verbs when the singular forms would be correct: you should say «10 g was added».

Another frequent problem in scientific writing is the verbosity that results from use of abstract nouns. This malady is corrected by turning the nouns into verbs: «Examination of the patients was carried out» should be changed to «The patients were examined»; «separation of the compounds was accomplished» can be changed to «the compounds were separated»; «transformation of the equations was achieved» can be changed to «the equations were transformed». The favorite type of verbosity that afflicts authors is **jargon;** this syndrome is characterized, in extreme cases, by the total omission of one-syllable words.

Jargon	**Preferred Usage**
a majority of	most
a number of	many
at the present time	now
by means of	by
relative to	about
in case	if
in terms of	about
in order to	to
completely full	full
despite the fact that	although

TEXT-BASED ASSIGNMENTS

I. Give verbs of the following nouns: expression, publication, organization, comprehension, avoidance, involvement, imitation, omission.

II. Choose synonyms for the following words:

1) aim	a) to let out
2) components	b) comprehension
3) understanding	c) title
4) to compose	d) material
5) name	e) to improve
6) to make better	f) ingredients
7) small group	g) to replace
8) to change	h) accuracy
9) to release	i) to organize
10) stuff	j) to impede
11) to prevent	k) cluster
12) malady	l) defect
13) precision	m) goal

III. Find out English and Ukrainian equivalents:

avoidance of footnotes, abstract nouns, to intend, the content of the paper, hedge, the singular forms, more precise, outrageously pedantic, afflict.

IV. Translate the following word-combinations into Ukrainian:

written expression, the goal of scientific research is publication, the carrier vehicle of poor science, properly organized, to read quickly with comprehension, avoidance of footnotes, to tend to vary, literature citation, appropriate language, the fewest short words, the content of the paper, an improperly titled paper, the familiar word, the order of the words, to prevent from, to collect masses of data, to be clogged with, errors committed in scientific papers.

V. Translate the following word-combinations into English:

чітко виокремлені частини, змінюватися від журналу до журналу, цитування, на додаток до організації, мінімальна кількість слів, змальовувати зміст статті; аудиторія, до якої звертались; знайомі слова, покращити стиль, замінити відповідним дієсловом, сумніви та припущення; помилки, що їх припускаються у наукових статтях.

VI. Say whether it is false or true:

- Science demands only oral expression and practical experiments.
- Avoidance of footnotes is encouraged for the writing of scientific papers.
- The best English is that which gives the sense in the longest words.
- An overly long title is always meaningful than a short title.
- The good rule in scientific writing is use the unknown word, the long word.
- Shortening your sentences is the best way to improve your style.
- Abstract nouns are always shorter than their corresponding verbs.
- In any type of writing, the active voice is usually more precise and less wordy than the passive voice.
- The favorite type of verbosity is jargon.

VII. Correct the table.

Try to avoid	Try to use
• Footnotes • The active voice • The long words • The long title • The use of «we» for a single author • 4–6 word sentences • «10 g was added» • Verbs instead abstract nouns	• The passive voice • A short title • The use of «I» for a single author • Short words • «10 g were added» • Abstract nouns • Uncertainties/ suppositions • Positive phrases

VIII. Choose the right variant. Escape jargons.

1. (A number of, many) conceptions of a climate agreement appear unable to meet these criteria.

2. Vast time is needed (in order to, to) produce such diverse creatures as penguins and ostriches.

3. Geologists remained unaware of the town's (full, completely full) potential for volcanic crisis until 1960.

4. Harvard University biologist Stephen Gould's theory of evolution has created (a number of, many) followers.

5. Break up these clusters (by means of, by) inserting verbs and prepositions.

6. (At present time, now) we can move on to more current issues.

7. (If, in case) it is feasible to make Mars habitable, the motivation to do so may depend on the potential for life on Mars.

8. Sometimes theories (relative to, about) different aspects of physics may not differ much in their mathematical structure.

IX. Answer the questions:

1. Why must students learn how to write scientific papers?
2. What is a good title?
3. What kind of words can be used in scientific papers?
4. What principle does the professional do his work on?
5. How can the professional avoid abstract nouns?
6. What is better variant: using uncertainties and suppositions or using a positive phrase?
7. What voice is more precise and less wordy?
8. What pronoun is outrageously pedantic for a single author?
9. Is the variant «10g was added» wrong?
10. What is the main reason of jargon?

X. Translate the following sentences:

1. Чітка організація статті дозволяє читачеві легко зрозуміти її зміст.
2. Автор наукової статті повинен уникати великої кількості зносок.
3. Речення у науковій статті повинні складатися з декількох (4–6) нескладних слів.
4. Намагайтеся використовувати у назві наукової статті знайомі короткі слова.
5. Щоб уникнути надмірно частого вживання «of», авторові слід замінювати абстрактні іменники на відповідні дієслова, розривати подібні зрощення за допомогою дієслів та прийменників.
6. Не бійтесь використовувати стверджувальні фрази.
7. Намагайтесь уникати пасивного стану, оскільки він дуже багатослівний.
8. Використовуйте «я» замість «ми», оскільки вживання «ми» одним автором занадто педантично.
9. Одна з частих помилок автора – використання жаргону, який є наслідком багатослів'я.

XI. Retell the 1st part of the text according to the plan:

1. What kind of expressions does science demand?
2. What is the main goal of scientific research?
3. What notes make papers more difficult to read quickly with comprehension?
4. What is a good title?
5. What is an improperly titled paper?
6. What kind of words can the professional use for the title?
7. What sentences must be used to improve your style?
8. What is the «iceberg principle»?

XII. Prepare a report on the 2nd part of the text according to the plan:

1. Have abstract nouns their corresponding verbs?
2. What is the main problem of using the narrative written in abstract nouns?
3. How can the professional escape the clusters with several «of»?
4. Do you need hedge or hesitate after a positive phrase?
5. What voice is more precise and less wordy?
6. Why is not correct the use of «we» by a single author?
7. What is the correct variant: «10g was added» or «10g were added»?
8. What is a jargon?
9. What jargons do you know?

UNIT 2 SOME STYLISTIC HINTS

Read and translate the article till the list of the phrases which escape word for word translation into English.

Кращий спосіб написати наукову статтю англійською – це не перекладати її, а переказати її зміст англійською мовою просто і ясно, використовуючи вирази, що вам добре відомі. Російська та англійська мови влаштовані по-різному. Крім того, що в англійській мові існує чіткий порядок слів і майже відсутнє граматичне узгодження, її відрізняє ще цілий ряд властивостей, наприклад, вона більш активна й погано переносить віддієслівні іменники й малозмістовні звороти типу «з'являється можливість розгляду». Тому при послівному перекладі з російської на англійську виходить важковаговий текст що, по суті, не читається, крім того, можуть виникнути серйозні значеннєві помилки. Щоб уникнути цього, можна використовувати наступні прийоми.

1. Заміняти віддієслівні іменники дієслівними формами.

2. Не вживати фрази типу «доцільність перебування шляхів рішення задач».

3. Розбивати довгі пропозиції на більш прості.

4. Уникати складних речень із узгоджуваними словами which, whose, that, а з'єднувати речення за допомогою слів when, where, then, but, and; порівн. *Будь-яка група G, що містить вільний прямий доданок F, епіморфно відбивається на циклічну групу vs. Suppose the group G possesses a free direct summand F, then there exists an epimorphism of G onto a cyclic group.*

Одним з найбільш серйозних недоліків у перекладах з російської на англійську виступає часте вживання прийменника ***of***. Для боротьби з ним можливі наступні способи:

1. Уживати іменники атрибутивно, порівн. a group of transformations vs. a transformation group.

2. Уживати герундій чи інфінітив замість віддієслівного іменника, порівн. *Скористаємося (1.2) для побудови групи перетворень простору X vs. Let us use (1.2) for constructing / to construct the transformation group of X.*

3. Заміняти прийменник ***of,*** де це можливо, на інший, більш вузький за значенням, наприклад, ***for***, порівн. *equations of shallow waves vs. equations for shallow waves.*

4. Використовувати посесивну конструкцію, порівн. *roots of equations vs equations' roots.*

Ще одним істотним розходженням у стані англійської та російської мови є заперечення; досить згадати, що в російському реченні часті конструкції з подвійним запереченням, тоді як в англійській мові вони заборонені граматичними правилами, порівн. *Я ніколи там не був vs. I have never been there.* Нижче приводяться характерні російські вирази, що містять заперечення й не допускають послівного перекладу англійською мовою.

1) не бути виявленим – to escape detection;
2) не становити проблеми – to be straightforward;
3) не виходити за межі – to stay within, to be contained within the confines of P;
4) не вселяти довіри – to be suspect;
5) не допускати P – to keep P out, keep Q free of P;
6) не мати собі рівних – to be second to none;
7) не відставати від – to keep pace with;
8) не знаходитися в експлуатації – to be out of commission;
9) не приносити шкоди – to do no harm;
10) не дозволяти домогтися великого поліпшення – to leave less room for improvement;
11) не перевищувати – to be less than;
12) не дозволяти зробити висновок – to be inconclusive;
13) не надавати значення – to overlook;
14) не приймати всерйоз – to take lightly;
15) не погоджуватися – to take issue with;
16) не містити – to be free of;
17) не бути – to be other than;
18) не уступати (за якістю) – to be as good as;
19) не вимагати пояснення – to be self-explanatory;
20) не вимагати роз'яснення – to require little comment;
21) не одержати відповіді – to be unanswered;
22) не викликати змін у P – to leave P unaltered;
23) не мати собі рівних – to be unrivalled / unparalleled, have no equal;
24) не піддаватися впливу – to be immune to an attack / influence;
25) не брати до уваги – to be discounted / disregarded.

EXERCISES

I. Translate into English:

a) software (n) (computer program)
– computer software;
– a software market;
– a software package;
– a software generation;
– a software application;
– a software simulation;
– a software designer;
– a software developer;
b) hardware (n) = hard drive (computer equipment, computer unit);
– hardware conversion;
– hardware solutions.

II. Translate the sentences into Ukrainian;

1. Multimedia computer software is found in various formats.
2. Educational games software constitutes a large segment of today's multimedia software market.
3. The life conversion process is simplified by using the same generation of software.
4. Multimedia technology has just reached the point where it can meet software developer's dreams.
5. A team of computer scientist has developed a software package for genetic research (entied «Encyclopedia of mouse genome»).
6. The most common problems are conflicts with other software on user's systems.

III. Transform word-combinations according to the model:

e.g. The arrangement of data – The data arrangement.
The value of book – The book's value.

1. Networks of computers.
2. The sciences program of the museum.
3. Magnetic field lines of the Earth.
4. The body of a person.
5. The theory of Einstein.

IV. Choose the correct translation:

A

1. The data systems;
2. The team efforts;
3. The US Economy Research Council;
4. A data storage device;
5. Electronic fabrication process;
6. The most logical explanation for lower prices of multimedia systems.

B

a) причини (такого) ступеня успіху й поразки;
b) системи даних;
c) процеси виробництва електроніки;
d) рада економічних досліджень США;
e) найлогічніші пояснення низьких цін мультімедійних систем;
f) пристрій зберігання даних;
g) зусилля команди.

V. Translate the sentences in written form.

1. The multimedia technology can be tapped to develop powerful, easy-touse business, home and personal-productivy software applications.
2. While we can expect large vocabulory recognition systems and reasonable quality text-speech system, we cannot expect text-understanding or high-quality

machine translation in the foreseeable future.

3. If you are transferring DOS files to a Macintosh, the transfer program must guess at the type based on the file's name extension.

VI. Translate the following sentences. Transform the italicized word-combinations if it is possible.

1. Scientists in other fields also may gain new inspiration from *liquid crystal experiments.*

2. *Von Neumann's extensive knowledge* of the subject enables him to bring new and interesting ideas into every aspect of his work.

3. In order to give the reader a better idea into the solutions offered in this book, we begin with *a brief historical overview of dictionary making.*

4. *More powerful microprocessor technologies* are the key to *multimedia's future.*

5. The argument is based on *theoretical considerations of a rather doubtful kind.*

6. *The proposed algorithm for answering the membership question* is guarantied to lead to an answer in a finite amount of time.

7. The last decade has witnessed an international explosion in *the study of semiconductor structures.*

8. He is one of *the new generation of leading-edge designers blending multimedia- and virtual-reality technologies* to generate 21st-century building plants.

9. *Category theory* provides a very abstract and universal perspective on the foundations of set theory and algebra.

10. *Game theory*, a theory of rational decision making, was first developed by Von Neumann.

11. At first, the team suspected a problem with *the study's methodology.*

12. He described *his group's findings* at a meeting of the American Physical Society.

13. *Multimedia computer softwear* is found in various formats.

14. A scientific paper is a written and published report describing *original research results*.

15. *Computer climate models* estimate that *greenhouse gases* should cause the oceans to warm by about 0.005 C per year.

16. *The team of programmers* uncovered a handful of errors; none of the errors proved serious enough to delay *an emergency reactor shutdown (вимикання).*

17. A major event of *post-World War II American lexicography* was the storm of criticism that greeted *the publication of the Webster III.*

18. Spells out probable winners and losers in *the health care issue.*

19. *The book's approach* is consistent with both its point of departure and its

aims, as started in advance; its style is lucid (clear, easily understood) and its argumentation compelling.

20. The analysis leaves many questions open, but it serves to provide a *unified explanation for this notion.*

VII. Translate the following sentences into English:

1. Поява ознак руйнування не була виявлена спеціалістами.
2. Ми намагаємося не виходити за межі досліджуваного аспекту теми.
3. Такий підхід до проблеми не викликає довіри до результатів дослідження.
4. Складання списків символів не складає ніяких труднощів.
5. Ми намагаємося не припускати жодної помилки під час обчислення.
6. Як спеціаліст він не має собі рівних у даній сфері.
7. Обладнання нашої лабораторії не відстає по технічних показниках від західних аналогів.
8. Даний апарат не перебував у експлуатації вже декілька років.
9. Ми маємо сумніви, що подібні агрегати не зашкодять оточуючому середовищу.
10. Старе лабораторне обладнання не дозволило досягти значного покращення пошуків нового продукту в дослідженнях.
11. Коефіцієнт забруднення не перевищував норму.
12. Недостатня кількість дослідів не дозволяє нам зробити висновки щодо властивостей даного продукту.
13. Досить важко не подавати значення існуючим протипоказанням.
14. Не зважати на зауваження, зроблені керівником, надзвичайно легковажно.
15. Не погоджуватися з гіпотезою даного вченого це ваше право.
16. Відгук керівника не містив негативних оцінок.
17. Вітчизняний аналог вимірювального приладу не поступається якістю зарубіжним.
18. Дане поняття широко відоме й не вимагає пояснення.
19. Його гіпотеза була настільки гарно викладена, що додаткового пояснення не знадобилося.
20. Прочитавши дану статтю, ми не отримали відповіді на деякі питання.
21. Зміна температурних умов не повинна викликати змін у приладі.
22. Довгий час створений матеріал не мав собі рівних.
23. Дуже важко не піддаватися впливу загальноприйнятих теорій.
24. Попередні дані не були взяті до уваги при складанні нових таблиць.

VIII. Translate the following sentences and make up your own ones with the italicized phrases.

1. The sentence that comps *do no harm* on human health is suspect.
2. I consider that the application of these models will *leave less room for*

improvement in the performance of the staff.

3. The number of foreign share-holders will *be less than* the number of home ones.

4. The new equipment *has been out of commission* for several months.

5. All this data *is inconclusive*.

6. This old result is *frequently overlooked* in recent publications.

7. You should *take lightly* their promises.

8. He *takes issue with* the principle behind Murphy's Law, which states that if anything can go wrong, if will and which is examined by experimenting with falling buttered toast.

UNIT 3 TEXT ORGANIZATION

I. Examine the structure of the article and try to write down your own paper.

A. The structure of the article

1.General remarks: setting a goal: see *an aim, goal, objective, purpose, subject, task, an article, book, paper, section, volume; to aim, attempt, concentrate on, devote, intend; to examine, inquire, present, show, study, treat,* etc.;

•The ...chief / general ...central / key / ultimate ...main / particular ...major / primary	...aim... ...goal... ...purpose... ...task ...of this paper / study is to investigate / establish P.
• The present paper / investigation	...goes (inquires) into / focuses on / deals with P. ...is devoted to the questions (problems / issues) of P. ...undertakes to survey / identify the structure of P. ...considers what factors/ processes influence P.
• In this article / section	...I aim to determine / I attempt to explain the mechanisms of P. ...I am intended to give / show / develop / provide / record P. ...I examine the nature / characteristics / features / functions of P. ...I (will) concentrate on / argue that / review P. ...I want / wish to turn to examples / instances of P.

• I have two goals in mind in writing this book. In writing this paper, I had three goals in mind.

2.Summary lead: crucial information first: see *to argue, compare, demonstrate, explain, describe, discuss, oppose, outline, picture, portray, posit, propose, specify, tackle, turn to, suggest,* etc.;

The structure of the article is as follows. The first section reviews / describes / clarifies / outlines / sketches P. Section 2 portrays / dwells on / enlarges upon /

shows that Q. Section 3 argues that P. The final section proposes / summarizes / spells out in (more) detail R.

In this article I review / debate the problems (and advantages) of P, and argue that Q. I claim / demonstrate / suggest that (insufficient attention has been paid to) Q. In particular, it will be shown that R.

In this paper, I attempt to clarify the relation of P and Q. To do so, I first present R. I then attempt to show that P. In conclusion, S is considered.

This paper presents a new (complex / algorithmic / structural) approach to the study of P. The empirical results are described in section 1. In section 2, I will address / discuss / characterize / comment on / specify / tackle Q. Section 3 turns to P / presents theoretical results. Section 4 concludes with a discussion of implications / consequences of R.

This paper proposes a new methodological framework within which P can be studied. After analyzing the data, it is concluded that Q. The results of the study are evaluated and assessed in the light of the problems of Q. Additionally, R is examined.

3. Materials and methods: see *to adopt, apply, develop, offer, provide, rely on, try, work out, use; an approach, framework, method, methodology, model, paradigm, perspective; to aid, allow, help, an analysis, inquiry, investigation, research, study; etc.;*

•In our study	...we have adopted / applied an innovative approach to testing / modeling P.
	...we develop / offer / provide / rely on / try / work out / use a method of P.
	...P is dealt with / analyzed within a functional framework / paradigm / perspective.
• Our analysis / investigation	...is based on evidence / calculations / estimates of P.
	...capitalizes on / proceeds on the idea / findings of P.
	...rests on / focuses on / involves observations of P.
• This method / approach	...enables predictions of/ allows decisions on P.
This framework	...helps to investigate / display / elucidate / illuminate P.
	...offers a clear / practical way to implement P.
	...serves for / aids in organizing the knowledge about P.
	...combines functional with formal explanation.

B. Compositional formulas

Transitions: Cross-reference, interlinks between sections / points; organizing the exposition: see *to start, begin, come to, continue, move on, end, finish; first, further, finally, after, before, already, here, now, above, below, just, in the course of; in the remainder; appropriate, convenient, desirable, essential, helpful, informative, instructive, natural, pertinent, proper, reasonable, safe, suitable, to address, claim, expound, meditate, reflect on, scrutinize, speculate on, take up, etc.;*

• Our purpose	...here	...is to improve our knowledge of P.
		...is to help scientists to prepare manuscripts.
We aim	...here	...to determine whether P differs from Q.
I shall concentrate	...here	...on exploring P.
My concern	...here	...is with P.

• I /' We (shall) ...start / begin / continue / end / finish / close with / by P.

TEXT COMMENTS

Self-reference

• Here	...I / we attempt to show that P.
	...I would like to offer (a different perspective) on P.
Now	...I shall argue that P / I shall return to the matter of P.
At present	...I am going / intended / want to discuss / review / sketch P.
At this point	...it will be useful to introduce some terminology.
Further	...I take an investigation into the details of P.
For the present	...we must develop further the proposal that P.
For our present purposes	...I shall simply use P for Q.
Below / In what follows	...I shall establish the difference between P and Q.
I have referred to P	...briefly above / have already given instances of P.
In this section	...I want to turn to examples of Q.
As I have already done P.	...now I want to discuss Q.
Thus far	...I have been attempting to present P; we now turn to Q.
I have not so far	...discussed P.
Another matter	...that I have not touched on so far in dealing with P is Q.
The properties of P	...that I have just introduced will be further discussed in this paper within the context of Q.
Such rules are divided up	...into P and Q; the latter I shall present in the analysis below / in the next section.

A question I would like to address at this point ...is whether P.
Because I am concentrating on P ...I shall only give Q.

• I ...use this term as a cover term for various phenomena that involve P.
...portray this state of affairs using the illustration of P / have no explanation for P.
...would like to propose P / would not like to sound categorical.
...do not object to this approach / do not intend to convey that P.
...believe that there are problems with this view.
...find this account inappropriate / am not in a position to speak about P. On the whole / In detail,
...I maintain / hope / suggest / conclude that P.

Indirect reference/comments

• This article analyzes P, ...accounting for its properties.
The analysis rests on ...the observation that there are similarities between P and Q.
Here it is argued ...that there are similarities also between P and Q.
Here a view of P is assumed ...that is based on the work of F.
Here it will suffice ...to characterize P. Here it is proposed that P.
In order to examine P ...it is essential to have a clear view of Q.
Of particular interest is ...the fact that P. The question arises as to the nature of R.
There may (will) be ...some significant relationship between P and Q.
The view outlined above ...raises some questions as to the nature of P.
One added complexity ...presents itself, P.
Two factors ...appear to be at work in determining P.
An immediate problem ...with the view developed thus far is that P.
One reason for ...rejecting the idea that P comes from the fact that Q.
• This fact can be accounted for ...by adopting F's constraints against Q.
These constraints ...appear to consist of PP.
This ...is supported by the fact that P.
This analysis accounts neatly ...for the (surprising) fact that P.
With respect to (the nature of) P, ...it is interesting to note that Q/ it is unlike that Q
Hence / Thus, ...it is clear that R.

Cooperating

• Let us ...first consider the data / ask (address) the question whether P.
...suppose that P / analyze the case involving P / apply this rule to P.

Let me try ...to present a slightly different picture.
As soon as ...we deal with cases involving P we are confronted with Q.
We can follow ...F in assuming that P.
When we consider P, ...we find that Q.
• A second problem for the view that P ...is found when we examine Q.
One difference between P and Q is that R;...we can explain this difference.
In order to explain this difference we look ...at the analysis proposed by F.
The relevant data are shown in [NN], ...where we see that P.
This leads us on to consider what ...will help us to account for P.
Now, with this view of P, ...we posit that Q.
Given this notion of P, ...we can explain the lack of Q.
Another question arises, P; ...to answer this question, we will first turn to Q.
Earlier ...we have posited the existence of P.
In this section ...we have seen that this restriction follows from P.
However, ...we have not yet argued that P.
• Now ...we are faced with the problem of (defining) P.
We ...must now consider the nature of P / will now compare P and Q.
We ...put aside for now the question of P.
Here ...we shall group together PP.
We (thus) need ...to consider only P / some other way of distinguishing P from Q.
We can ...now reconstruct P/ advance the hypothesis that P.
We will ...see below that P/ return to this question below.
...consider each of these items in turn.
• If these observations are correct, as we will assume, ...then Q.
A consequence of this view is that ...we can account for the fact that P.
Thus ...we can posit / infer / predict / conclude that P.

Modalities: suppositions, opinions, proposals, caution, inferences

• There are three ways ...in which the notion of P may be construed.
There may will be ...some significant relationship between P and Q.
...may be discovered to be equivalent to Q / may be said to belong to Q.
...might already exist in the form of Q / could be extended to take account of Q.
...should not be confused with Q / is difficult to study, as it is unpredictable.

• The outcome of such investigations ...should have a bearing on P.
Special stress ...should be laid on P.
A word should be said ...about Q.
Perhaps the best way to come at the issue ...is by asking the question of P.
Three factors appear to be at work ...in determining P.
Two remarks ...are in order / would be appropriate her
This discussion has demonstrated that ...one cannot simply say: P.
The question must be asked ...as to what P is intended to represent.
Such analysis / idea / view must be rejected ...in favor of P.
We must take care not to misinterpret ...the difficulty of P.
In cases of P ...a detailed investigation of Q is needed.
One thus needs ...a theory about P.
A lot more investigation of P ...needs to be undertaken / carried out.
These aspects ...need further investigation.
This should receive the attention ...it deserves.
P is not Q. So / That is why / Therefore ...we should / cannot do P.
From Table 1 / the figures / data / results / information it ...can / may be concluded / shown / estimated / calculated / inferred that P

Dropping the subject / prospecting

• We ...need not discuss this issue here/ will not undertake such an analysis here.
P ...cannot be discussed / pursued here/ can be excluded for my purposes.
...is too vast to be even outlined here / is redundant here. The study of P / An investigation into P / This ...is (goes / would go) beyond our present scope / the scope of this article.
• Because of the limit of this paper, ...I shall not deal with this problem.
Here ...I can deal with P only.
For the purposes of this review, ...it would not be productive to pursue this question further.
It would take too long ...to present here even a small number of arguments against this hypothesis.
• For further purposes of the present article ...P will not be questioned.
It is not my purpose / It is not the purpose of this article ...to delve into P.
It is beyond the scope of this paper to develop these matters ...further.
Because I am concentrating on P I shall only ..give Q.
These issues cannot be discussed ...in sufficient detail here.
These perspectives are going beyond the subject matter ...of the article.
There is no need to repeat here ...the details of P.
• I ...shall not follow through the consequences of P ...in this article.

...cannot give an answer to this question ...here. '
...have insufficient material to give an answer ...to this problem (here).
Rather than (doing) P ...I propose Q.
Such an analysis ...must be rejected in favor of P.
These aspects ...need further investigation.
In these cases ...a detailed investigation of Q is needed.
That would be a story ...for another day.
For these reasons, consideration of ...other sorts of approach will have to be left for further investigation.

Extending the exposition (Human realia; Education; Computers): ***see*** *an advocate, associate, coworker, author, expert, historian, investigator, researcher, scholar, scientist, specialist, theorist, editor, individual, reader, critic, reviewer; scientific community, conference, workshop, expedition; culture /ral, society; education, educator, student, course, lecture, textbook, university; a computer, machine, network, program; hardware, software, input, menu, multimedia,* etc.;

Advocates of evolutionary ethics	...claim to provide an explanation of P. F and his *associates / coworkers* ...have developed P.
The *authors* of [NN]	...trace the roots of / examine / focus on / deal with P.
Many *experts*	...vigorously debate the issue / say they cannot tell whether the warming trend results from P.
Many *scholars*	...tend to identify the scope of P in a narrow sense.
Some *historians*	...are barely aware of the existence of P.
Investigators	...have found it difficult to control P. ...are closer to unlocking gravitational secrets.
Some *researchers*	...suspect / agree (operate on the assumption) that P. ...challenge this assessment / continue to debate P. ...propose a new way of tackling the problem. ...have found the concentration level to be stable. These researchers ...have uncovered data contradicting this hypothesis. ...have now obtained the evidence / are revealing the details of P. ...have yet to conduct a comparison of P and Q / think that P.

By studying P ... the researchers can design Q.
P happened in 1953, ...when researchers characterized Q.
Scientists in other fields ...believe / maintain/ have discovered that P.
Scientists from Jackson Laboratory ...suggest a link between P and Q.
Scientists who try to envision P ...lack data on Q / seek to test Q.
Scientists who wish to gain Q ...have yet to identify P.
...should confirm these results.
...must make indirect estimates.
Other scientists ...may also reap the benefits of this research.
Every scientist must be ...acutely sensitive to P.
In the 21st century, ...scientists will introduce P.
• The main questions ...that *specialists* now debate are P and Q.
Specialists on P ...last met in Berlin in 1985 / agree on / hope for Q.
...are putting computers to use in a multitude of ways.
Theorists ...postulate / are arguing that P / anticipated that P.
...are still far from making testable predictions.
To solve the problem, ...theorists turned to P.
• Many *critics* ...felt that the theory's descriptivism went too far.
The hypothesis ...was subjected to severe attacks by a large number of critics.
The *editor's* choice ...seems to conform to P.
Economists ...look at the *individual* as the decision-making unit.
• The book's clear discussion of P ...is readily accessible to the general *reader.*
P is a matter of great controversy ...in the scientific *community*.
At the *conference* dedicated to P, ...F spoke about Q.
• This accumulation of nonbiological inheritance we call ...the *culture* of the particular group.
This *society* ...is based on P.
Economics provides an understanding ...of how society functions.
The problem with providing compulsory / elementary / general / higher / professional / secondary / college / university *education*...is that P.
This field has its own theoretical orientation and ...a set of *educational*procedures and methods
Educators ...are alarmed at the literacy situation in P.
This *textbook* ...is suitable for advanced/ basic/ introductory / literacy *courses* in climatology/ logic.
A *University* of California study ...suggests that P.

F is a professor of biophysics ...from the University of California at San Francisco.
There is an increasing interaction ...among scientists, universities and industry.
• The use of *computers* to solve the problem ...is now enabling predictions of P.
...is bringing about improvements in Q.
Modeling this phenomenon ...poses a problem for computer simulations.
Computer experiments / Computer climate models ..estimate / show that P.
Computer networks ...provide an easy way to P.
From the point of view of computer science, ...P.
Computer scientists ...developed a software package for P.
..are working in the opposite direction.
P ...is currently an active area of computer science research.
...can be done with *machine* assistance.
Work in computational vision has shown that parallel analog algorithms ...in *hardware* require circuit designs.
Computer *software* ...evolves / is found in various formats.
The software package NN ...integrates data about P.
This program involves ...complete processing of *input* text.
This parser is designed ...to process ambiguity in its input.
CompuServe provides ...consistent information about the database offerings, including instructions via introductory menus.
Multimedia ...is information presented in a combination of P and Q.
...can exist on platforms P and Q / has reached a critical stage.
...is ideal for scholarly works.
This corporation envisions launching ...an advanced / artificial / communications / computer / data / electronic / global / hard-wired / high-speed / nationwide / wireless *network* to deliver P.
Programs written in this style ...respond to P / convert P into Q / proved difficult to check out.

II. Read and translate.

Self-summary

Summary-lead, **examples:**
• Recent experimental results concerning the surface-related electronic

structure of care-earth solids are presented. Special attention is paid to the occurrence of surface-valence transitions in trivalent or mixed-valent compounds of Sm, Eu, Tm, and Gb that are due to energetically lowering of unoccupied 4f-states caused by reduced atomic coordination at the surface. Similar phenomena are encountered in Ce-systems leading to a decrease of 4f-hybridization in the outermost atomic surface layer. The importance of this phenomenon for the correct interpretation of electron-spectroscopic data of Ce-systems is discussed. Experimental evidence for transitions from a localized to an itinerant behavior of the 4f-states is obtained for CeRh3. *[C.Laubschat. Electron properties and surface effects of care-earth systems// Applied Physics, 1997, N. 65.]*

• GENESYS, a hierarchical tool for exploring future ASIC technology and architecture, is described and employed to project high-performance ASIC power drain and clock frequency, a roadmap for interconnect design, and performance, energy, and area limits. *[Wills, D. Scott, et al. Generic system simulator (GENESYS) for ASIC technology and architecture beyond 2001// Proceedings of the 1996 9th Annual IEEE International ASIC Conference and Exhibit. Rochester, NY, USA].*

Summary-abstract, examples:

• Wide differences in test signals used for analog and digital circuits make a common test for a mixed-signal device difficult. A divide and conquer strategy partitions the circuit into three types of blocks: analog, digital logic and memory. A design for testability structure using boundary scan and analog test bus allows very effective test application. With this design, separate specialized tests are applied to analog and digital parts, as well as to interconnects. While the partitioned architecture provides a reasonable test solution, weakness remains in the test of block interfaces. Research on unified analog-digital tests is recommended. Delay tests and current measurement tests might be possible candidates. *[Agrawal, Vishwani D. Testing in a mixed-signal world// Proceedings of the 1996 9th Annual IEEE International ASIC Conference and Exhibit. Rochester, NY, USA, p. 241].*

• Recently, rr.uch press has been given to DSP implementations in programmable logic, often on the strength of a few simple benchmarks. This paper will examine more complicated DSP systems design in programmable logic, starting with an analysis of the support models required from the device vendors, and the new tools that will be needed. A set of examples, from simple to complex, that have been designed with initial versions of the tools called for in this paper will be presented. Finally, some methods for achieving high performance designs in programmable logic will be described. *[Langhammer, Martin. DSP implementation in programmable logic// Proceedings of the 1996 9th Annual IEEE International ASIC Conference and Exhibit. Rochester, NY, USA, p. 211].*

Summary-conclusion, example:

• «In this paper, we have presented a set of experiments that introduce students to ultrafast science. We have discussed the relationship between the

description of an ultrashort laser pulse in the frequency domain and the time domain. Using experimental results we have demonstrated that this relationship is constrained by the lower limit of the Heisenberg uncertainty principle. Students carrying out the experiments will become familiar with ultrafast techniques, such as autocorrelation and laser cavity design, as well as various other concepts such as dispersion, interference, and nonlinear optics». *[T.D. Donnelly, Carl Grossman. Ultrafast phenomena: A laboratory experiment for undergraduates// American Journal of Physics, 1998, N. 8.J*

III. Compose your own summary-conclusion.

IV. Read and translate.

Review

This book is a collection of articles on P / incorporates sociology / the diversity of kinds of information on / reflects the current knowledge in P / educational uses of computers. The author frames the central question of his monograph as follows: «P»; in answer to the question, the author proposes Q / pursues the question whether P by breaking it down into two subquestions, R and Q. Accordingly, the book / paper falls into two halves: P and Q. The (methodological) (sub)question discussed in Part 1 of this monograph, reads as follows: P. The bulk of this chapter is devoted to P. In F's approach P is viewed as Q. F develops an account which brings out a picture of P, treating a number of problems that have traditionally been recognized to be especially problematic areas for Q theories, and then proceeds to investigate the nature of R and sets out to provide a definition for Q. The author brings the following example into the discussion, P. F's approach does go a little way towards accounting for P. F's conclusions focus on aspects such as the fact that P. F is backing up his argument with data on P. In addition to the fact that Q, F's models offer a number of other differences: P is defined with respect to a fixed set of features. The conclusions / findings / results of F's study lend some support to the expectation that P / further elucidate the processes of P. F's investigation provides evidence with respect to the role of P in R.

The book has a variety of virtues; I do, however, have certain criticisms. One concerns P. Another criticism concerns F's discussion of Q. The product of F's labor invites close critical scrutiny; here, I can deal with a number of main points only. This way of organizing the book has significant drawbacks. In the first place, P. Secondly, Q. The most serious weakness of the book is that P. The author fails, in my view, to make a convincing (enough) argument for his proposed reduction of P. This is an erudite and meticulously executed book, but I am not wholly convinced by it. Apart from theoretical disagreements (like the one just mentioned), my major doubts are twofold. First, I am not sure that P. My second doubt has to do with Q. On the whole, PP do not lessen the book's value.

F's book is (thus) timely and important / is clearly written and the arguments convincing. Many possible research questions are raised. F's book has raised many intriguing problems and will be a stimulus for a great deal of productive theoretical and descriptive research on the phenomena. This investigation will stimulate others to come closer to an understanding of P, The book's style is engaging and light. F's book is very well done in every respect / F's endeavor is successful. I recommend it highly. In brief, the theoretical value of NN is obvious.

This book / paper / [NN] provides a solid grounding to enable the student to understand P / can be used by anyone wanting an introduction to the field / is aimed at those requiring an introduction to logic / is addressed to professionals / is a useful resource for students / is an extensively illustrated resource / is a set of supplementary materials for general math. The book provides a perspective on the foundations of algebra. This is a useful introduction to the discipline / field / sphere, which can be recommended to anyone who wants a way in to the full range of ecological problems.

This volume is addressed to the Earth scientist who wishes to gain an overview of P / is written for skilled and novice gardeners alike. Many of the subjects treated here presuppose mathematical sophistication. This book is extremely comprehensive and deals with a very complex subject in an orderly manner. It is useful to all those engaged in biology. This book asks the important questions and goes on to answer these questions with a simplicity that opens the readership to students. This book bridges the gap between P and Q; it is a source book for those working, researching and teaching computing. This book is written for Earth specialists / in terms intelligible to the layman.

V. Compose your own review.

VI. Read and translate.

Resume

Resume of a monograph:

The book / volume / present monograph / research monograph describes / explores / elucidates / (effectively) covers / focuses on / concentrates on / is concerned with the value of P and reflects / details / makes explicit Q. A primary concern is with / Emphasis rests on the significance of the theory in interpreting data. Building on a tradition which acknowledges the value of P / Reflecting the increasing uses of computers / Using experimental data / Within the framework of P, the author / book demonstrates some of the limitations of contemporary theory / capitalizes on the unique nature of R / offers a solution to the problem of Q / offers an explanation of R and a wide range of examples of / provides a large body of information on / brings together evidence concerning R / bridges the gap left by traditional theories / shows that traditional concepts can be extended to analyze new data / claims that P cannot be understood or revealingly described independently of Q.

Part 1 deals with theoretical considerations. Part 2 presents analyses of data, both from a theoretical and from an applied point of view. Topics include P, Q, R. Part 3 centers around analyses of data and covers contemporary theories. It is argued that traditional theory has focused on / has lacked a methodological framework for studying P / neglects key aspects of the phenomena / does not directly address the problems of P, since it assumes that Q. The results of this study suggest that P (is sensitive to Q). The coherence and descriptive potential of the new approach are exemplified by application to a broad variety of phenomena. A final chapter offers clear and practical guide-lines on methods of data collection.

Examples:

•*«Perspectives in interactive video»:* The book brings together educators from Europe and the USA with wide experience of interactive video for education and training, describing their experiences and potential for this medium. It reflects the current knowledge, both theoretical and practical, relevant to the production of good video material.

•*«New information technology»:* This unique and effective picture of the current state of-the-art draws on a broad range of international experience in computer and modern language teaching. It effectively covers the gap left by scattered papers in journals on individual programs, and theoretical introductory texts, reflecting the increasing educational uses of computers, and ways in which modern language teaching has utilized such technology, the book is concerned with the advanced or mature student learning a new language; «extremely comprehensive and deals with a very complex subject in an orderly manner… useful to all those engaged in advancing modern technology in the microelectronic, computer and communication fields».

VII. Compose your own resume.

VIII. Read and translate.

Annotations

Examples:

McCloskey, Donald. «An economic uncertainty principle»: Economists claim to know the next month's interest rates, yet they are not rich. Their claim is also a claim that others in the market do not know the future of the interest rates, the economic uncertainty principle is examined.

Ross, Marc; DeCicco, John. «Measuring the energy drain on your car»: A method for measuring the friction that hurts a car's efficiency is explained. Rolling resistance and engine drag can be found by pulling a car with a rope attached to a spring scale.

IX. Compose your own resume.

X. Read and translate.

Titles

Building world-record magnets. Engineering the future. Ensuring the longevity of digital documents. Improving automotive efficiency. Making environmental treaties work. Making drugs count. Sustaining life on the earth. Building an electronic neuron. Disarming Lyme disease. Grading the gene tests. Revisiting old battlefields. Visualizing the mind. Seeing the forest for the trees. Clearing the air. Protecting the greenback.

• Technology and physical science. Symmetry and perception. Population, poverty and the local environment. The known, the unknown and the unknowable. AIDS and the use of injected drugs. Descartes' error and the future of human life. The automobile: Clean and customized. Softwire: A Brief History of Time. CD-ROM review: Exploring Ancient Cities.

• Quantum computing creeps closer to reality. Fermat's theorem fights back. Top price for the top quark. Machines that learn from hints. Words at play on the Internet.

XI. Write down the possible variants of titles for your papers.

SUPPLEMENT

SUPPLEMENT 1

TEXT 1. SCIENTIFIC COMMUNICATION

For scientific research communication is essential. Science is to be characterized as «public knowledge». In other words the aim of the scientist is to create, criticize, or contribute to a rational consensus of ideas and information. If you accept this as a general notion, you will agree that the results of research only become completely scientific when they are published.

Our present system of scientific communication depends almost entirely on the «primary» literature. This has three basic characteristics: it is fragmentary, derivative, and edited. These characteristics are quite essential.

A. A regular journal carries from one research worker to another the various discoveries, deductions, speculations and observations which are of common interest. Although the best and most famous scientific discoveries seem to open whole new windows of the mind, a typical scientific paper has never pretended to be more than another little piece in a larger jigsaw – not significant in itself but as an element in a grander scheme. Primary scientific papers are not meant to be final statements of indisputable truths; each is merely a tiny tentative step forward, through the jungles of ignorance.

B. Scientific papers are derivative, and very largely unoriginal because they lean heavily on previous research. The evidence for this is plain to see, in the long list of citations that must always be published with every new contribution. It is very rare to find a reputable paper that contains no references to other research. Indeed, one relies on the citations to show its place in the whole scientific structure.

C. The editing of the scientific literature is a more delicate matter. The author presents entirely false picture of his actual procedure of discovery. All the false starts, the mistakes, the unnecessary complications, the difficult ties and hesitations are hidden. All is made easy, simple and apparently inevitable. Considering all this, external censorship of scientific papers is an essential element of our system of scientific publication. We must be able to rely on the basic accuracy and honesty of what we read in other people's papers, for we are always using their results in the construction of our own researches, and simply can not find the time to repeat all their experiments, measurements, calculations or arguments for ourselves. The communication problem would be ten times worse if there were no scrutiny by expert referees.

TEXT 2. SCIENCE AND TECHNOLOGY

Science problems can be roughly classified as analytic and synthetic. In analytic problems we seek the principles of the most profound natural processes, the scientist working always at the edge of the unknown. This is the situation today, for

instance, within the two extremes of research in physics – elementary particle physics and astrophysics, both concerned with the properties of matter, one on the smallest, and the other on the grandest scale. Research objectives in these fields are determined by the internal logic of the development of the field itself. Revolutionary shocks to the foundations of scientific ideas can be anticipated from these very areas.

As to synthetic problems, they are more often studied because of the possibilities which they hold to the practical applications, immediate and distant, than because their solution is called for the logic of science. This kind of motivation strongly influences the nature of scientific thinking and the methods employed in solving problems. Instead of the traditional scientific question: «How is this to be explained?» the question behind the research becomes «How is this to be done?» The doing involves the production of a new substance or a new process with certain predetermined characteristics. In many areas of science, the division between science and technology is being erased and the chain of research gradually becomes the sequence of technological and engineering states involved in working out a problem.

In this sense, science is a Janus-headed figure. On the one hand it is pure science, striving to reach the essence of the laws of the material world. On the other hand, it is the basis of a new technology, the workshop of bold technical ideas, and the driving force behind continuous technical progress.

In popular books and journals we often read that science is making greater strides every year, that in various fields of science discovery is followed by discovery in a steady stream of increasing significance and that one daring theory opens the way to the next. Such may be the impression with research becoming a collective doing and scientific data exchange a much faster process. Every new idea should immediately be taken up and developed further, forming the initial point of an avalanche-like process.

Things are, in fact, much more complex than that. Every year scientists are faced with the problems of working through thicker and tougher material, phenomena at or near the surface having long been explored, researched, and understood. The new relations that we study, say, in the world of elementary particles at dimensions of the order of 10^{-13} cm or in the world of superstellar objects at distances of billions of light years from us, demand extremely intense efforts on the part of physicists and astrophysicists, the continuous modernization of laboratories with experimental facilities becoming more and more grandiose and costing enormous sums. Moreover, it should be stressed that scientific equipment rapidly becomes obsolete. Consequently, the pace of scientific development in the areas of greatest theoretical significance is drastically limited by the rate of building new research facilities, the latter depending on a number of economic and technological factors not directly linked to the aims of the research. It may take, for example, more than 10 years from the initial decision to build a 100–200 billion electron volt accelerators to its completion. It should be borne in mind, too, that few

measurements and readings given by these great facilities push science forward, results of any great significance being very rare. For instance, tens of thousands of pictures taken during the operation of an accelerator will have to be scrutinized in the hope of finding, among typically trite processes, signs of a new interaction or of a new event whose presence of absence may confirm a theoretical idea.

TEXT 3. REVISE IF YOU FORGET

There is no accounting for tastes. Nobody can explain why some people go into astronomy, others are interested in chemistry, and still others are absorbed by archeology. Yet there is something common in all these inclinations and preferences, and this is man's eternal curiosity about the unknown, his burning desire to know something which has never been known before, to do something no one has ever done before. This inexhaustible drive for the new and unknown is a basic human characteristic, and it is due to the greatest unknown in the universe – man's brain.

How does it work? There is no one who would not wish to know the answer. Why does it work differently for different people? Why can some people do what others cannot, and vise versa? To most questions like these we have not answers yet. Nor can we hope to get them soon unless we find ways to model the brain structure and simulate its operation more accurately than is now possible. It is not until we have a computer of comparable storage capacity that this will be possible. For the problem is so complex not only because its solution would involve a multidisciplinary approach by many researches, but also because it requires studying the instrument with the instrument itself.

TEXT 4. THE EXPERIMENT MUST TAKE A DIFFERENCE

When we do an experiment, we do it because we don't know what the result will be. If we knew in advance we wouldn't bother. There must be two, or several, or a large number of possibilities. We may expect one of several outcomes, or we may not know at all what to expect.

In order for the experiment, whatever its purpose, to be considered a test of some theory; the outcome must take a difference. If the experiment has one result, we must be led to a greater degree of confidence in our theory, if it has another result we must be led to a greater degree of doubt. If the degree of our belief was unaffected by the result the experiment cannot be said to have been a test, although it may have been valuable or interesting for other reasons.

TEXT 5. REFUTABILITY

For a theory to be part of science we must be able to imagine the possibility that some kind of evidence, if it were available, would lead us to make us doubt the theory. It has been said that for a theory to be scientific, it must be refutable.

Nobody needs to be told that theories should be confirmable, in the sense that new experiments must be able to increase our confidence in them – we all take it for granted. We do need to be reminded from time to time that we might be wrong, and should be open to evidence that might show it. Confirmability and refutability are two sides of a single coin. New facts should be able to change our degree of belief one way or another. Only if this is so is our belief scientific. There are often reasonable alternative explanations why a good theory will fail in some particular circumstances, and even when there aren't, if we think the theory is better than any alternative available we will stick with it and try to find special explanations of why it didn't work in these circumstances.

TEXT 6. WHAT SCIENCE IS

It can be said that science is a cumulative body of knowledge about the natural world, obtained by the application of a peculiar method practiced by the scientist. It is known that the word *science* itself is derived from the Latin «scire» – to know, to have knowledge of, to experience. Fundamental and applied sciences are commonly distinguished, the former being concerned with fundamental laws of nature, the latter engaged in application of the knowledge obtained. Technology is the fruit of applied science, being the concrete practical expression of research done in the laboratory and applied to manufacturing commodities to meet human needs.

The word «scientist» was introduced only in 1840 by a Cambridge professor of philosophy who wrote: «We need a name for describing a cultivator of science in general. I should be inclined to call him a scientist». «The cultivators of science» before that time were known as «natural philosophers». They were curious, often eccentric, persons who poked inquiring fingers at nature. In the process of doing so they started a technique of inquiry which is now referred to as the «scientific method».

Briefly, the following steps can be distinguished in this method. First comes the thought that initiated the inquiry. It is known, for example, that in 1896 the physicist Henri Becquerel, in his communication to the French Academy of Sciences, reported that he had discovered rays of an unknown nature emitted spontaneously by uranium salts. His discovery excited Marie Curie and together with her husband Pierre Curie she tried to obtain more knowledge about the radiation. What was it exactly? Where did it come from?

Second comes the collecting of facts: the techniques of doing this will differ according to the problem which is to be solved. But it is based on the experiment in which anything may be used to gather the essential data from a test-tube to an earth-satellite. It is known that the Curies encountered great difficulties in gathering their facts, as they investigated the mysterious uranium rays.

This leads to step three: organizing the facts and studying the relationships that emerge. It was already noted that the above rays were different from anything known. How to explain this? Did this radiation come from the atom itself? It might be expected that other materials also have the property of emitting radiation. Some

investigations made by Marie Curie proved that this was so. The discovery was followed by further experiments with «active» radioelements only.

Step four consists in stating a hypothesis or theory: that is, framing a general truth that has emerged, and that may be modified as new facts emerge. In July 1898, the Curies announced the probable presence in pitchblende ores of a new element possessing powerful radioactivity. This was the beginning of the discovery of radium.

Then follows the clearer statement of the theory. In December 1898, the Curies reported to the Academy of Sciences: «The various reasons enumerated lead us to believe that the new radioactive substance contains a new element to which we propose to give the name of Radium. The new radioactive substance certainly contains a great amount of barium, and still its radioactivity is considerable. It can be suggested therefore that the radioactivity of radium must be enormous».

And the final step is the practical test of the theory, i.e. the prediction of new facts. This is essential, because from this flows the possibility of control by man of the forces of nature that are newly revealed.

Note should be taken of how Marie Curie used deductive reasoning in order to proceed with her research, this kind of «detective work» being basic to the methodology of science. It should be stressed further that she dealt with probability – and not with certainty in her investigation. Also, although the Curies were doing the basic research work at great expense to themselves in hard physical toil, they knew that they were part of an international group of people all concerned with their search for truth. Their reports were published and immediately examined by scientists all over the world. Any defects in their arguments would be pointed out to them immediately.

TEXT 7. RESEARCH: FUNDAMENTAL, APPLIED, PUBLIC

People are always talking about fundamental research, implying thereby existence of a nameless opposite. A good definition or fundamental research will certainly be welcomed: let us see whether we can invent one. We have to begin, of course, by defining research. Unfortunately the concept of research contains a negative element. Research is searching without knowing what you are going to find: if you know what you are going to find you have already found it and your activity is not research. Now, since the outcome of your research is unknown, how can you know whether it will be fundamental or not?

We may say for instance that fundamental research is that which you undertake without caring whether the results will be of practical value or not. It may not be reasonable to go further and say that fundamental research is that which will be abandoned as soon as it shows a sign of leading to results of practical value. By saying this you may limit your own achievement. It will be better to say that fundamental research is that which may have no immediate practical value, but can be counted upon as leading to practical value sooner or later. The extension of knowledge and understanding of the world around us will always be profitable in

the long run, if not in the short.

This is a very powerful argument for fundamental research and it is a completely unassailable one, and, there are people who will not like. Let us seek a definition that will give fundamental research a value of its own, no dependent upon other uses appearing soon or late. We say for instance fundamental research is that which extends the theory. Now we have to theorize upon theory. There have been several viewpoints about theory.

One is that theory discerns the underlying simplicity of the universe. The non-theorist sees a confused mass of phenomena; when he becomes a theorist he fuses into a simple and dignified structure. But some contemporary theorists are so intricate that an increasing number of people prefer dealing with the confusion of the phenomena than with the confusion of theory.

A different idea suggests that theory enables one to calculate the result of an experiment in a shorter lime than it takes to perform the experiment. The definition is not very pleasing to the theorists, for some problems are obviously solved more quickly by experimenters than by theorists.

Another viewpoint is that theory serves to suggest new experiments. This is sound but it makes the theorist the handman of the experimentator and he may not like this auxiliary role. Still another viewpoint that theory serves to discourage the waste of time on making useless experiments.

Let us try to flatter theory by giving it a definition that shall not describe it as a mere handmaid of experiment or a mere device for saving time. I suggest that theory is an intellectual instrument granting a deep and indescribable contentment to its designer and to its users. This instrument is made up of units which can be compared, for instance, to different branches of physics: solid state physics, relativity, acoustics, elementary particles and others, which sometimes have only a remote relation with one another and may not even be interconnected at all.

The rest of the text will be devoted to a different question which is: how are we going to communicate to the layman some of our passion for our science? This is a very important question, for everyone is a layman until he becomes a scientist. If we can solve the problem of interesting the laymen we may succeed in attracting the potential Fermis, Slaters, Lands and Fletchers of future into the field of, say, physics. Nothing could be more desirable.

A frequent technique is that of surprise. The trouble with this is that one cannot be surprised if one is not accustomed to the situation which is nullified by the surprise. Imagine, for example, a physicist trying to surprise an audience of laymen by telling them that there are a dozen elementary particles instead of two or three, or that the newest cyclotron imparts energy of 500 mev to protons. It simply will not work, because the listeners will have no background to compare this information with.

It is also a mistake to think that we can excite an audience by solving a mystery for them. The trouble here is that practically no one is interested in the answer to a question which he never thought of asking.

Relativity had a wonderful build-up in the decade before 1905, for the physicists of that era were acquainted with the sequence of experiments which were designed to show that the earth moves relatively to the ether and which obstinately showed the opposite. Each stage in the unfolding of quantum mechanics was exciting to the physicists who knew the earlier stages, because they knew the problems which were left unsolved. The writer of a detective story creates the mystery before he solves it; but the mystery usually begins with the discovery of a murdered man, and this is considerably more exciting than a murdered theory. The corresponding technique in physics consists in trying to create a particular state of out-of-dateness in the mind of the public, in the expectation of bringing them up-to-date at the end of the lecture or paper. There is too much risk of leaving the audience in the out-of-date condition, and this technique cannot be recommended.

Another mistake is that of stressing a paradox. Try telling an audience that if you know the exact position of a particle you cannot know its momentum, and vice versa – the effect is unpredictable but obviously not what you wanted. Still another mistake is that of springing an isolated fact upon the audience. An isolated fact is not science and it is not interesting. Facts are of interest only as parts of a system. And we must strive to interest the laymen in the system.

SUPPLEMENT 2

I. Words and expressions concerned with carrying out an experiment:

1. An experiment, experimental, experimentally.
2. An experimented (an experimentalist, an experimental physicist).
3. To start (to begin) an experiment (a series of experiments).
4. To be busy with an experiment.
5. To make (to carry out, to perform, to conduct, to do) a set (a series) of experiments.
6. To experiment on something.
7. An experiment; with (on) light (rays).
8. The experiment is performed with an apparatus.
9. The experiment is concerned with (deals with)...
10. The experiment shows (proves, determines, explains, accounts for, gives information on, provides information on) something.
11. The experiment gives evidence for (against) something.
12. The experiment shows (proves, explains, makes it clear) that...
13. The experiment leads us to conclude (to assume, to postulate) that…
14. The experiment makes it possible to prove (to show, to see, to understand, to obtain) something.
15. The results (the data) of an experiment enable us to determine (to estimate, to compute, to see) something.
16. Experimental work (study, research, data, results, facts, evidence, curve, technique, method, conditions).
17. To show (to prove, to obtain, to get, to find, to determine, to do, to perform, to test, to verify) experimentally.
18. The experiment lasts (takes) several days.
19. The experiment is completed (is over).
20. To make measurements during the experiment.
21. To take the readings of the apparatus.
22. To obtain the data (results).
23. To process the data obtained.
24. To classify the data (results).
25. To verify (to check up) the results.
26. To compare (to make a comparison between) the re-suits.
27. To analyze (to make an analysis of) the results.
28. To sum up (to summarize) the data in tables.
29. To make a study of the data.
30. To draw conclusions from experimental data.
31. On the basis of the experiment it was concluded that...

II. Words and expressions concerned with discussing a theory:

1. A theory, theoretical, theoretically, in theory.
2. A theoretician (a theorist, a theoretical physicist).

3. To advance (to propose, to develop, to build up, to suggest, to put forward, to work out, to unfold, to formulate, to create, to outline) a theory.

4. The theory is based upon (is due to, is ahead of) something.

5. The theory predicts (explains, describes, proves, supports, suggests, denies, disproves) something.

6. The basis (advantage, validity, value, importance, significance, predictions, shortcomings, details) of the theory.

7. Scientific (fundamental, modern, out of date, valuable, consistent, fruitful, classical, quantum, kinetic, atomic) theory.

8. The theory of relativity.

The General theory of relativity.

The Special theory of relativity.

9. According to the theory...

10. The theory is valid (for), is true (for), agrees with, is in keeping with, is in agreement with, is consistent with...

11. There is an agreement (a contradiction, a disagreement, a discrepancy) between theory and experiment.

12. The theory and experiment are in good agreement.

III. Words and expressions concerned with discussing a hypothesis:

1. To advance (to put forward, to propose, to build up, to set up, to formulate, to create) a hypothesis.

2. To accept (to adopt) a hypothesis.

3. The hypothesis is widely (generally) accepted.

4. The most obvious hypothesis.

5. The hypothesis offers a reasonably satisfactory picture of the events.

6. The hypothesis accounts for the phenomenon.

7. There is no evidence which contradicts this hypothesis although it has a few weak points.

8. There is some evidence for and against this hypothesis.

9. To abandon (to discard, to overthrow, to disprove) a hypothesis.

The hypothesis was overthrown by subsequent evidence.

The mass of contradictory evidence became so great that the hypothesis was abandoned. The hypothesis is discarded as the result of experiments.

10. The hypothesis contradicts the known facts.

11. To verify (to check, to test) the hypothesis.

The hypothesis has been verified experimentally in many cases.

12. The hypothesis may or may not prove satisfactory in the light of later evidence.

13. A hypothetical case.

IV. Words and expressions concerned with discussing a scientific law:

1. To discover (to introduce, to obtain, to find) a law.

2. To state (to formulate) a law.

3. To use (to apply) a law in physics (meteorology).
4. To apply a law to elementary particles (light, semiconductors, etc.).
5. To accept (to adopt, to support) a law.
6. To abandon (to disprove) a law.
7. To verify a law.
8. To violate a law.
9. To modify a law.
10. An amendment to the law.
11. According to the law...
12. The law is based upon...
13. The law states that...
14. The law holds (for), is valid (for), is true (for), agrees with, is in keeping with, is in agreement with, is consistent with, fits into (to)...
15. The law is out of keeping with, does not hold (for), is not valid (for)…
16. The law of nature (science, physics, mechanics, biology).
17. The Periodic Law (the Law of Conservation of Energy, the Law of Conservation of Matter).
18. A natural (scientific, fundamental, basic, general, exact, experimental, theoretical, quantitative, qualitative) law.

V. Opening phrases (used to introduce the subject):

A

1. The present paper discusses some aspects of...
2. The discussion is concerned with...
3. The present communication deals with...
4. The review is devoted to...
5. The paper presents some results which illustrate...
6. This work is an attempt to show (to find, to prove, to consider) that...
7. The present thesis is designed to demonstrate (to show, to explain, to describe) that...
8. The purpose of this report is to compare (to determine, to give) the results of...
9. The first point to be noted as to ... is the fact that...
10. The lecture will be a brief account of...

B

11. We *shall now discuss* how nuclei are built.
12. *I shall start by describing* the difference between transformers and amplifiers.
13. *We shall be concerned primarily with* the basic principles, the design and the performance of the machines.
14. *We shall begin with* fundamental principles of physics.
15. *In this paper we shall attempt* to sum up the results obtained.

16. *To begin with*, one can say that an electric current is the result of a flow of electric charges.

17. *Our aim is to discuss (to show, to prove)* some properties of crystals.

VI. Closing phrases (used to complete a talk, a communication, a paper, a lecture):

A

1. In conclusion it should be emphasized (noted, said, observed) that...
2. Finally a few remarks should be made about...
3. Summing up the results, it should be observed (said, noted) that...
4. Summarizing, it can be said (pointed out, mentioned) that...
5. To summarize then...

B

6. In conclusion I would like to mention (to consider, to add, to say) that...
7. We finally conclude that...
8. With this we will conclude our discussion (paper, communication).
9. At the end we can say (mention, observe, point out) that...

VII. Introductory phrases (used to begin a talk):

A

1. Let us start with (look at, turn to, proceed to) something.
2. It is interesting (important, necessary) to consider (to show, to note) something (that)...
3. It has been (will be) shown (pointed out, considered) that...
4. It should be noted (mentioned, observed, emphasized, pointed out) that...
5. It is evident (obvious, unlikely, doubtful) that...

B

6. I think (believe, suppose) that...
7. I (we) shall consider (discuss, talk about) something.
8. I (we) must next consider (discuss, compare, show) something.
9. What I mean (want) to say (to show, to emphasize) is that...
10. What I (we) find in fact is that...
11. What happens (takes place, occurs) in fact is that...
12. From the above I (we) see that...
13. At this point a question arises as to...
14. The problem is the following...

C

15. As far as I know...
16. As far as I can judge...
17. In my opinion...
18. To my knowledge...
19. To my mind...
20. For all I know...

VIII. Plural of the nouns of Greek and Latin origin:

Greek

Singular	*Plural*
phenomenon	phenomena
criterion	criteria
analysis	analyses
crisis	crises
hypothesis	hypotheses
thesis	theses

Latin

Singular	*Plural*
nucleus	nuclei
focus	foci, focuses
locus	loci
radius	radii, radiuses
formula	formulae, formulas
datum	data
spectrum	spectra
medium	media, mediums

SUPPLEMENT 3

The similarities and differences in a scientist's status in different countries

Повноцінне спілкування на науковій конференції передбачає, що її учасники, з одного боку, мають досить чітке уявлення про статус, який мають у науковому світі їхні колеги, а з іншого боку – вміють пояснювати засобами англійської мови свої наукові позиції.

Науковий статус ученого певною мірою характеризується рядом формальних показників, серед яких ступінь, звання, місце роботи, посада, володіння спеціальними нагородами, членство в різних товариствах й асоціаціях.

Одним з найважливіших показників наукової кваліфікації є ступінь (degree). В англомовних країнах успішне закінчення три-, чотирирічного курсу навчання у вищому навчальному закладі, як правило, призводить до одержання ступеня бакалавра (Bachelor's degree): Bachelor of Science, скор. B.Sc. / B. S. (природничі науки); Bachelor of Arts, скор. A.B. / B.A. (гуманітарні науки); Bachelor of Fine Arts, скор. B.F.A. (мистецтво); Bachelor of Business Administration, скор. B.B.A. (керування) і т. д. Ступінь бакалавра часто називається в англомовних країнах першим ступенем (first degree). Наприклад, учений, що змінив свою спеціалізацію, може сказати так: «I got my first degree in chemistry and then I switched over to the field of biology».

Прийнято вважати, що ступінь бакалавра відповідає диплому випускника українського вузу із чотирирічним циклом навчання (бакалавра), що склав державні іспити.

Студенти, що продовжують заняття після одержання першого ступеня (graduate / postgraduate students), можуть претендувати на ступінь магістра (master's degree): Master of Science, скор. M.S.; Master of Arts, скор. M.A.; Master of Fine Arts, скор. M.F.A. і т. д. Для одержання цього ступеня після року або двох років навчання й участі в дослідницькій роботі необхідно скласти ще ряд іспитів та, як правило, представити дисертацію (thesis).

Прийнято вважати, що ступінь магістра відповідає диплому випускника українського вузу з п'яти-, шестирічним циклом навчання, що виконав й захистив дипломний проект.

Відзначимо, однак, що використання слова diploma за аналогією з українським словом *диплом* (свідчення про закінчення вузу) може призвести до неточного розуміння співрозмовником вашої думки. Справа в тому, що в англомовних країнах завершення курсу навчання одержанням diploma, як правило, менш почесно, ніж одержання degree. Цю обставину можна врахувати шляхом звертання до слова degree, коли мова йде про вищу освіту. Наприклад, власник диплома інженера-хіміка може сказати: I have a master's degree in chemical engineering.

Наступний ступінь в англомовних країнах – це ступінь доктора філософії (Doctor of Philosophy, скор. Ph.D.). Вона присуджується представникам різних наук, як природних, так і гуманітарних. Використання слова Philosophy у цьому випадку носить чисто традиційний характер і пояснюється тим, що споконвічно воно мало більше загальне значення «наука взагалі». Наприклад, власником цього ступеня може бути ботанік: «I left English to go to Canada to be a student of advanced botady. In Canada I earned the degree of Master of Science and also Doctor of Philosophy».

Часто ступінь доктора філософії називають doctoral degree / doctor's degree / doctorate: «I attended a college in Arizona for my bachelor's degree and my master's degree / Then I got my doctoral degree at The University of Hawai». Претендент на цей ступінь повинен провести оригінальне наукове дослідження, як правило, у рамках спеціальної навчальної програми (Ph.D. program / studies), здати ряд іспитів й обов'язково представити дисертаційну роботу (doctoral thesis / dissertation). Як правило, до роботи над докторською дисертацією дослідник приступає після одержання ступеня магістра: «I am twenty-six years old and have just completed my master's degree in science. And I'm going to begin my Ph.D. program next September in Canada».

Розповідаючи про свій науковий шлях, учені нерідко називають ступені магістра й доктора одним зі сполучень типу advanced / graduare / higher degree: «After graduation from Florida State University I received an advanced degree in economics at Duke University». Учений може володіти декількома ступенями в різних областях і від різних навчальних закладів: «I have graduate degrees from the American University and the University of Miami in Florida».

Вважають, що ступінь доктора філософії відповідає вченому ступеню кандидата наук, що дозволяє українському науковцеві цієї кваліфікації представлятися доктором при спілкуванні на міжнародному рівні, поняття вчений ступінь кандидата наук може бути виражено, наприклад, словом doctorate: «I got my doctorate in economics two years ago».

При використанні сполучень типу candidate's degree / candidate of sciences або candidate of chemistry / candidate of chemical science (s) і под. варто мати на увазі, що вони, будучи дослівним перекладом з українського, будуть зрозумілі тільки тим закордонним ученим, які знайомі з науковими реаліями нашої країни, що обмежує коло їхнього вживання або, у всякому разі, вимагає додаткових пояснень, наприклад, таких: «I have a candidate's degree which corresponds to the Ph.D. degree in your country».

Не на користь дослівного перекладу українського словосполучення кандидат наук як candidate of science (s) без відповідних роз'яснень говорять дві обставини. По-перше, воно може бути інтерпретовано носієм англійської мови за аналогією зі словосполученнями bachelor of science, master of science і тим самим створить враження, що ви працюєте в області природничих наук, а це може не відповідати дійсності. По-друге, необхідно враховувати, що слово

candidate часто використовується в сполученнях Ph.D. doctoral candidate, де воно вказує, що даний дослідник працює над відповідною дисертацією, але ступеня доктора філософії ще не одержав.

Сполучення doctoral candidate може бути вдалим еквівалентом українському поняттю здобувач. Порівн.: Зараз я є здобувачем ступеня кандидата економічних наук. – Now I am a doctoral candidate in economics. Відповідно для позначення поняття аспірант поряд зі словосполученнями graduate / postgraduate можна використати й сполучення doctoral student особливо, якщо врахувати, що воно точніше передає позицію аспіранта як дослідника, що працює над дисертацією, яка відповідає докторській дисертації в англомовних країнах. Справа в тому, що сполучення graduate student (амер.) і postgraduate student (брит.) уживаються для позначення студентів, які можуть працювати по програмах, що ведуть до одержання ступеня, як доктора філософії, так і магістра.

Поряд зі ступенем доктора філософії в англомовних країнах є ряд почесних докторських ступенів (honorary / higher / senior doctorates), присуджуваних ученим за довголітню й плідну наукову діяльність. Серед них ступені: Doctor of Science, скор. D.Sc. (природничі науки); Doctor of Letters, скор. Litt.D. (гуманітарні науки); Doctor of Laws, скор. L.L.D. (юриспруденція) і ряд інших. Вони не вимагають проведення спеціальних досліджень або написання дисертації й присуджуються по сукупності заслуг відомим діячам науки: «Dr. Green received an honorary D.Sc. in engineering from the University of Pennsylvania for his contribution in electromechanical science». Відзначимо, що вчений може бути власником декількох або навіть багатьох почесних докторських ступенів.

Очевидно, сполучення senior doctorate може бути використане в усному мовленні для передачі українського поняття ступеня доктора наук: «I hope to get my senior doctorate within the next three years».

Однак тут обов'язково потрібно пояснити, що ступінь доктора наук у нашій країні вимагає подання дисертації, а також, як правило, написання монографії. Наприклад, можна сказати: «Our senior doctorate is not an honorary degree. It requires the writing of a dissertation and the publication of a monograph».

Використання сполучень типу Doctor of Science / Doctor of The Sciences / Doctor of History / Doctor of Technical science (s) і т. д. для передачі ступеня доктора наук також може вимагати аналогічних роз'яснень, якщо ваш співрозмовник не орієнтується в українських наукових реаліях. Зокрема, можна підкреслити, що ступінь доктора наук є вищим ученим ступенем у нашій країні, а багато хто з її власників мають звання професора: «The Russian Doctor of Science degree is the highest research degree in this country. Many scientists having that degree are professors».

Крім дослідницьких ступенів (research degrees) в англомовних країнах є також професійні докторські ступені (professional degrees), які надаються

фахівцям певної кваліфікації в ряді областей, наприклад: Doctor of Medicine, скор. M.D. (медицина); Juris Doctor, скор. J.D. (юриспруденція). Відзначимо, що володіння професійним ступенем в англомовних країнах фактично означає, що дана людина має кваліфікацію, що відповідає вимогам, висунутим до фахівців цього плану відповідною професійною асоціацією. Наприклад, для одержання ступеня Juris Doctor у США необхідно, як правило, спочатку одержати ступінь бакалавра, а потім успішно закінчити трирічну юридичну школу (law school); для одержання ступеня Doctor of Medicine – ступінь бакалавра й закінчити чотирирічну медичну школу (medical school) і інтернатуру (internship). Таким чином, професійні ступені в англомовних країнах скоріше відповідають українським дипломам лікарів й юристів, хоча й вимагають більшого часу для їхнього одержання, і не можуть використовуватися як еквіваленти українським ученим ступеням кандидатів і докторів медичних і юридичних наук. Власники цих ступенів повинні враховувати цю обставину і, якщо буде потреба, дати, наприклад, таке пояснення: «I have a degree which we call Doctor Of Medical Science degree. It is our senior research doctoral degree in this field».

Нерідко людина є власником професійного й ученого ступеня, зокрема, M.D. і Ph.D.

Наявність певного вченого ступеня дозволяє даному науковому співробітникові займати відповідну посаду в дослідницькій організації. Наприклад, можна прочитати таке оголошення в науковому журналі: «We are seeking a postgraduate biochemist (Ph.D.) with experience in protein chemistry to take up an interesting position in our research laboratories».

Назви посад, які науковці можуть займати в державній і приватній дослідницьких установах, у тому числі й у вищих навчальних закладах, в англомовних країнах досить різноманітні. У ряді випадків вони відбивають конкретну спеціалізацію: assistant wild life ecologist, biochemist, plant physiologist, research chemist, senior economist.

Позиції дослідників типу research assistant, senior research assistant, research associate, senior research associate, research fellow, senior research fellow і т. д., у назвах, в яких не позначена наукова дисципліна, зустрічаються, як правило, у вищих навчальних закладах. Їх займають дослідники, що претендують на одержання докторського ступеня або мають його, що видно з наступного оголошення: «Research associate: Applicants should have submitted their Ph. D. thesis or have a recent Ph. D. degree in biochemistry or chemistry».

Якщо місце призначене тільки для дослідника з докторським ступенем, то в назвах з'являється слово postdoctoral: postdoctoral research fellow, postdoctoral research associate, postdoctoral fellow. Ще один приклад оголошення: «Postdoctoral Senior or Research Associateship: The appointment is for three years and could start in September, 2005. Applicants must have a Ph. D. degree, or have submitted their thesis for Ph. D. before the starting date».

Додамо також, що позиція associate вище за рангом, чим assistant, і припускає більшу самостійність у науковій праці.

Слід зазначити, що наукові співробітники типу postdoctoral fellow або research fellow займаються дослідницькою роботою одночасно з підвищенням своєї наукової кваліфікації. Для цієї мети їм виділяється спеціальна стипендія (fellowship).

Варто відрізняти вченого, що займає позицію research fellow або postdoctoral fellow, від fellow – дійсного члена наукового суспільства: Brown B.B., Fellow of the Royal Society.

Слово fellow також використовується для позначення членів ради викладачів коледжу або університету: «Grey G.G., Fellow of Balliol College, Oxford». Таке членство може бути й почесним: «White W.W., Honorary Fellow of University College, Oxford».

Якщо вчений припиняє активну наукову діяльність, але не пориває зв'язків з університетом, його називають Visiting fellow: «I'm actually retired and now I am called a visiting fellow which means I have no responsibilities and can enjoy myself».

У вищих навчальних закладах англомовних країн зосереджені значні наукові сили. Як правило, учені поєднують наукову й викладацьку діяльність і нерідко ділять свій час навпіл: «I'm a botanist and a professor of ecology. I have what we call a fifty-fifty appointment. Fifty percent teaching. I teach undergraduate and graduate students, and then the remaining time is taken up with research».

Вище вчене звання в англомовних країнах – професор professor/full professor (амер.): professor of oceanology, professor of economics, professor of mathematics.

За значні заслуги перед університетом учений може одержати звання почесного професора (emeritus professor/professor emeritus): «Dr. Green, Emeritus Professor of Biochemistry, University of London». Як правило, власник цього звання не займається активною науковою й викладацькою діяльністю.

Що стосується позиції професора у вузах України, то вона позначається англійською мовою словом professor. Доктори наук, що мають це звання, можуть використати його для уточнення свого наукового статусу щодо своїх колег з кандидатським ступенем, наприклад, при поданні закордонному колезі: «I'm Professor Petrov and this is my colleague Dr. Ivanov».

На сходинку нижче професора в ієрархічній посадовій градації в британських вузах знаходиться reader: «Brown B.B., Reader in Criminal Law, University of Strathclyde»; principal lectures: «Johnson J.J., Principal Lectures in Criminal Law. Liverpool polytechnic»; senior lecturer: «Senior Lecturer, University of Birmingham»; в американських університетах – associate professor: «White W.W., Associate Professor of Economics, University of Alaska».

Вищенаведені сполучення можуть бути використані для приблизної передачі позиції доцента у вузах нашої країни.

Іноді для позначення відповідного звання англійською мовою в європейських неангломовних країнах уживається слово docent. Звернемо увагу, однак, що в деяких американських університетах цим словом називають викладачів молодшого рангу, які не є постійними членами педагогічного колективу. Тому навряд чи можна вважати англійське слово docent вдалим еквівалентом українському слову доцент. Якщо ж воно все-таки використовується в усному мовленні, то не буде зайвим відповідне пояснення: «Now I occupy the position of docent which corresponds to associate professor or reader in English-speaking countries».

Наступна категорія викладачів у британських вузах відома як Lecturer: «Jones J.J., Lecturer in Land Law, University of East Anglia», в американських – assistant professor: «Brown B.B., Assistant Professor of Economics, University of Texas».

У вузах України аналогічну позицію займає старший викладач. Крім вищенаведених аналогів для позначення цієї посади можна вжити сполучення senior instructor. У будь-якому разі ним іноді користуються автори з англомовних країн, коли вони пишуть про систему освіти в нашій країні.

Зазначимо, що дослівний переклад англійською мовою українського словосполучення старший викладач як senior teacher може відповідно потребувати додаткових пояснень, тому що англійське слово teacher в основному вживається відносно шкільних учителів.

Для позначення групи молодших викладачів в англомовних країнах вживаються такі сполучення, як assistant lecturer (брит.) і instructor (амер.). У нашій країні приблизно таку ж позицію займають асистент і викладач. Говорячи про свою роботу, вони можуть використати слово instructor: I am an instructor in English.

Професор в англомовних країнах, як правило, є одночасно й завідувачем кафедрою (head of department): S.S. Smith, D.Sc., Professor and Head of Department, Department of Economics. Таким чином, у коло його обов'язків входить адміністративна викладацька й наукова робота. Говорить завідувач кафедрою економіки одного з американських університетів: «The main part of my responsibilities is administrative, because I have been running the Department of economics. So it takes most of my time. But in addition to than I teach courses. I also supervise the work of graduate students and I try to find some time for my own research».

Незважаючи на певні відмінності в організації й функціонуванні таких підрозділів, як кафедра в нашій країні й department у вузах англомовних країн, ці слова можна використати як найближчі еквіваленти: кафедра фізики – department of physics і навпаки: department of modern language – кафедра сучасних мов, але не факультет, як іноді помилково перекладають сполучення подібного типу.

Слово кафедра не можна перекладати на англійську мову як chair, тому

що дане слово вживається лише для позначення посади завідувача кафедрою або особи, що займає цю посаду: див., наприклад, два наступні оголошення: «The Chair of Economics remains vacant»; «The University of California College of Medicine is seeking a Chair for the Department of Biological Chemistry». На чолі навчального підрозділу типу факультету, що називають в британських університетах faculty (faculty of arts, faculty of science, faculty of law, Faculty of economics, etc.), а в американських – college або school (college of fine arts, college of arts and sciences, college of business administration, school of law, school of pharmacy, etc.), стоїть dean (декан).

Для передачі позиції декана у вищих навчальних закладах можна використати слово dean, відповідно заступника декана – sub-dean / associate dean / assistant dean.

Відзначимо, що в американських університетах є ряд посад, у назви яких входить слово dean: dean of students, dean of university, dean of faculty і под., але їхні функції відмінні від функцій декана в нашому розумінні. Додамо, що в американських вузах слово faculty позначає основний викладацький склад, у той час як у британських вживається сполучення academic / teaching staff. У бесіді з американськими вченими потрібно мати на увазі особливість уживання слова faculty і, якщо буде потреба, ввести відповідні корективи: «When I use the word «faculty» I mean by that a devision of the university and not the teaching staff».

Формально університет у країнах із британським варіантом англійської мови очолює chancellor, що зрідка відвідує його для участі в урочистих церемоніях. Фактично університетом керує вчений, що займає пост vice-chancellor. Аналогічну функцію в американському університеті виконує president.

Для передачі позиції ректора вузу крім вищенаведених аналогів (vice-chancellor, president) можна скористатися й словом rector, що застосовується в європейських країнах і буде зрозуміло закордонним ученим. В усній бесіді ніколи не зашкодить коротке пояснення: «The rector of our university, in America you would call him president, is a physicist by training».

По-різному у вищих навчальних закладах англомовних країн називаються посади, власники яких займають ключові адміністративні позиції: Vice president for academic affair, vice-president for research, pro-vice-chancellor і т. д. Учений, що займає посаду, позначену словом provost, фактично відповідає за всю навчальну й дослідницьку роботу, проведену в інституті: «I was divisiding my time between research and administration as Provost for MIT (Massachusetts Institute of technology), a position that put me in change of all the teaching and research done at the Institute – everything in fact, except the Institute's financial matters and its capital equipment.»

Відповідно для позначення англійською мовою позиції проректора у вузі можна скористатися сполученнями: prorector, vice rector або deputy vice-

chancellor; проректор з навчальної роботи – prorector for academic affairs; проректор з наукової роботи prorector for research.

Що стосується науково-дослідних інститутів й інших організацій подібного типу, то в назвах посад, які займають їхні співробітники, часто зустрічається слово scientist без зазначеної наукової дисципліни: assistant scientist, research scientist, senior research scientist, principal scientist, senior scientist і под. Представляється гідролог, фахівець в області поведінки рік: «I am a research scientist and my specialty is hydrology, behavior of rivers particularly.»

У назвах наукових посад у державних установах, як правило, присутнє слово officer: scientific officer, senior scientific officer, principle scientific officer, research officer, senior research officer, experimental officer, senior experimental officer.

Для передачі англійською мовою вчених звань молодший і старший науковий співробітник, наявних у науково-дослідних організаціях, можуть бути запропоновані різні варіанти. Насамперед помітимо, що навряд чи доцільно вживати в цьому випадку слово junior (молодший), з огляду на те що воно практично не зустрічається в даному контексті в англомовних країнах. Беручи це до уваги, можна запропонувати наступні пари для позначення понять молодший науковий співробітник – старший науковий співробітник (без вказівки спеціальності): scientific associate-senior scientific associate, research associate – senior research scientist – senior research scientist або із вказівкою спеціалізації: research physicist – senior research physicist, research chemist – senior research chemist. Представникам гуманітарних наук варто зупинитися на першому із запропонованих варіантів, тому що такі слова, як scientist й research, як правило, передбачають природничо-наукову тематику дослідження.

Про науковий статус учасника конференції можна дізнатися й з його адміністративної посади: director of institute; deputy / associate / assistant director; head of department / division; head / chief of laboratory; head of group; project director / leader; head of section і т. д.

Підбираючи англійські еквіваленти назвам керівних наукових посад типу завідувач відділом, лабораторією, керівник групи й под., можна рекомендувати нейтральне й зрозуміле у всіх контекстах слово head: head of department, head of laboratory, head of group.

Відзначимо, що використання слова laboratory припускає, що мова йде про природничо-наукову тематику досліджень. Тому сполучення лабораторія *гуманітарних дисциплін* можна передати по-англійськи the humanities group. Додамо, що за назвою laboratory / laboratories може ховатися й велика наукова організація (Bell Telephone Laboratories), і її керівник (director) відповідно має статус директора науково-дослідного інституту.

Важливим показником наукових досягнень ученого є вручення йому

різних нагород (medals, prizes, awards). Особливе визнання його заслуг у міжнародному масштабі відзначається присудженням Нобелівської премії (The Nobel Prize).

Свідченням заслуг ученого є його обрання в члени ряду наукових суспільств, наприклад, таких, як Королівське суспільство (The Royal Society) у Великобританії, Американська Академія наук і мистецтв (The American Academy of Arts and Sciences), Національна академія наук (The National Academy of Science) у США й т. п.

Відповідно в Україні вищі наукові позиції займають члени Академії наук (members of the Ukrainian Academy of Science): члени-кореспонденти (corresponding members) і дійсні члени (full members / academicians).

ЕЛЕКТРОННЕ НАВЧАЛЬНО-МЕТОДИЧНЕ ВИДАННЯ

Нікульшина Тетяна Миколаївна
Мараховська Тетяна Анатоліївна
Борисова Марина Вікторівна

МЕТОДИЧНІ ВКАЗІВКИ З ДИСЦИПЛІНИ «АНГЛІЙСЬКА МОВА» ДЛЯ МАГІСТРІВ (ВСІХ СПЕЦІАЛЬНОСТЕЙ ОЧНОЇ ТА ЗАОЧНОЇ ФОРМИ НАВЧАННЯ)

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