

**М.А. Федорова**

**ОТ АКАДЕМИЧЕСКОГО ПИСЬМА —  
К НАУЧНОМУ ВЫСТУПЛЕНИЮ**

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Рецензенты:

канд. филол. наук, доцент *Т.Г. Галкина* (СибАДИ);  
канд. филол. наук, доцент *Л.Г. Пушкарева* (ОмГУФК)

**Федорова М.А.**

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Целью учебного пособия является формирование умений и развитие навыков научной иноязычной коммуникации: анализа информации, построения аннотации, написания эссе, доклада, подготовки научного выступления. Задания, предлагаемые в учебном пособии, построены с учетом передового опыта в сфере преподавания иностранных языков и спроектированы на основе реально существующих научных текстов.

Для студентов и магистрантов вузов, аспирантов и преподавателей.

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## ВВЕДЕНИЕ

Корень многих тяжких неудач наших — в неуменье высказать свою мысль, одеть ее как следует. Иногда бедненькую и худенькую мысль мы облечем в такую пышную форму, что она путается и теряется в ненужных складках собственной оболочки и до нее трудно добраться, а иногда здоровую, свежую мысль выразим так, что она вянет и блекнет в нашем выражении, как цветок, попавший под тяжелую жесткую подошву

*В.О. Ключевский. С.М. Соловьев как преподаватель*

Одно из требований к результатам освоения основных образовательных программ бакалавриата и магистратуры в области развития общекультурных компетенций, гласит: «Выпускник должен обладать способностью свободно пользоваться русским и иностранным языками как средством делового общения» (ОК-3). Английский является языком современных научных изданий и периодики. Примерно 90% всех научных работ публикуются сначала на английском языке. Согласно Указу Президента № 599 от 07.05.2012 г. «О мерах по реализации государственной политики в области образования и науки», необходимо к 2015 г. обеспечить увеличение доли публикаций российских авторов в мировых научных журналах, индексируемых в базе данных «Сеть науки» (Web of Science) до 2,44%.

В России ситуация такова, что в международные базы цитирования Web of Science и Scopus попадает лишь незначительная часть работ из издаваемых в России научных журналов в их переводных версиях. Однако, возможно, это ситуация вскоре изменится. Для решения подобной проблемы в Голландии, например, стали все научные журналы выпускать на английском

языке, а в Китае — создавать новые научные журналы и тоже только в английской версии.

Данное учебное пособие представляет собой попытку формирования умений и развития навыков научной иноязычной коммуникации: анализа информации, построения аннотации, написания эссе, доклада, подготовки научного выступления. Издание может представлять интерес для широкого круга читателей: аспирантов, студентов, преподавателей технических и гуманитарных дисциплин — всех, кто занимается научной деятельностью и стремится улучшить навыки академического общения.

### Научный стиль

Сфера общественной деятельности, в которой функционирует научный стиль, — это наука. Ведущее положение в научном стиле занимает монологическая речь. Этот функциональный стиль обладает разнообразием речевых жанров. Основными являются: научная монография и научная статья, диссертационные работы, научно-учебная проза (учебники, учебные и методические пособия и т.п.), научно-технические произведения (инструкции, правила техники безопасности и проч.), аннотации, рефераты, научные доклады, лекции, научные дискуссии, а также жанры научно-популярной литературы. Научный стиль представлен несколькими подстилями: собственно научным, научно-учебным, научно-техническим и научно-популярным.

### Виды научных текстов

Существуют следующие виды текстов:

- собственно научно-техническая литература (монографии, сборники, статьи по различным проблемам технических наук);
- учебная литература по техническим наукам (учебники, руководства, справочники);
- научно-популярная литература;
- техническая товароведческая документация;
- техническая реклама;
- патенты.

Указанные виды текстов имеют как общие, так и специфические особенности.

К основным жанрам научной коммуникации относятся:

1. Жанры *письменной* научной речи: научная монография, научная статья, диссертационная работа, научно-учебная проза (учебники, учебные и методические пособия и т.п.), научно-технические произведения (инструкции, правила техники безопасности и проч.), патенты, аннотации, рефераты, научные доклады, лекции, научные дискуссии, а также жанры научно-популярной литературы. Каждый жанр, в свою очередь, представлен несколькими разновидностями (вариантами или суб-жанрами).

2. Жанры *устной* научной речи.

1.1. Монологические: доклад, научное (реферативное) сообщение, выступление на семинарском занятии, устная рецензия или устный отзыв, защита курсовой и выпускной квалификационной работ.

1.2. Диалогические: научная дискуссия и научная беседа.

Кроме того, различают устную речь и устное воспроизведение письменной речи, т.е. заученный или прочитанный вслух текст.

Основными чертами научного стиля являются: точность, абстрактность, логичность и объективность изложения, стандартизация, унифицированность средств выражения. Для этого функционального стиля характерно использование специальной научной и терминологической лексики, а также использование графической информации (формулы, графики, схемы, таблицы).

Преимущественной формой реализации научного стиля является письменная, однако в последнее время с развитием средств массовой коммуникации, с ростом значимости науки в современном обществе, увеличением числа различного рода научных контактов, таких, как конференции, симпозиумы, научные семинары, возрастает роль устной научной коммуникации. Поэтому большое значение придается преподаванию *академического письма* и *академической устной речи* (выступления).

Одним из важнейших жанров научного стиля является *научная статья*, которая может передавать разнообразную по своему характеру и назначению информацию и наиболее часто используется как основной источник научно-технической информации. Научные статьи представлены несколькими разновидностями: краткое сообщение о результатах научно-исследовательской и опытно-конструкторской работ; собственно научная или научно-техническая статья, в которой достаточно подробно излагаются результаты работы; передовая статья; историко-научная обзорная статья; дискуссионная (полемиическая) статья; научно-публицистическая статья; рекламная статья. Каждая из разновидностей статьи отличается собственным содержанием.

Особенностью использования *лексики* в научном стиле является то, что многозначные лексически нейтральные слова употребляются не во всех своих значениях, а только в одном. В научной речи по сравнению с другими стилями шире используется абстрактная лексика по сравнению с конкретной. Лексический состав научного стиля характеризуется относительной однородностью и замкнутостью, что выражается, в частности, в меньшем использовании синонимов. Объем текста в научном стиле увеличивается не столько за счет употребления различных слов, сколько за счет многократного повторения одних и тех же.

В научном функциональном стиле отсутствует лексика с разговорной и разговорно-просторечной окраской. Этому стилю меньше, чем публицистическому или художественному, свойственна оценочность. Оценки используются, чтобы выразить точку зрения автора, пояснить мысль, привлечь внимание, и имеют рациональный, а не эмоционально-экспрессивный характер: «Интенсивное развитие промышленных предприятий транспорта на Урале наносит большой экологический и экономический ущерб лесному хозяйству, вплоть до полного разрушения лесов, и в конечном итоге, здоровью человека».

Научная речь отличается точностью и логичностью мысли, ее последовательным представлением и объективностью изло-

жения. В текстах научного стиля приводятся строгие определения рассматриваемых понятий и явлений; каждое предложение или высказывание логически соединено с предшествующей и последующей информацией.

В *синтаксических структурах* в научном стиле речи максимально демонстрируется отстраненность автора, объективность излагаемой информации. Это выражается в использовании вместо 1-го лица обобщенно-личных и безличных конструкций: *есть основания полагать, считается, известно, предположительно, можно сказать, следует подчеркнуть, надо обратить внимание* и т.п. Этим же объясняется и применение в научной речи большого количества пассивных конструкций, в которых реальный производитель действия обозначается не грамматической формой подлежащего в именительном падеже, а формой второстепенного члена в творительном падеже или вообще опускается. Поэтому на первый план выдвигается само действие, а зависимость от производителя уходит на второй план или вообще не выражается языковыми средствами.

Стремление к логичности изложения материала в научной речи приводит к активному использованию *сложных союзных предложений*, а также конструкций, которые осложняют простое предложение: вводных слов и словосочетаний, причастных и деепричастных оборотов, распространенных определений и проч. Информационная насыщенность предложения — характерная черта научного стиля речи.

Тексты научного стиля речи могут содержать не только языковую информацию, но и различные *формулы, символы, таблицы, графики и т.п.* В большей степени это распространяется на тексты естественных и прикладных наук: математики, химии, физики и др. Практически любой научный текст может содержать графическую информацию — это одна из черт научного стиля речи.

### **Академическое письмо**

Академическое письмо является общепринятым термином, калькой с английского *academic writing*, и входит в набор акаде-

мических умений (*academic skills*), которыми должен обладать как студент, так и выпускник вуза.

Академическое письмо имеет различные жанры: от рекомендательного письма и академического резюме до подготовки тезисов доклада или научной статьи. Академическое письмо — это возможность усовершенствовать свои навыки при написании различных письменных работ, которые объединены тем, что подчинены определенным требованиям к структуре построения и компоновки текста, выбору стиля изложения (публицистический или научный), умению делать ссылки, перефразировать, выстраивать аргументацию, правильно оформлять литературные источники.

Академическое письмо характеризуется формальным стилем изложения, что подразумевает использование академической лексики, сосредоточенность на теме или проблеме, а не на выражении собственного мнения. Предпочтительное использование третьего лица личного местоимения вместо первого, четкий выбор слов и отточенность стиля; не допускается использование сокращений, разговорной лексики, фразеологизмов, и так далее.

Данное учебное пособие предназначено для развития навыков научной иноязычной коммуникации (прежде всего академического письма) и состоит из Введения, десяти разделов, списка литературы и приложений.

***Автор надеется, что благодаря работе с данным учебным пособием обучающиеся смогут:***

- стилистически грамотно выстраивать предложения и употреблять слова;
- совершенствовать технику письма;
- овладеть различными тактиками выработки идей по теме;
- осознать особенности научных жанров;
- структурировать письменную работу;
- развивать стратегию и технику работы с собственной статьей;

- освоить требования, предъявляемые к письменным текстам (например, к цитированию слов и идей других авторов);
- развивать способности максимально использовать исследовательские ресурсы;
- развивать навыки критического мышления, необходимые при использовании информации из разных источников (книг, статей, сети Интернет);
- подготовить аннотацию, статью, научный доклад на иностранном языке;
- подготовить устное научное выступление.

## Unit 1. MY RESEARCH

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### Words and word combinations

1. analysis (pl. -ses) — анализ, исследование, подробное рассмотрение
2. critical analysis — критический анализ
3. advanced research — перспективные исследования
4. basic research — фундаментальные исследования
5. to be engaged in research — заниматься научно-исследовательской работой
6. this research covers a wide field — данное исследование охватывает широкую область
7. after the study of the matter — после изучения этого вопроса...
8. discovery — открытие
9. humane studies — гуманитарные науки
10. engineering data — технические данные
11. pilot study — предварительное, экспериментальное исследование
12. scientist — ученый
13. desk study — чисто теоретическое исследование
14. thorough examination — а) всестороннее исследование; б) тщательное изучение (материала)
15. to carry on an investigation — проводить исследовательскую работу
16. the scientific method of inquiry — научный метод исследования

### 1.1. Plan your topic as follows:

#### The field which you major in and the title of your future thesis

*I work in the field of...*

*My major interest is in the field of...*

*My scientific research deals with the problems of... which is in the field of...*

*The title of my future thesis is...*

*I work under the guidance of professor...*

*My tutor is...*

*The research I am doing now is a part of a bigger work... / within the framework of the academic research conducted by professor... / a group of scientists...*

*This work is devoted to an important problem into which too few scientists have researched until now.*

*Earlier studies of this subject show that the problem has not been yet properly explored.*

#### The main aims of your research work and the tasks to fulfill

*My study deals with the problems of... / is devoted to the investigation of...*

*It touches upon the problems of...*

*The main purpose / goal / aim of it is... to find out / to define / to characterize / explore / to investigate / to analyse / to gain / ...*

*It is aimed at...*

*I set myself a task to / of...*

*the tasks that face us / that we are faced with / are as follows...*

*Its objectives are the following:*

### 1.2. Study the text below (work in pairs). Pay attention to the underlined words.

#### MY RESEARCH WORK

I'm an economist in one of the Omsk auditing firms. My special subject is accounting. I combine practical work with scientific research, so I'm a doctoral candidate (соискатель).

I'm doing research in auditing which is now widely accepted in all fields of economy. This branch of knowledge has been rapidly developing in the last two decades. The obtained results have already found wide application in various spheres of national economy.

I'm interested in that part of auditing which includes its internal quality control. I have been working at the problem for two years. I got interested in it when a student.

The theme of the dissertation is "Internal quality control of audit services". The subject of my thesis is the development of an effective internal quality control system for audit firm services.

I think this problem is very important nowadays as a major portion of public accounting practice is involved with auditing. In making decisions it is necessary for the investors, creditors and other interested parties to know whether the financial statements may be relied on. Hence there should be an internal control of auditing operations for insuring the fairness of presentation.

My work is both of theoretical and practical importance. It is based on the theory developed by my research adviser, professor S. Petrov. He is head of the department. I always consult him when I encounter difficulties in my research. We often discuss the collected data. These data enable me to define more precisely the theoretical model of the audit internal quality system.

I have not completed the experimental part of my thesis yet, but I'm through with the theoretical part. For the moment I have 4 scientific papers published. One of them was published in the US journal. I take part in various scientific conferences where I make reports on my subject and participate in scientific discussions and debates.

I'm planning to finish writing the dissertation by the end of the next year and defend it in the Scientific Council of the Orenburg State University. I hope to get a Ph.D. in Economics.

### 1.3. Read the text again to find the answer to the following questions.

1. What are you?
2. What is your special subject?

3. What field of knowledge are you doing research in?
4. Have you been working at the problem long?
5. Is your work of practical or theoretical importance?
6. Who do you collaborate with?
7. When do you consult your scientific adviser?
8. Have you completed the experimental part of your dissertation?
9. How many scientific papers have you published?
10. Do you take part in the work of scientific conferences?
11. Where and when are you going to get Ph.D. degree?

#### 1.4. Ask your fellow-student about himself.

1. Who are you?
2. Where did you study?
3. When did you graduate from the University?
4. How long were you studying at the University?
5. Where do you work?
6. How long have you been working there?
7. What is your field (occupation)?
8. What department do you belong to?
9. In what field do you carry on your research?

#### 1.5. Match English words and word-combinations with the corresponding Russian ones.

1 — to take place; 2 — committee chairman; 3 — secretary-general; 4 — call for papers; 5 — short abstract; 6 — extended extract; 7 — summary of the presentation; 8 — manuscript of the paper; 9 — attendee; 10 — accommodation; 11 — information desk; 12 — keynote speaker; 13 — session; 14 — review paper; 15 — exhibition; 16 — proceedings of the conference; 17 — scientific associate; 18 — full member of the Academy of Science; 19 — to lecture; 20 — to take the floor; 21 — to take part in; 22 — poster session; 23 — scientific contribution; 24 — contributed paper; 25 — digest panel discussion.

1 — стендовое заседание; 2 — справочное бюро; 3 — научный доклад; 4 — обзор материалов; 5 — основной докладчик; 6 — проходить; 7 — сборник материалов конференции; 8 — выступить; 9 — принимать участие; 10 — читать лекцию; 11 — председатель комитета; 12 — автореферат; 13 — участник; 14 — генеральный секретарь; 15 — краткий тезис; 16 — действительный член Академии наук; 17 — подробный тезис; 18 — заседание; 19 — выставка; 20 — научный сотрудник; 21 — рукопись доклада; 22 — дискуссия с участием ведущих специалистов; 23 — место проживания; 24 — приглашение выслать материалы для публикации; 25 — научный вклад.

#### 1.6. Study the text below. Give its main idea.

##### RESEARCH IN OMSK STATE TECHNICAL UNIVERSITY

Omsk State Technical University (OmSTU) is a scientific-technological university which trains engineers, economists and classical scholars. The University has always focused on the quality and innovation of its teaching and research developing a fruitful relationship with business and productive world by means of experimental research and technological transfer.

Research has always been linked to didactics and is a priority commitment which has allowed Omsk State Technical University to achieve high quality results at an international level as to join the university to the business world.

Research activity constitutes a parallel path to that formed by cooperation and alliances with the regional and international industrial system. Knowing the world in which you are going to work is a vital requirement for training students. By referring back to the needs of the productive, industrial world and public administration, research is facilitated in following new paths and dealing with the need for constant and rapid innovation. The challenge which is being met today is developing first of all at the European level and following the Bologna process.



OmSTU takes part in several research and training projects collaborating with the most qualified Russian, CIS and European universities. Today the drive to internationalization sees Omsk State Technical University take part in worldwide network of leading technical universities and offers several exchange programmes. OmSTU offers over 30 Bachelor degree programmes and 80 Master of Science degree programmes, 60 Doctoral programmes, and programmes of Elite training which are taught in Russian and English.

**1.7. Analyze the following table about scientific degrees. For more, information, refer to Appendix 4.**

College	Age	Degree	Length of Time
Junior college	From 18		2-year degree
College	From 18	BA, BS	4—5 years
Graduate school	From 22	MA, MS	2—3 years plus thesis
		PhD	3 years plus dissertation
Medical school	From 22	MD, DDS	4 years plus residency
Law school	From 22	JD	3 years

BA = Bachelor of Arts, BS = Bachelor of Science, MA = Master of Arts, MS = Master of Science, PhD = Doctorate (Professor), MD = Doctor, DDS = Dentist, JD = Lawyer.

**1.8. Read and translate into Russian.**

#### SOME ASPECTS OF BRITISH UNIVERSITY LIFE

Of the full-time students now attending English Universities three quarters are men, and one quarter women. Nearly half of them are engaged in the study of arts subjects such as history, languages,

economics or law, the others are studying pure or applied sciences such as medicine, dentistry, technology, or agriculture.

The University of London, for instance, includes internal and external students, the latter coming to London only to sit for their examinations. Actually most external students at London University are living in London. The colleges in the University of London are essentially teaching institutions, providing instruction chiefly by means of lectures, which are attended mainly by day students. The colleges of Oxford and Cambridge, however, are essentially residential institutions and they mainly use a tutorial method which brings the tutor into close and personal contact with the student. These colleges, being residential, are necessarily far smaller than most of the colleges of the University of London.

Education of University standard is also given in other institutions such as colleges of technology and agricultural colleges, which prepare their students for degrees or diplomas in their own fields.

The three terms into which the British University year is divided are roughly eight to ten weeks. Each term is crowded with activity and the vacations between the terms — a month at Christmas, a month at Easter, and three or four months in summer — are mainly periods of intellectual digestion and private study.

A person studying for a degree at a British University is called a graduate. B.A. or B.Sc. stands for Bachelor of Arts, or of Science, the first degree. M.A. or M.Sc. denotes Master of Arts, or of Science. One can become a B.A. after three years of hard study, and an M.A. at the end of five years.

**1.9. Answer the questions.**

1. What is the percentage of men and women students in British universities? Of students studying arts subjects and sciences?
2. What is a graduate?
3. What is the duration of terms and vacations in a British university?

4. What do the abbreviations B.A., B.Sc., M.A. and M.Sc. stand for? When can these degrees be received by a student?

### 1.10. Make a dialogue using the topics.

1. Explain why, in your opinion, women constitute only one-quarter of full-time students in Great Britain.
2. Discuss differences in systems of education provided by London University and the universities of Oxford and Cambridge.

### 1.11. Inform your colleagues:

- about the theme of your dissertation,
- scientific papers you have published,
- who is your scientific adviser (supervisor),
- what projects you are involve in,
- if you are busy with making an experiment.

## Unit 2. SENTENCE STRUCTURE

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### Порядок слов в английском предложении

#### Утвердительные предложения

В английском языке порядок слов строго фиксированный. Следует запомнить два правила:

1. На первом месте стоит подлежащее, на втором — сказуемое, а далее идет все остальное. Схематически это можно изобразить так:

I МЕСТО ПОДЛЕЖАЩЕЕ

II МЕСТО СКАЗУЕМОЕ

III МЕСТО ОСТАЛЬНЫЕ ЧЛЕНЫ ПРЕДЛОЖЕНИЯ:

*Daniel likes apples.*

*She goes to work every day.*

*These flowers are so beautiful!*

*Cats don't eat dogs.*

ПРИМЕЧАНИЕ: Перед подлежащим можно поставить определение; данная схема используется для утвердительных предложений.

2. В английском предложении ВСЕГДА есть сказуемое, т.е. глагол! Даже если в русском переводе этого предложения вы этот глагол не слышите. Например: *В лесу много волков.* («В лесу есть много волков». В этом варианте уже имеется глагол) — *There are many wolves in the forest.*

#### Вопросительные предложения

Существуют 2 базовых типа вопросов: общие и специальные. На первые мы отвечаем “да” или “нет”, а на вторые отвечаем что-то определенное, специальное (в зависимости от того,

что спрашивается в самом вопросе). Помните, что порядок слов в любом английском предложении ФИКСИРОВАННЫЙ, и это также касается вопросов.

#### 0 МЕСТО — ВОПРОСИТЕЛЬНОЕ СЛОВО:

What — что? какой?  
Who — кто?  
Who(m) — кому? кем?  
Where — где? куда?  
When — когда?  
Why — почему?  
How — как?  
How much (many) — сколько?  
Which — который?  
What — какой?  
Whose — чей?

#### I МЕСТО — ВСПОМОГАТЕЛЬНЫЙ ГЛАГОЛ

is / are / am  
do / does / did  
will / would / shall  
have / has  
can / could  
must  
may / might  
ought  
need  
should

#### II МЕСТО — ПОДЛЕЖАЩЕЕ

#### III МЕСТО — ОСНОВНОЙ (СМЫСЛОВОЙ) ГЛАГОЛ

#### IV МЕСТО — ОСТАЛЬНЫЕ СЛОВА.

Более подробно о вопросительных предложениях в английском языке см. в табл. 3—6. Приложения 5.

## Exercises

### 2.1. Change the order of the words below. Don't forget to put a full-stop at the end of the sentence.

1. house / have / I / a / big
2. I / am / to the beach / going
3. she / her friend / visits / after work every night
4. George / gives me / every morning / a call
5. we / every Saturday / to the movies / go
6. he / English / is studying / now
7. I / to the restaurant / go / every weekend
8. the newspaper / reads / always / Helen
9. the money / now / in his pocket / is putting / the man
10. words / I've / new / got / learning / problem / a.
11. class / My / friend / is / my / in / best.
12. You / nice / It's / to / meet.
13. the / I / a / dictionary / use / lot.
14. favourite / instrument / guitar / is / musical / His / the.
15. the / father / office / helps / John / at / his.
16. sister / well / doesn't / speak / very / My / English.
17. She / on / afternoon / practices / Friday / jazz
18. can / You / register / gymnastics / for / year / this.
19. very / The / going / lift / slowly / is.
20. of / Millions / visit / year / people / park / every / the.
21. are / a / The / having / teenagers / lot / today / fun / of.
22. a / I / grandmother / twice / my / week / visit.
23. went / cinema / last / to / the / night / I
24. Something / at / bad / school / yesterday / happened
25. classmates / to / want / talk / My / to / me / didn't
26. to / know / I / what / don't / do
27. a / are / the / lot / There / bananas / on / of / table.
28. I / every / exercises / day / few / do / a.
29. your / behind / Put / hands / back / your.
30. Have / a / of / fat / Chips / in / got / them / lot.
31. throw / the / You / wrappers / mustn't / on / floor.

32. I / pick / these / up / can't / cans.
33. to / something / We / about / want / our / do / environment.
34. be / He / years / old / will / next / sixteen / month.
35. Am / I / sleep / on / all / to / day / going / Saturday.
36. forget / clean / his / won't / to / room / He.

7. we / to talk / too fast
8. they / to clean / the windows
9. she / to watch / the news
10. you / to pull / my leg

## 2.2. Put the words into the correct order to make questions.

1. often / see / Maria / you / do / how / ?
2. is / coat / your / which / ?
3. Jamie / live / school / the / near / does / ?
4. the / what / under / is / table / that / ?
5. Christmas / at / go / where / you / do / usually / ?
6. do / a dog / you / have
7. you / coffee / do / like
8. speak / she / English / does
9. he / can / dance
10. I / Can / take / a / , please / message?
11. play / at / you / the weekends / do / tennis
12. go / last night / out / you / did
13. the train / when / leave / does
14. him / she / did / the truth / tell / why
15. on / they / holiday / are
16. she / Australia / from / is
17. did / Who / blame / they?
18. schoolbag / many / are / books / in / How / your?
19. repeat / you / please / that / Could?

## 2.3. Write questions with the words below.

1. Peter / to go / to the cinema
2. they / to play / a game
3. she / to listen / to the radio
4. I / to dream
5. they / to pack / their bags
6. you / to do / the washing-up

## 2.4. Replace the repeated words with their synonyms. Change the structure of the sentence if necessary:

1. The traitor fell and as he fell, the knife fell from his hand and fell on the floor.
2. The tree stood still on the still banks of the still lake in the still evening air.
3. Side by side they walked down the side of the house into a side street, where they opened a side door and went inside.
4. There wasn't enough room in that room for a table but they soon made room in another room, next to the dining room.
5. The happy news made him very happy and he gave a happy cry, because he wanted others to be happy too.
6. The dark corner of the room was so dark that a dark man could not be seen in the dark place.
7. He walked out of the door, walked to the gate and walked down the road, then, walking rapidly, he walked out of sight.

## 2.5. Transform a compound sentence into a simple one.

1. I'm going to the city, and I'm going with my mother, and I'm going tomorrow.
2. Shakespeare was born at Stratford-on-Avon and he wrote many plays, but I've read very few.
3. I like neither study, nor recreation, I prefer to sleep.

## 2.6. Join two sentences into one. Give as many variants as possible.

1. The parson (пастор) came into the pulpit (трибуна). He started to preach.

2. My sister played with her doll. I played with my soldiers.

3. The Japanese are very kind and polite. They never kiss or shake hands. They bow profusely to one another and to strangers. They seldom weep visibly. They smile a great deal.

4. Baku is located on the Caspian Sea. It is a thriving Caucasian city. It is noted for its monster oil business.

5. The streets were crowded. The people were shouting. The bands were playing. The parade was just forming. The policemen were hard at work. They were trying to keep order.

6. I don't like Greek. It is difficult. It is of no use to me. I have to study it.

**2.7. Make up questions to which the following phrases are the answers. The dialogue is between a research student and his scientific adviser**

Scientific adviser: ...?

Research student: Yes, I did. I tried hard to find the necessary information in various journals. But I could find nothing.

Scientific adviser: ...?

Research student: Yes, of course. I also looked through English literature. But my knowledge of English still leaves much to be desired ...!

Scientific adviser: ...?

Research student: Of course I will! I'm going to improve my English by attending the English language courses at the university.

**2.8. Read the text and compile a guide-paper for would be post-graduate students. Be ready to present it for approval of a contest jury.**

**HOW TO STAND UP FOR AN ACADEMIC DEGREE.  
INSTRUCTION TO POST-GRADUATE STUDENTS**

It is no good writing a long thesis: it is not the novel "War and Peace" and you are not Leo Tolstoy. It is no use writing it briefly

either: it either testifies to your great talent or lack of brains. Your opponents will forgive you neither.

Do not put on airs: it is not worth thinking that you alone are clever and all others are fools. Avoid using the arrogant first person singular: instead of saying "I assume", "I suppose" use "It is assumed..." or "We suppose..."

Try the scientific value of your paper on your relatives and colleagues. If your paper is sophisticated enough, they will start yawning and fall asleep in no time, while listening to it or reading it. The sections that cause fits of laughter or anxiety need rewriting.

Although you will enjoy listening to the compliments of experienced people, do not be deceived by their singing praises to you.

Avoid inviting young scholars as your would-be opponents: they are always glad to jump at the opportunity of showing off and discrediting others. It is always more practical to invite merited and older scientists because the older they become the kinder and lazier they get.

If you are at achieving success, read your paper in front of a mirror even if you dislike doing it.

When on rostrum, try to behave properly. Even if you cannot help feeling excited, stop swinging the pointer over the heads of the listeners, keep from waving hands, abstain from shouting and blowing your nose loudly.

Control your voice: if you try to speak as monotonously as you can the learned members of the Academic Board will start thinking of their own affairs or dozing off. Proceed demonstrating slides, tables, graphs and you will succeed in hitting the target.

Gumming up, express your appreciation and gratitude to all the people present, keeping strictly to the table of ranks.

When the formal procedure is over, providing you were a success, do not forget to invite everybody for refreshments and a cup of coffee or tea.

## **Unit 3. WORKING WITH A TEXT AND TAKING NOTES**

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### **3.1. Answer the questions about some British universities.**

#### **1. How did polytechnics change their status since 1960-s?**

##### **Polytechnics**

During the 1960-s the best of many technical collages (supported by the local authorities) were given the status of University. Although their main studies are still in technological subjects, they have introduced other subjects such as languages and social sciences. Many of these former polytechnics were in large cities where there was already a University, so there're now some towns and cities in Britain which have two Universities.

#### **2. What kind of people have the opportunity organized by The Open University?**

##### **The Open University**

This is an educational system which makes use of television, radio and correspondence courses. It was organized to give educational opportunity to those people who for one reason or another have not had a chance to receive further education. Study centers have set up all over the country so that students can attend once a week, and once a year they spend a week at one of the University summer schools.

#### **3. What was the reason for building so-called “Red Brick Universities”?**

### **The Red Brick Universities**

With the development of industry in the 19th century technicians and engineers were needed. The older Universities didn't produce them. Therefore science classes were set up in industrial centers and later they developed into either technical colleges or the modern Universities, such as London, Manchester, Leeds, Birmingham Universities and others. The term “Red Brick” is not used much today but It's a useful way of describing this group of Universities many of which are build in the favorite building material of the time — red brick.

#### **4. How long does each term in Britain last?**

##### **Academic year**

Academic year in British Universities is divided into three terms which usually run from the beginning of October to the middle of December, from the middle of January to the end of March, from the middle of April to the end of June. Admission to the Universities is by exams and selection.

#### **5. How do the forms of teaching differ?**

##### **Forms of Teaching**

At universities and colleges teaching takes the form of lectures classes, seminars and tutorials. A lecture is a formal method of teaching, and, although there may be questions, usually at the end, there is rarely any discussion. The number of students attending is limited only by the size of the room. A class is less formal than a lecture. There are not usually more than 50 students, sometimes considerably less and there is generally some discussion between the teacher and students. A seminar is a still smaller and more informal group. The number of students usually ranges from 5 to 10. Seminars are often held weekly, and as a rule one of the groups reads paper, which is then discussed by the others. A tutorial in its original form

is an informal weekly meeting of an individual student with his tutor to discuss an essay which the student has written.

**3.2. Study the tips for taking notes. Choose 3 of them which seem the best for you.**

**TAKING NOTES IN ENGLISH: TECHNOLOGY**

(<http://www.wikihow.com/Take-Better-Notes>)

**Tips**

**Things You'll Need**

- At least two pens or pencils
- An eraser, for pencils that do not have erasers attached.
- Glasses or other aids
- Plenty of paper
- Highlighter (Different colors if you want)
- At least one pack of different colored sticky notes.

**Steps**

1. Organize yourself prior to your note-taking engagement.

Don't forget ample paper, writing utensils and, if necessary, eyeglasses and / or hearing aids. Always have a backup pen or pencil, preferably two or three.

2. Position yourself in an area of the room where you can effectively see and hear the speaker. Have trouble seeing the blackboard? Arrive early to make sure you get a front row seat.

3. Think about what you want to retain. Why are you taking the class? Why are you attending the seminar? Why did your employer send you to the conference? While it may be your first instinct to try and write down what you hear or see verbatim, you have to remember that you are taking notes, not writing a novela.

4. Focus on recording information that is new to you. As tempting as it might be, taking notes about stuff you already know doesn't end up helping much in the end.

5. Create a system of note-taking that allows you to write quickly and get down basic concepts, but which will also allow you to quickly find information in your notes later. Consider using an outline format, for example, or clearly separating your notes into different sections (or columns if you are using a steno pad or a computer). Consider learning or creating your own shorthand to help take notes a little faster.

6. Compose your notes in a concise and legible fashion. If you can't read your notes you may be writing too much. Consider writing less or using a computer.

7. Use short and meaningful phrases, and abbreviate when necessary. Don't use abbreviations that you won't recognize later.

8. Highlight key words and phrases. Make the important things stand out. If the speaker emphasizes a certain concept, make sure to do the same in your notes.

9. Utilize meaningful symbols. Symbols like arrows, dots, boxes, diagrams, charts, and other visual notes are often great ways to associate and remember key concepts.

10. Write your notes for the future. When you are in the situation, recognize that you will have to return to the notes later and understand your notes. If you have time, review your notes as the speaker communicates familiar material. Otherwise, go back and review them immediately after the lecture, when the topics are fresh in your mind.

11. Share your notes with others. Trade and exchange notes to increase your materials and to enhance your learning. If you plan on sharing your notes with others it will often motivate you to take copious notes that are legible and understandable.

12. If you are reading a book for an English literature class, make sure you have a pack of Post-It notes at hand, since you may not be allowed to write in the actual book. If you are reading a book for an English literature class, make sure you have a pack of Post-It notes at hand, since you may not be allowed to write in the actual book. When making these notes, make sure that you say on each Post-it how the audience feels when the author uses a certain

type of language. The author always uses imagery, especially in Shakespeare's plays. Take note and include a personal response.

13. Try to make your notes as attractive as possible, so you would like to read them later. Write in different colors, or if you have the time, draw / paste illustrations. Write differently. Make the titles wavy, or change to typewriter font, just for a change.

14. Use some inside jokes in your notes to alleviate the monotony of reading them in boring book-speak. (for example, I used the phrase "awkward turtle" in my economics notes just to give myself a laugh.) Don't do this too much though! You'll just find yourself distracted.

### **3.3. Read the following text (a lecture) and make notes using the tips you have learned. One student can read the text for the class.**

#### **TECHNOLOGY**

Hi everybody! This is Misterduncan in England. How are you today? Are you ok?... I hope so! Are you happy?... I hope so! In this lesson we're going to talk about the complicated and some would say forever changing world... of modern technology.

A long time ago in galaxy, far far away... Well... actually it was not all that long ago... In fact it was not all that far away either... In the beginning there was darkness. Computers, DVD players and i-pods did not exist. There were no cellular phones, no jet aeroplanes, no microwave ovens and no internet. Yes before technology came along, the world was quite a dull place to be... Or so we are told!

"Greetings Earth People". The word technology generally relates to any complicated tool that has been created to carry out a task of some sort. This task can be a simple one... such as... adding up numbers. Right up to the really complex ones... such as steering a jumbo jet or sending a rocket into space. There are some other words that relate to technology. Such as... "Electronics", "Hi-Tech", "Micro-Tech" and... "Info-Tech". These days virtually all modern technology is powered by electricity... For example... "Televisions", "Radios", "MP-3 Players", "Cellular Phones", "Washing Machines", "Notebook

Computers". Even the good old... "Bzzzzzz" "Toothbrush". The list is endless!

Do you mind if I take your photograph? Is it ok? Ok... Give me a lovely smile... go on! Say Cheese... "Cheese!!!". That's great. It would be fair to say that virtually of the great technological leaps forward have occurred during the past fifty years. Since the discovery of Electricity... our world has been magically transformed into an amazing wonderland... where our thirst for information can be quenched and imagination is allowed to run free. However... all is not perfect.

There are some people who are skeptical of our ultra-modern way of living and say that modern inventions such as the Computer and Television have made us lazy and less in touch with the real world. Other examples being... the cellular telephone and the internet, which critics say, have helped to make the world smaller... while at the same time making us less likely to speak face to face. Also we mustn't forget the environmental impact that these energy guzzling devices are making.

Of course it is true that technology has been created for bad purposes... as well as good. Nuclear power has enabled us the generate energy, but it has also been used to create weapons. So I imagine, perhaps in the future... we could be using Lazer guns... just like in the science-fiction movies. Sorry! Oh dear!

It is amazing to think of how much the world has changed, because of all the new technology around us. Many of the devices we use today would have been more fantasy and science-fiction fifty years ago. It proves one very important rule. If can be imagined... it can be created. I wonder what our world will be like in another fifty years. Can you imagine what it will be like living then? Flying cars! Fusion power! Maybe even a "Time-Machine" will be invented by then. I could travel back to the past... and visit myself as a child. Then again... maybe not.

How many pieces of technology do you own? What are your favorite electronic devices? Do you think you could live without them? It is amazing to think that without all these incredible



inventions I would not be able to stand here today and talk to you. Many of the things we can do today have been made possible thanks to our own creativeness and ingenuity.

This is Misterduncan... via the internet...

### 3.4. Using your notes, answer the questions.

1. How much has the world changed?
2. What about you? Do you use many devices? Which ones?
3. Do you think technology is good or bad? Why?
4. Can you imagine our world in 50 years? Describe it in a few words.

## Unit 4. WRITING MINI-SAGAS

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### 4.1. Lead in: Hangman.

This is a quotation by Blaise Pascale, a 16<sup>th</sup> century philosopher and mathematician.

“ ’ / \_ \_ \_ \_ / \_ \_ \_ \_ / \_ \_ \_ \_ / \_ \_ / \_ \_ / \_ \_ \_ \_ . / \_ \_ /  
\_ \_ \_ \_ , \_ /  
\_ \_ \_ \_ / \_ \_ \_ \_ / \_ \_ / \_ \_ \_ \_ / \_ / \_ \_ \_ \_ / \_ \_ \_ .”

Let's play 'Hangman', filling in the letters until you are able to guess the complete quotation. Do you agree with it?

### МИНИ-САГА

Мини-сага — это история, которая состоит ровно из 50 слов (предлоги тоже считаются). На Западе давно проводятся конкурсы и выпускаются сборники мини-саг. Мини-сага может представлять собой ваше кредо, рассказ о вашем мировоззрении. Она может быть написана в стихотворной форме; некоторые пробуют писать мини-саги, все слова в которых начинаются на одну букву.

### Стадии написания мини-саги:

1. Начните думать об истории, которую вы хотите написать (это может быть история из вашей жизни, просто история из Интернета, книги)
2. Напишите первый вариант истории.
3. Сократите свою историю. Уберите любые слова, которые не являются абсолютно необходимыми. Сколько в ней слов?
4. Теперь сократите свою историю еще раз. Сколько слов осталось? В данный момент вам, возможно, потребуется изменить слова или предложения, чтобы было ровно 50 слов.

#### 4.2. Mini dialogues.

— Write the first line of a dialogue into your copy book:

*Did you do anything interesting last night?*

—  
—  
—

**How many words are there? Try to give a response to continue the dialogue, but with 6 words. Then continue it with a 5-word sentence. Then with 4. Continue until the mini dialogue concludes with one word. You can work in pairs or in groups.**

**Make your own dialogues starting with another line.**

**4.3. Read the text. There are 65 words. Work with a partner. Take turns deleting one word at a time. Each time you delete a word the text must make sense and be grammatically correct.**

“Water should never lie still” the wrinkled old gypsy woman said, joining two small puddles together with a walking stick. The city businessman was quite intrigued and he suddenly had an idea. He later spoke to the government and soon he announced his new plan to join two much larger puddles together. Ships can now sail right through Panama instead of going around Cape Horn.

**Make a list of the words you removed here. What kind of words are they?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4.4. Read these mini-sagas taken from Mini Sagas: 1999 (The published results of the Daily Telegraph mini sagas competition). Which do you like the best? Translate it.**

#### **Saving Money**

*Michael Chang (China) 12th June, 2002. Planning to study for an MBA.*

“I have saved 70 pence today” David said to his wife, excited and breathing deeply as he arrived home. “I followed the bus back and earned 70 pence for us.” “You stupid fool, you should have followed a taxi! Don’t you realise that you could have earned two pounds instead?”

#### **Life**

*Wind (Taiwan) 13th June, 2002. Planning to study for an MBA.*

A fisherman had a nice family and lived happily near the beach, fishing only for their daily needs. One day he met a businessman who said “catch more fish, buy more boats and run a successful business”. The fisherman answered “then what?” “Start a family and live by the beach.”

#### **The Dwarves’ Solstice Job**

*Olaya (Spain) 13th June, 2002 (based on an Asturian tradition which should be carried out by mythical dwarves). Planning to study for a BSc in Marine Biology.*

Some friends planned to take things from each house and put them in the main square. They do this every solstice.

“Which house should we start with?”

“The one on the hill.”

They were surprised when they found everything already in the square with a note: “It’s our job, go away!”

## **Home**

*Xin Yi Zhao (Cindy) (China), 12th June, 2002. Planning to study BSc in Information and Library Studies.*

The boy who lived in the countryside came home from university. He wanted to give his parents a big surprise. At the door, he found his family cold and cheerless. To support him with his studies, his parents sold all their cattle and led a very poor and simple life.

## **Justice and Immunity**

*Ishak Sulaiman (Malaysia), 12th June 2002. Already studying for a PhD in Islamic Studies at University of Wales Lampeter.*

“I’m fighting for you Tuah, for justice and to topple the dictatorship,” Jebat claimed.

“Let’s salute the King for his immunity,” Tuah replied.

“I will never bow to the dictatorship, I will die for it.”

Tuah and Jebat are still fighting each other. One for the King and one for justice.

## **Division of Labour**

*Hassan Soleimani (Iran), 12th June, 2002. Planning to study PhD in Law.*

Four friends went on a journey. After walking they found a place to rest and eat. Each said they would do something. One said “I’ll prepared a meal”. Another said “I’ll start a fire”. The third said “I’ll build a shelter”, while the fourth said “I am ready to eat”.

## **An Open Mind**

*Xu Zheng (Robin)(China), 12th June, 2002. Planning to study for an MSc Computer Science.*

“I don’t like robots,” I said to my new boss after a cup of coffee. “I hate them, I don’t like working with cold machines.”

“Perhaps you really should try to open your mind.” My boss put down his cup and opened his body, then put two new batteries inside.

## **Terminal**

*Bo Jiang (China), 12th June, 2002 (based on a Chinese belief about the passage between heaven and hell — the river of forgetting — after death). Planning to study for an MBA.*

“Have this soup please,” said the old woman coldly. The brook beside me was quietly flowing.

“Am I here?” I thought, “my wife will be waiting for me.”

“Have this soup,” she said again.

“No I won’t,” I complained faintly.

“No, you must. You cannot go back, I’m Mrs Meng.”

## **Growling**

*Yuji Okada (Japan), 13th June, 2002. Planning to study for a BSc in International Politics.*

A big lion is growling. I have to stay here quietly. I am sweating a lot. It is just a few minutes, but I feel like this moment will last forever. Finally the school bell rang. I closed my books, packed my bag and quickly went to the restaurant.

## **The Pride of a City Boy**

*Hiroko (Japan), 13th June, 2002. Planning to study for a BSc in International Politics.*

In the Edo Period, a man always ate noodles in public with a little spicy sauce, because this eating style was the symbol of a city boy. He always said “I’m a real city boy”. However, when he died he said, “I wanted to eat noodles with plenty of spicy sauce.”

**Pity**

*Lisa (China), 12th June, 2002. Planning to study for an MBA.*

A young man sat in a restaurant with a beautiful woman. This was an important day for him as he wanted to talk to her about his feelings. Another man came in and said to her, "Darling, sorry I'm late, let me introduce my son," pointing at the young man.

**Full Bloom**

*Miki Chono (Japan), 12th June, 2002. Planning to study for a BA in Business Studies.*

The cherry blossoms are in full bloom  
Spring is mild but cruel  
She feels the pain of parting  
He is no longer here  
Her sun has gone  
Although people meet each other coincidentally, the separation means something  
She still doesn't know the meaning  
She is always upset about her life

**Who Has Power at Home?**

*Tomoko Takahashi (Japan), 12th June, 2002. Planning to study for a BA in Business Studies.*

A man works outside and earns money. His wife works inside the house as a housewife. The man usually orders her to do something and his wife fulfills it. However, the wife controls his pocket money. He cannot take a strong attitude toward his wife when he wants money.

**Who is a Fool on Earth?**

*Howard Zheng (China), 12th June, 2002. Planning to study for an MBA.*

One day a man was counting the storeys of a building.

A woman said "Anyone who counts here is punished. How many floors have you counted?"

The man answered "Thirty".

"30 Yuan please," the woman said.

The man gave her 30 Yuan and thought "You fool, I counted 50 floors".

**4.6. Writing.**

**Write a mini saga. First spend a few minutes thinking of what you are going to write about. Write your first draft, then spend time editing, cutting out or adding words until the text has exactly 50 words.**

**Ideas for mini-sagas:**

- A description of a favourite object, place, person;
- a joke, an anecdote,
- something funny or scary that happened to you;
- a synopsis of a film you have watched or a book you have read;
- a letter to an old school teacher, friend or relative;
- your views on a topic,
- a newspaper article,
- a legend,
- a song,
- great adventure,
- travelling story,
- police report.

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*Answer for lead-in:* “I’m sorry this letter is so long. I didn’t have time to write a short one.”

*Answer for 5.3.:* Original:

“Water should never lie still” the old gypsy said, joining two puddles together with a stick. The businessman was intrigued and had an idea. He spoke to the government and announced his new plan to join two larger puddles together. Ships now sail through Panama instead of around Cape Horn.

By John Morgan, University of Aberystwyth, UK

## Unit 5. WRITING AN ABSTRACT

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В практической деятельности специалистов часто возникает необходимость ознакомления с обширными по объему иностранными материалами, перевод которых занимает много времени. В этом случае прибегают к краткому изложению содержания этих материалов — составлению реферата (summary). Реферат, как экономное средство ознакомления с материалом, отражает его содержание с достаточной полнотой. Реферат не только раскрывает важные стороны содержания, но и показывает читателю, имеет ли для него смысл полностью или частично проштудировать данный источник информации в оригинале.

Составление рефератов представляет собой процесс аналитико-синтетической переработки первичного документа, при котором во вторичном документе — реферате — излагается основное содержание первичного документа, приводятся данные о характере работы, методике и результатах исследования, а также месте и времени исследования. Объектом реферирования является преимущественно научная, техническая и производственная литература. На остальные виды публикаций, как правило, составляются только аннотации и библиографические описания.

Различие между аннотацией и рефератом определяется их назначением. Аннотация предназначена только для информации о существовании первичного документа определенного содержания и характера, а реферат служит для изложения основного содержания первичного документа.

### Содержание и структура реферата

Реферат состоит из следующих элементов:

- 1) заглавие реферата;

- 2) библиографического описания реферируемого документа;
- 3) текста реферата.

Заглавием реферата, как правило, служит заглавие реферируемого документа. Если заглавие документа не отражает основного смысла содержания этого документа, то дается другое, более точное заглавие.

В тексте реферата отражаются следующие данные:

- 1) исследуемая проблема, цель, главная мысль и содержание работы, предмет или цель исследования;
- 2) данные о методике и ее сравнительной точности (при этом широко известные методы не отмечаются).
- 3) выводы автора и указания возможностей и путей практического применения результатов работы;
- 4) ссылка на наличие библиографии и иллюстративного материала (если их нет в библиографическом описании).
- 5) технология, применяемое оборудование и условия проведения исследования;
- 6) таблицы, схемы, графики, формулы, необходимые для уяснения основного содержания документа;
- 7) необходимые справочные данные (об авторе, истории вопроса, месте проведения исследования и т.д.).

В соответствии со спецификой реферируемого документа в реферате могут содержаться не все данные, а какая-то их часть.

Реферирование — это сложный, творческий процесс, построенный на проникновении в сущность излагаемого. В процессе реферирования происходит не просто сокращение текста, а существенная переработка содержания, композиции и языка оригинала:

- в содержании выделяется главное и излагается сокращенно, сжато;
- однотипные факты группируются и им дается обобщенная характеристика;
- цифровые данные систематизируются и обобщаются;

- если основная мысль сформулирована недостаточно четко, она должна быть конкретизирована и выделена в реферате;
- в случае необходимости происходит перемещение временных планов в последовательности от прошлого к будущему;
- язык оригинала претерпевает изменения в сторону нормативности, нейтральности, простоты и лаконичности. Исключаются образные выражения, эпитеты, вводные слова, не существенные определения, обстоятельства, дополнения. Происходит разукрупнение сложных синтаксических конструкций, сокращение количества придаточных предложений, замена их более простыми оборотами.

Информативность как основное содержание жанра реферата как бы «просачивается» через все языковые элементы и их значения и в то же время соединяет их в цельную структуру.

Реферирование — это сложное комплексное умение, состоящее из целого ряда отдельных элементов, а именно: 1 — выделение абзацев, содержащих основную информацию; 2 — выделение основных мыслей, фактов, положений; 3 — озаглавливание выделенных абзацев; 4 — составление плана статьи; 5 — сокращение текста; 6 — передача содержания текста своими словами (перифраз).

### **Подготовка описательной аннотации на английском языке**

Требованием многих российских научных изданий является сопровождение научных статей аннотацией на английском. Аннотация может быть описательной, справочной, реферативной, рекомендательной и критической. Для научной статьи важно умение составить *описательную аннотацию*. Большой опыт написания аннотаций позволяет автору не только совершенствовать свои навыки в этом жанре, но и постепенно переходить на

самостоятельную подготовку более сложного текста — научной статьи на иностранном языке.

Словарь издательства Longman дает следующее определение слова *annotate*: “to add notes to (a book), to explain certain parts” — делать заметки, поясняющие отдельные части текста (Словарь активного усвоения лексики английского языка). В русском языке аннотация — краткое изложение содержания книги, статьи и т.п.

Для многих ученых довольно сложной задачей является кратко передать содержание своей работы на иностранном языке. Составить подобную аннотацию или представляется трудным, даже если они обладают начальными знаниями и в их распоряжении есть средства машинного перевода, так как известно, что подобный перевод нуждается в корректировке. Как справедливо отмечает Л.А. Шимановская, «аннотация в двух-трех, иногда в четырех-пяти предложениях, кроме краткого ответа на вопросы «О чем эта статья?» и «Какие новые результаты получены?» сообщает также об уровне речемыслительной деятельности автора статьи и о степени владения навыками академического письма на английском языке» [Шимановская Л.А. 2013, с. 287].

Поэтому необходимо следовать основным лексическим, грамматическим и стилистическим принципам аннотирования научной статьи. Главными требованиями при переводе аннотации на иностранный язык, без сомнения, являются знание основ научно-технического перевода (специальная терминология, лексико-грамматические и стилистические особенности языка науки) и особенностей перевода некоторых грамматических конструкций с русского языка на иностранный. По отношению к английскому языку, это прежде всего правило согласования времен, передача безличных предложений и пассивных конструкций, разные типы инверсии, импликаций и т.п.

На основе личного опыта мы установили, что к наиболее часто встречающимся грубым ошибкам в аннотациях относятся:

- пропуск или неправильная постановка артиклей;
- употребление нескольких предлогов принадлежности “of” в одном предложении;
- банальные опечатки;
- пунктуационные ошибки.

Мы считаем, что следуя определенному алгоритму построения аннотаций, а также опираясь на тесты-образцы, с аннотированием можно справиться и без помощи профессионалов. Ниже приведены некоторые советы по написанию аннотаций на английском языке:

Сократите аннотацию на русском языке до двух-трех предложений. Сократите эти предложения, оставив лишь самую важную информацию.

Избавьтесь от повторяющихся оборотов с родительным падежом типа «в докладе рассматривается вопрос назначения уровня надежности дорожных одежд» на русском языке. Помните, что конструкции с родительным падежом имеют несколько вариантов перевода (передачи) на английский. При этом может применять членение высказывания, лексические и грамматические трансформации.

Используйте широко известные «набивочные» слова, клише (см. ниже). В аннотации важно указать цель, основное содержание и результаты проведенного исследования. В технических статьях необходимо также указать метод и основные условия исследования.

Однако стоит отметить, что при подготовке статьи и ее аннотации в англоязычное научное издание, автор должен следовать правилам, принятым в том или ином журнале. Обычно издательство предлагает т.н. *Template* — образец, шаблон оформления статьи и аннотации к ней, которому нужно строго следовать при подготовке текста.

Список рекомендуемых пособий по аннотированию и реферированию на иностранном языке см. в Приложении 3.

## Фразы для реферирования текста

### Rendering the text / article

#### 1. Headline of the article (text), title of the newspaper or the magazine, date of publication, the author

The title (the headline) of the article (text, my research paper) is... The article is entitled...	Заголовок статьи...
The title of the newspaper is...	Название газеты...
The article under the title... was published in... (newspaper, book) №... on... (date)	Статья под заголовком... была напечатана в..., номер..., (дата)
The author is..., the correspondent of...	Автор — ..., корреспондент (издание).
The article is written by...	Статья написана (тем-то).
It is published especially for...	Она напечатана специально для...

#### 2. Main topic (idea)

The article consists of an introduction and three parts.	Статья состоит из введения и трех частей.
The main idea of the article is...	Основная идея статьи...
The article is devoted to the problem of...	Статья посвящена проблеме...
It touches upon...	Она касается...
It tells the readers about...	Она рассказывает читателям о...
The subject of the article is...	Тема статьи (предмет описания)...
The author gives us some information about...	Автор дает нам некоторую информацию о...
The author discusses an important problem of...	Автор обсуждает важную проблему (чего)...

### 3. Main contents

The author emphasizes the fact that...	Автор подчеркивает, что...
He believes (reports, points out) that...	Он верит (сообщает), что...
He analyses how...	Он анализирует, как...
He examines why...	Он исследует, почему...
It's necessary (important, interesting) to note (to report) that...	Необходимо (важно, интересно) отметить (сообщить), что...
The first part is devoted to...	Первая часть посвящена...
The second part is about...	Во второй части говорится о...
In the last part the author describes...	В последней части автор описывает...
Further he says...	Далее он говорит...
He mentions...	Он упоминает...
According to the author...	По мнению автора...
He calls attention to the fact that...	Он привлекает наше внимание к тому факту, что...

#### 4. Conclusions of the author

The author comes to the conclusion that...	Автор приходит к выводу, что...
In conclusion the article reads...	В заключении статьи говорится...
In summing up the author...	В заключение автор...
At the end of the article the author sums up...	В конце статьи автор подводит итоги...
Evaluating the situation the conclusion can be drawn that...	Оценивая ситуацию, можно прийти к такому заключению, что...



## 5. Your attitude towards the article

The text might be interesting for...	Текст может быть интересен для...
The language of the article is...	Язык статьи...
There are a lot of ... (special, technical, economical, architectural) terms in the text, for example...	В тексте много (специальных, технических, экономических, архитектурных) терминов, например...
As for me...	Я считаю...
To my mind...	По моему мнению...
We can make a conclusion that...	Мы можем сделать заключение (вывод), что...
As far as I understood...	Насколько я понял, ...
I'd like to quote...	Я бы хотел процитировать...
On reading the article we (I) realize the fact that...	Читая статью, мы (я) осознаем тот факт, что...
In conclusion I can say...	В заключение я могу сказать...
I find the article useful, informative, interesting, up-to-date, disputable, because...	Я считаю, что статья полезна (информативна, интересна, актуальна, спорная), потому что...

### Exercises

**5.1. Read and translate the following tips into Russian. Use them in your practice.**

#### Writing the abstract (revision)

Abstracts are important because they give a first impression of the document that follows. Though some abstracts only list the

contents of the document, the most useful abstracts tell the reader more.

Typically, an informative abstract answers these questions in about **100—250 words (max 600 words)**:

- Why did you do this study or project?
- What did you do, and how?
- What did you find? (What are the advantages of the method or equipment)?
- What do your findings mean? (How well does it work?)

Prepared by Dr. Margaret Procter,  
University of Toronto Coordinator,  
Writing Support : [www.writing.utoronto.ca](http://www.writing.utoronto.ca)

#### Here are some other points to keep in mind about abstracts:

- An abstract can be read along with the title, so do not repeat or rephrase the title.
- However, it will likely be read without the rest of the document, so make it complete enough to stand on its own.
- Your readers expect you to summarize your conclusions as well as your purpose, methods, and main findings.
- You may want to avoid using I or we, but choose active verbs instead of passive when possible.
- Avoid if possible using trade names, acronyms, abbreviations, or symbols.
- Use the most important terms and concepts from the document. Include the ones that will attract people to read your piece.

**5.2. Retell the following text using the expressions for rendering above.**

#### Vocabulary

1. a definition — определение
2. to list — перечислять

3. according to — согласно
4. to grant — присуждать
5. a division — отделение
6. recreational — предназначенный для отдыха и развлечения
7. facilities — условия, возможности
8. a teaching assistant — доцент
9. competitive — конкурсный
10. to accept — принимать
11. to apply — подавать заявление о приеме
12. an applicant — абитуриент

### THE DIFFERENCE BETWEEN A COLLEGE AND A UNIVERSITY

This is a difficult question because there is more than one correct answer. In fact, there are 3 definitions for the word 'college' (as it refers to a college in the USA) listed in the American Heritage Dictionary of the English Language.

According to the dictionary, a college is:

- a school of higher learning that grants a bachelor's degree in arts or sciences or both;
- an undergraduate division of a university that offers courses and grants undergraduate degrees in a particular field of study; or
- a technical or professional school that grants a bachelor's or master's degree in that field.

A university is a school of higher learning that grants a bachelor's degree, master's degree, and doctorate through different colleges within the university.

Many international students ask if a university is better than a college. The answer is that a university has advantages and disadvantages for an international student, and a college has advantages and disadvantages too.

The advantages of a university are that there are usually more research and recreational facilities, and more different kinds of courses offered. The disadvantages of a university are that courses taught to first-year students are often taught by teaching assistants

who are graduate students themselves, and that the classes can be very large.

All colleges and universities in the USA are divided into:

- most competitive (admit only fewer than one third of those who apply);
- highly competitive;
- very competitive;
- competitive;
- less competitive;
- noncompetitive (accept all their applicants).

### 5.3. Read the following examples of abstracts. Underline clichés.

1) By the analysis of different theories, following a similar outline for each of them, this book permits a critical reflection on these questions. It also aims at making the current research in which these theories are present more accessible for the reader. Moreover, this research, by considering issues on the dynamics of the processing of information, its contextualisation, and the fundamental cognitive abilities of the speaker, is also in line with broader issues concerning, for instance, different domains of (computer science or also cognitive) sciences. The different theories dealt with are (First Order Predicate Logic, Intensional Semantics, Boolean Semantics, General Semantics (Vanderveken), Dynamic Semantics, Situation Theory and Cognitive Grammar).

#### 2) European Scientific Journal

(<http://eujournal.org/index.php/esj/issue/view/59>)

#### **The Approach To The Analysis Of Electrical Field Distribution In The Setup Of Paper Insulated Electrodes In Oil**

(by Pawel Rozga, Dariusz Hantsz)

Article presents the problem of the approach to the analysis of electrical field distribution in the model insulating system, which, in the author's experimental research, was used to the assessment

of the influence of paper insulation on the mechanism of electrical discharge initiation in mineral oil. The main assumptions of the planned numerical works based on the finite element method were described and scientific aim of the numerical analysis were characterized in this paper. Both the assumptions and the scientific aim were related to the conclusions from the experimental works, especially to the measured times to initiation of the discharges developing in mineral transformer oil, indicating on the important role of the oil quality in the process of discharge initiation in the system of the insulated by paper electrodes immersed in oil.

### **3) Statistical Optimization And Sensitivity Analysis On Mechanical Property In Hydro Fracturing Process** (by B. Guruprasad, A. Ragupathy, T.S. Badrinarayanan, T.P. Sankaralingam)

In the hydrofracturing process, the parameters such as Pressure in N/mm<sup>2</sup>, Temperature in °C, Injection hole diameter in mm play a major role in determining the fracture length during the hydrofracturing process. A central composite rotatable design with three factors and three levels was chosen to minimize the number of experimental conditions. An empirical relationship was established to predict the fracture length (mm) of the hydrofracturing process by incorporating independently controllable hydrofracturing process parameters. Response surface methodology (RSM) was applied to optimize the process parameters to attain maximum fracture length (mm). Sensitivity analysis was also carried out to understand the impact of each process parameters on Fracture length.

### **4) Cultural Heritage As Media-Based Learning Experience** (by Hans W. Giessen)

This paper reports on a project realized at the European Archaeological Park of Bliesbruck-Reinheim which combines excavations and reconstructions of Celtic and Roman finds. Further project partners were the nearby local schools. The project's aim was to create a CD-Rom with information on the European

Archaeological Park to be used by schools in preparation or revisal for visits there. In order to be interesting for the students, it was thought to be best if the material was produced by pupils themselves. It was thus prepared, made, and edited by the German and French pupils from both (German and French) partner schools — in part in web-based collaboration. Topics ranged from history and Roman and Celtic art to arms, from economy to ecology. The pupils produced texts, images and video films, showing for example their experiences with 'living archaeology'. Another aim was to make them learn how to organize information in a way interesting for themselves (and other pupils).

### **5) Journal of Mechanical Science and Technology**

<http://www.springer.com/engineering/mechanical+engineering/journal/12206>

### **Dynamics of universal joints, its failures and some propositions for practically improving its performance and life expectancy** (by Farzad Vesali, Mohammad Ali Rezvani\* and Mohammad Kashfi)

School of Railway Engineering, Iran University of Science and Technology, Tehran, 16845—13114, Iran (Manuscript Received July 11, 2011; Revised February 25, 2012; Accepted March 13, 2012).

A universal joint also known as universal coupling, U joint, Cardan joint, Hardy-Spicer joint, or Hooke's joint is a joint or coupling in a rigid rod that allows the rod to 'bend' in any direction, and is commonly used in shafts that transmit rotary motion. It consists of a pair of hinges located close together, oriented at 90° to each other, connected by a cross shaft. The Cardan joint suffers from one major problem: even when the input drive shaft rotates at a constant speed, the output drive shaft rotates at a variable speed, thus causing vibration and wear. The variation in the speed of the driven shaft depends on the configuration of the joint. Such configuration can be specified by three variables. The universal (Cardan) joints are associated with power transmission systems. They are commonly used when there needs to be angular deviations

in the rotating shafts. It is the purpose of this research to study the dynamics of the universal joints and to propose some practical methods for improving their performance. The task is performed by initially deriving the motion equations associated to the universal joints. That is followed by elaborating on the oscillatory behavior in the rotational speed and the torque that transmits through the intermediary shaft. The forces in the joint bearings are calculated by using an analytical method that is also supported by the numerical modeling. Such models are also used in order to calculate the rhythm and the amount of the excess loads on the joint. This is suggested as a systematic procedure in the search for the causes of the failures in these popular bearings. With the same purpose in mind some defected bearings with deformed sections were selected for the laboratory examinations. By analyzing the loading behavior and the surface conditions of the defected bearings and by comparison with the known fatigue theories attempts are made in order to dig into the causes for the failures in these joints and their bearing surfaces. With the aim of improving the performance and the life expectancy of these popular elements of the machineries, some practical recommendations are also suggested.

Keywords: Machinery failure; Bearing failure; Failure analysis; Fatigue failure; Solidworks modeling

#### **5.4. Read the text and render it.**

##### **Living without Energy**

*Everyone says that we must use less energy ! But how? that is the big question.*

*In this article, you can read about the house of the future, which uses hardly any energy at all...*

Most houses use energy — lots of it. We use energy for heating, lighting, for running our household appliances — TV's, washing machines, fridges, and so on. In winter time, most houses use dozens of kilowatts of electricity every day, or the equivalent in gas.

The house in the photo, on the other hand, uses virtually nothing: most of the energy that it uses comes straight from the sun, the wind or the ground. This is an experimental house at the University of Nottingham, and it could be the kind of house that most people are living in fifty years from now.

During the daytime, it is rarely necessary to turn on an electric light, even in rooms without windows. Sunlight, or daylight, is “piped” through the house, into each room, through special high-reflection aluminium tubes. You can see how well they reflect light, by looking at the reflections of the faces in the picture!

At night, of course, energy is necessary — but most of this comes from the sun or the wind. The house is fitted with photovoltaic solar panels that generate electricity during the daytime, and a wind turbine power generator too; electricity from these can be used directly, or else stored in batteries, and used when it is needed.

For heating, the house uses direct solar energy (sunshine heating water that circulates through a radiator system), or geothermal energy. This takes low-level heat out of the ground, and uses a heat-pump to convert it into high-level heat for use in radiators — the same principle as a refrigerator, but in reverse.

As for water, most daily needs are provided for by the house's own supply; rainwater is collected on the roof, filtered, and used for all toilets, baths and showers.

If, one day, most people in developed countries live in houses like this one, most of today's pollution will have disappeared, and global warming may be a problem of the past.

(URL: <http://linguapress.com/intermediate/no-energy.htm>)

#### **5.5. Using tips for writing abstracts, write an abstract of your own article, course paper, or scientific report.**

## Unit 6. DESCRIBING GRAPHS

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**6.1. How do you illustrate you diplomas, Master dissertations, and articles? Name possible types of visuals.**

**6.2. Why should we describe visuals? Answer this question after reading the following text.**

In many subject areas you may need to refer to numbers, statistics and other data during the course of your studies. This is likely to be data collected by other people which you will use to support your written work, but it may be data that you have collected yourself as part of your studies. Data is generally presented in the form of tables, charts and graphs, which makes it easier for readers to understand. However, it is often necessary to reproduce and refer to this type of information in words, as part of a report or written assignment. If you include a graph, chart or table in your writing, you must explain very clearly what the data in it means, and why it is relevant to your report or assignment.

([http://www.elanguages.ac.uk/los/eap/introduction\\_to\\_describing\\_graphs\\_and\\_tables.html](http://www.elanguages.ac.uk/los/eap/introduction_to_describing_graphs_and_tables.html))

**6.3. Read the text. Think of an object, a concept, numbers and a word (words) which can be described using graphs or other visuals.**

### Graphics — an overview

Most of the technical papers have graphics in them — or at least they should. A lot of professional, technical writing contains graphics — drawings, diagrams, photographs, illustrations of all

sorts, tables, pie charts, bar charts, line graphs, flow charts, and so on. Once you get the hang of putting graphics like these into your writing, you should consider yourself obligated to use graphics whenever the situation naturally would call for them.

Before getting into details on creating, formatting, and incorporating graphics, consider the types and their functions. You can use graphics to represent the following elements in your technical writing:

*Objects* — If you're describing a fuel-injection system, you'll probably need a drawing or diagram of the thing. If you are explaining how to graft (привить) a fruit tree, you'll need some illustrations of how that task is done. Photographs, drawings, diagrams, and schematics are the types of graphics that show objects.

*Numbers* — If you're discussing the rising cost of housing in Austin, you could use a table with the columns being for five-year periods since 1970; the rows could be for different types of housing. You could show the same data in the form of bar charts, pie charts, or line graphs. Tables, bar charts, pie charts, and line graphs are some of the principal ways to show numerical data.

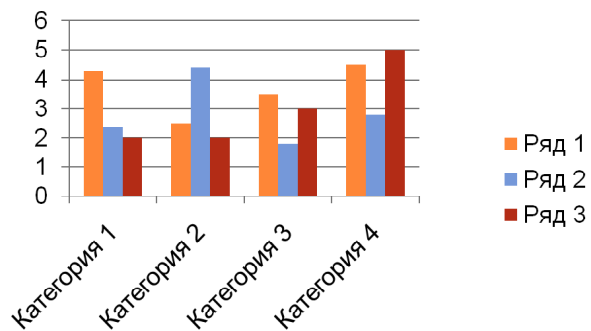
*Concepts* — If you want to show how your company is organized, the relationships of the different departments and officials, you could set up an organization chart-boxes and circles connected with lines that show how everything is hierarchically arranged and related. This would be an example of a graphic for a concept: this type depicts nonphysical, conceptual things and their relationships.

*Words* — And finally graphics are used to depict words. You've probably noticed how textbooks put key definitions in a box, maybe with different color. The same can be done with key points or extended examples. Not the sexiest form of graphics, but it still qualifies, and it's good to keep in mind as a useful technique in certain situations.

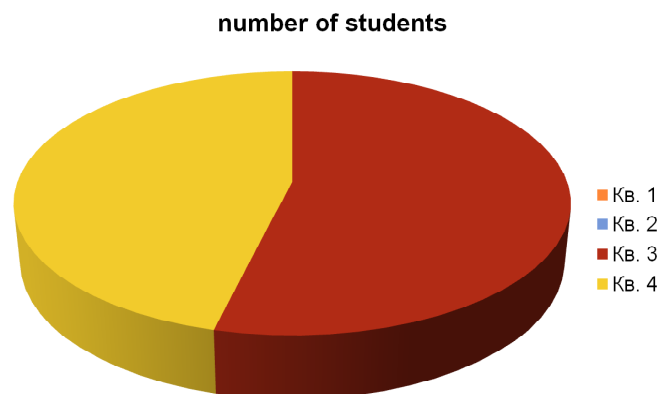
(<http://www.prismnet.com/~hcexres/textbook/graphics.html#>)

## 6.4. Types of graphs

### Bar chart



### Pie chart



### Line graph

1. Single line graph
2. Multiple line graph

### Graph name



## 6.5. For describing graphs, use Vocabulary.

### Verbs and nouns

Расти, увеличиваться	Снижаться, падать	Оставаться на одном уровне	Изменяться
<b>Verbs</b>			
increase	decrease	stay the same / at the same level	fluctuate
start well	fall		
drop	remain steady / stable	zig-zag	
plunge	decline	be constant	flutter
go up	go down	level off	undulate
climb	plunge down	stand at	
peak	hit bottom	keep	
shoot up	Slump	stabilize	
soar	plummet		
rocket			

Окончание таблицы

Растить, увеличиваться	Снижаться, падать	Оставаться на одном уровне	Изменяться
<b>Nouns</b>			
a surge			
a rise	a decrease		fluctuate
an increase	a decline		
an upward, / rising / increasing trend	a downward / falling / decreasing trend		
growth	a slump		
a jump	a fall		
an improvement			

AT THE TOP — Verbs reach a peak, peak, reach its / their highest point

AT THE BOTTOM — Verbs reach / hit a low (point), hit / reach its / their lowest point

**Adjectives and adverbs**

+

— Dramatic(ally), sharp(ly), a lot, substantial(ly), significant(ly), marked(ly), considerable (ly);

— Rapid(ly), quick(ly), sudden(ly), swift(ly)

— Moderate (ly), slight(ly), a bit, a little, minimal(ly);

— Slow(ly), gradual(ly), steady (ily)

**Prepositions:**

a rise from £725 to £825

to increase by 2.1%

an increase of 2.1% in the crime rate

**6.6. Some tips for describing graphs.**

- Think of a main **trend** (trends).
- Describe the most noticeable thing.
- **Support** the trend with the example (or give a reason).
- Make sure you have 150 words. Your average sentence should be about 12 or 13 words per sentence (min 6 and max 18).

**6.7. Categorization: divide these verbs into two groups according to their meaning.**

	GO UP	GO DOWN
increase		
fall		
decrease		
drop		
decline		
lift		
rise		

**6.8. Make sentences.**

- 1) Then / will / pick up / for / rest of the year / the / profits / rapidly
- 2) In / slightly / costs / decrease / next few years / will / the
- 3) Costs / the / been / rapidly / for / rising / last year / has
- 4) I / profits / will / for / next two months / think / the / drop
- 5) Profits / have / for / remained / last / six / month / the / steady

**6.9. Look at the example “My working graph”. Change verbs increase and decrease to other verbs with the same meaning where possible. Draw this graph in your notebook.**

**My work graph**

- 1) My work increased sharply on Monday because I had two classes.
- 2) My work decreased sharply on Wednesday because I had no classes.
- 3) It stayed the same on Thursday because I had no classes.
- 4) It increased sharply again on Friday because I had two classes again.
- 5) It decreased slightly on Saturday because I had one class.

**6.10. Choose a topic (or think of your own topic) about your life and draw your own graph. Then write 5 sentences about your graph.**

**Possible topics**

- |           |           |          |
|-----------|-----------|----------|
| LAZINESS  | HAPPINESS | PROBLEMS |
| FREE TIME | MONEY     | SLEEP    |
| WEIGHT    | WORK      |          |

**6.11. What technical processes or phenomena can we describe using graphs? In groups, name from 1 to 3 such processes.**

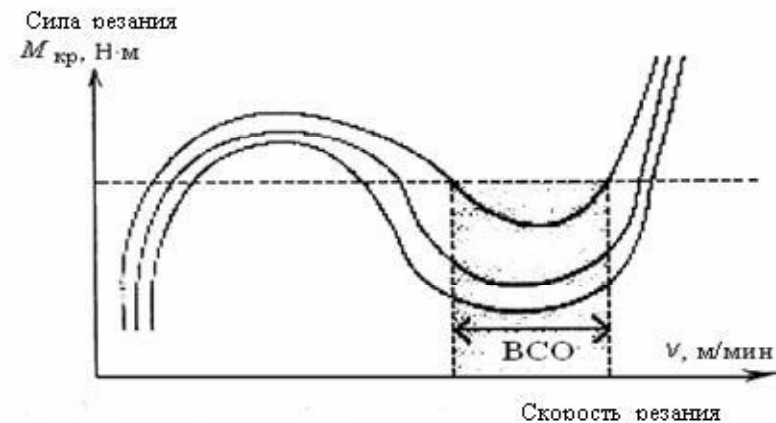
**6.12. Read the examples**

**Example 1. Curves of Solomon**

Curves of Solomon show dependence of force cutting on cutting speed. This dependence is nonlinear and changes according to a difficult law.

On the 1<sup>st</sup> stage cutting force (tool pressure) increased sharply to determined values which depend on machining materials, cutting tools, machining conditions etc. Then starts the second stage where

the force decreased sharply to definite values which depend on the same parameters. On the 3<sup>rd</sup> stage the force increased sharply to infinite values. At the end of the second period and the beginning of the third there is an area with not high forces of cutting at high speeds of cutting. In this area high machining speed is possible. The location of this area on the graphs depends first of all on a machining material and, as a rule, is defined experimentally.



Vertical axis — Cutting force  
Horizontal axis — Cutting speed

**Example 2. Machine parts wear (deterioration)**

The service life of many machine parts is limited by wear on the work surfaces (либо work surface wear). Wear is the result of gradual surface destruction of machine parts that changes their size and shape. Based on the analysis, it is found that the wear pattern of the majority of machine parts corresponds to the classical wear curve (curvature). There are three specific areas on the classical curve — running-in (I), normal wear and tear (II), emergency wear



(III). In zones I and III, the wear rate increases and there is intense wear. Zone II is characterized by a stabilization of the wear rate ( $V = \text{const}$ ) and still the wear is small, so (that is why) it is desirable to combine the operation of parts with this area.

### Перевод: Износ деталей машин

Срок службы многих деталей машин ограничивается износом рабочих поверхностей. Износ — это результат процесса постепенного разрушения рабочих поверхностей детали, изменяющего ее размеры и форму. На основе анализа установлено, что характер износа большинства деталей машин соответствует классической кривой износа. Имеется 3 характерных зоны на классической кривой — приработки (I), нормального изнашивания (II), аварийного изнашивания (III). В зонах I и III скорость износа повышается и происходит интенсивное изнашивание. Зона II характеризуется стабилизацией скорости изнашивания ( $V = \text{const}$ ) и при этом изнашивание детали незначительное, поэтому желательно эксплуатацию деталей совмещать с этой зоной.

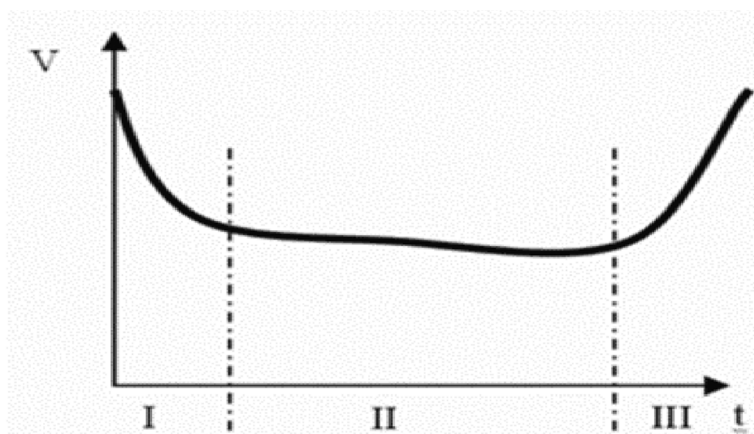


Рис. Закономерности износа деталей машин во времени

### 6.12. In groups, draw a graph and describe any process or phenomena using new vocabulary and structures.

#### For introduction use

I would like to refer...

I'd like you to look at this graph...

Let me show you this pie chart...

Let's have a look at this model... (Let's turn to this map...)

To illustrate my point let's look at some diagrams

If you look at this bar chart you'll notice (see, understand)...

The graph shows (represents, illustrates)...

Resources:

[www.eslflow.com](http://www.eslflow.com)

[http://oppematerjal.sisekaitse.ee/eppleibur/describing\\_graphs/](http://oppematerjal.sisekaitse.ee/eppleibur/describing_graphs/)

## Unit 7. REPORT WRITING

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Отчет представляет собой материал о проделанном исследовании или работе. Обычно он состоит из коротких предложений. Абзацы имеют краткие и понятные заголовки. Если отчет объемный, он может включать содержание и библиографию.

### Words and word combinations

1. To find out — узнать, разузнать, выяснить, обнаружить (что)
2. Interviewer — интервьюер
3. Interviewee — интервьюируемый, дающий интервью
4. Discussion — (подробное) обсуждение
5. To involve — включать в себя, содержать
6. To consider — рассматривать, обсуждать, продумывать
7. Target group — целевая группа
8. Matter — зд. сущность, содержание, тема, вопрос, предмет
9. Draft — набросок, черновик

### Report structure

**To:** (Кому) — адресат, кому адресован отчет.

**From:** (От) — автор отчета, с упоминанием должности

**Subject:** (Re:) — тема отчета или проблема, которую следовало решить.

**Date** — дата.

**Abstract** — аннотация, краткое содержание отчета: задание (проблема), выводы и рекомендации.

**1. Introduction** — введение.

1.1. Background.

1.2. Reason for report.

**2. Main body** — основная часть.

2.1. Methods and Materials — методы сбора информации, решения проблемы.

2.2. Procedure — процедура исследования.

2.3. Findings (Results) — основные результаты.

**3. Conclusion** (Recommendations, Discussion, Action requested) — заключение: рекомендации по применению полученной информации и способах решения проблемы.

**4. Факультативные части.**

4.1. Appendices — приложения. Могут включать дополнительные таблицы, графики. Должны быть пронумерованы и иметь ссылки в тексте отчета.

4.2. Glossary — словарь основных терминов.

4.2. Bibliography — список литературы, использованной при составлении отчета.

### Устойчивые обороты

#### *Introduction*

As request / As requested by you... По вашему запросу

The purpose of this research was to find out... Целью данного исследования было...

In addition,... К тому же,...

This involved visiting (analyzing, observing, speaking to)... Это включало посещение (анализ, рассмотрение / наблюдение, беседы с)...

It involved a representative selection of ...% of all... Оно включало репрезентативную выборку в количестве ...% от всех

This survey was carried out... Это исследование проводилось...

## Main body

### *Methods*

We carried out the research by... Мы провели исследование посредством (при помощи)...

We spoke to (observed, interviewed)... Мы беседовали (изучали, опросили)...

### *Procedure*

First, ...Во-первых, ...

Then, ... (next..., after that...) Затем...

Finally, ...Наконец, ...

### *Findings*

#### **To refer to a fact:**

The fact is that, in fact, In practice... Фактически / Как показывает практика

#### **To introduce other people's opinion:**

Many people consider... Многие люди считают, что...

Some people argue / believe / claim... Некоторые утверждают / считают / заявляют...

We found (out) that... Мы обнаружили, что...

However, ... Тем не менее, ...

...whereas... ... в то время как...

In general Generally В общем, ...

On the whole... В целом, ...

### *Conclusion*

I recommend (suggest) that we (do)... Я считаю, что нам следует...

Having considered the options (the questions) I recommend... Изучив возможные варианты (вопросы), я рекомендую...

In conclusion В заключении

All things considered Все рассмотренное...

To sum up Итак, ...

All in all ... В общем и целом, в итоге.

**Grammar:** use Present Tenses, Reported speech (verbs such as *claim, state, agree, complain, suggest*) and impersonal style.

## **Report example 1**

### **Report on research into the TV-watching habits of school students**

#### **INTRODUCTION**

The purpose of this research was to find out how many hours of TV students watch in a typical week. It also aimed to find out what kind of programmes they watch. In addition, it looked at the kind of programmes watched by male and female students to find out if there was any difference in their preferences.

#### **METHOD**

We carried out the research by interviewing students in the target group — school students aged 14—18, both male and female. We spoke to students from a number of different schools in five different cities. We interviewed 120 students in total, 60 boys and 60 girls.

#### **PROCEDURE**

We asked all the interviewees the same questions. First, we asked them if they have a TV in their bedroom as well as the main TV in the house; then if they usually watch TV alone or with their family. Next, we asked what kind of TV programmes they like and how many hours of TV they watch in a typical week. After that, we asked how many hours of TV they spend watching the different kinds of programmes.

#### **FINDINGS**

We found that 60% of interviewees have a TV in their bedroom and most watch it alone. On school days, 40% of boys and 50% of girls watch TV for two hours or more, mostly between 6.00 and 9.00 p.m. Only 20% of boys and 15% of girls watch less than one hour. However, at weekends, 60% of boys and 70% of girls watch more than two hours a day, in the mornings and in the evenings. Boys

prefer to watch sport, cartoons and music programmes, whereas girls prefer to watch soaps, dramas and music. Only 18% of boys and 16% of girls say they watch news regularly. However, more girls than boys watch documentaries.

### RECOMMENDATIONS

Our research shows that the best time for TV advertisements aimed at young people in this age group is between 6.00 and 9.00 p.m. on weekdays, and in the mornings. In addition, advertisers whose target market is mainly girls should aim to place their ads between soaps, dramas, and music programmes. If the target market is boys, they should place ads between sport, cartoons, and music programmes.

#### Report example 2

Margaret Anderson, Director of personnel wants a report on employee benefits satisfaction. She has asked her Personnel Manager Andrew Jackson to interview a number of employees and make a report.

**To:** M. Anderson  
Director of Personnel  
**From:** A. Jackson  
Personnel Manager  
**Date:** 28 November  
**Re:** Employee benefits satisfaction

### INTRODUCTION

As requested, I interviewed a number of employees concerning employee benefits satisfaction. It involved a representative selection of 15% of all employees who were interviewed in the period between 1 November and 15 April.

My findings are presented below.

### FINDINGS

Employees were generally satisfied with the current benefits package.

Older employees repeatedly had problems with prescription drugs procedures.

Employees between the ages of 22 and 30 report few problems with health Medical Organization (HMO).

Most employees complain about the lack of dental insurance in our benefits package.

### RECOMMENDATIONS

Having considered the question I recommend we meet with HMO representatives to discuss the serious nature of complaints concerning prescription drug benefits for older employees and including dental insurance in our benefits package because these are the most urgent problems worth solving. I look forward to discussing the matter with you at our next meeting.

### Exercises

**7.1. Read report examples 1 and 2 and find out linking words and clichés which are widely used in reports.**

**7.2. Analyse the structure of each example. Are there any differences?**

**7.3. The following paragraph describes the procedure of the research. Complete it with the given words. Use capital letters where necessary.**

After that      first      finally      then      next

(1) \_\_\_\_\_, we asked the interviewees if they own a mobile phone; (2) \_\_\_\_\_ what make of phone they own. (3) \_\_\_\_\_, we asked what they use it for — emergencies, chatting to friends, etc. (4) \_\_\_\_\_, we asked how many hours they spend on the phone each week. (5) \_\_\_\_\_, we asked them who pays for the calls.

**7.4. Match the facts with the generalizations. Then, rewrite the sentences using Passive Voice as in the example.**

*The older generation are taking more of an interest in health and fitness. This is shown by the fact that a large proportion of men and women over the age of 60 are joining gyms and health clubs.*

Facts	Generalizations
1. 75% of working mothers who have full-time jobs buy ready-made meals.	a. This indicates that vegetarianism is becoming more popular among the younger generation.
2. A significant number of people in the UK have given up smoking in the last three years.	b. This shows that many working mothers do not have time to cook.
3. A significant number of people aged between 16 and 25 do not eat meat at all.	c. This shows that the older generation are taking more of an interest in health and fitness.
4. A large number of young women have joined judo, karate and self-defence classes in the last year.	d. This shows that more young people can now afford to take holidays abroad.
5. A large proportion of men and women over the age of 60 are joining gyms and health clubs.	e. This illustrates that more people are concerned about the effects of smoking on their health.
6. 30% of all European holidays are booked by 18—30 year-olds.	f. This demonstrates that young women are more aware of the need to be able to defend themselves in certain situations.

**7.5. Look at some newspapers, business magazines or scientific journals to find an article which gives the findings of a report. Make notes of the subject of the report, its method, procedure and findings. Tell the class about the report.**

**7.6. Your company is preparing to conduct a symposium. You have been asked to find a possible place by your chief executive. Write a report to your chief executive on your findings, recommending the most suitable options.**

**7.8. Read the following tips about preparing Lab report. Make notes.**

### WHAT SHOULD I DO BEFORE DRAFTING THE LAB REPORT?

The best way to prepare to write the lab report is to make sure that you fully understand everything you need to about the experiment. Obviously, if you don't quite know what went on during the lab, you're going to find it difficult to explain the lab satisfactorily to someone else. To make sure you know enough to write the report, complete the following steps:

Read your lab manual thoroughly, well before you start to carry out the experiment. Ask yourself the following questions:

- What are we going to do in this lab? (That is, what's the procedure?)
- Why are we going to do it that way?
- What are we hoping to learn from this experiment?
- Why would we benefit from this knowledge?

Answering these questions will lead you to a more complete understanding of the experiment, and this "big picture" will in turn help you write a successful lab report.

Make use of your lab supervisor as you perform the lab. If you don't know how to answer one of the questions above, for example, your lab supervisor will probably be able to explain it to you (or, at least, help you figure it out).

Plan the steps of the experiment carefully with your lab partners. The less panicky running around you do, the more likely it is that you'll perform the experiment correctly and record your findings

accurately. Also, take some time to think about the best way to organize the data before you have to start putting numbers down. If you can design a table to account for the data, that will tend to work much better than jotting results down hurriedly on a scrap piece of paper.

Record the data carefully so you get them right. You won't be able to trust your conclusions if you have the wrong data, and your readers will know you messed up if the other three people in your group have "97 degrees" and you have "87."

Consult with your lab partners about everything you do. Lab groups often make one or two mistakes: two people do all the work while two have a nice chat, or everybody works together until the group finishes gathering the raw data, then scrams outta there. Collaborate with your partners, even when the experiment is "over." What trends did you observe? Was the hypothesis supported? Did you all get the same results? What kind of figure should you use to represent your findings? The whole group can work together to answer these questions.

Consider your audience. You may believe that audience is a non-issue: It's your lab TA, right? Well, yes—but again, think beyond the classroom. If you write with only your lab instructor in mind, you may omit material that is crucial to a complete understanding of your experiment, because you assume the instructor knows all that stuff already. As a result, you may receive a lower grade, since your TA won't be sure that you understand all the principles at work. Try to write towards a student in the same course but a different lab section. That student will have a fair degree of scientific expertise but won't know much about your experiment particularly. Alternatively, you could envision yourself five years from now, after the reading and lectures for this course have faded a bit. What would you remember, and what would you need explained more clearly (as a refresher)?

Once you've completed these steps as you perform the experiment, you'll be in a good position to draft an effective lab report.

(quoted from <http://writingcenter.unc.edu/handouts/scientific-reports/>).

**7.8. Imagine you have to write a report on your research project. Choose a problem and write a report using the advice you have in this unit. Make sure your report has an introduction and conclusion, and includes information about your method, procedure and findings.**

### Words and word combinations

1. To begin / start with ... — Для начала
2. According to... — Согласно...
3. Some people think... — Некоторые считают, что...
4. First... Firstly... First of all... — Во-первых, ...
5. Secondly, ... — Во-вторых, ...
6. Moreover ... — Более того, ...
7. In addition... — К тому же, ...
8. In other words... — Другими словами
9. More importantly... — Еще более важно...
10. Also... — Также
11. Apart from this... — Не смотря на это
12. As far as I'm concerned ... — Насколько я понимаю...
13. To my mind ... In my view... — По моему мнению
14. For example... For instance ... — Например
15. Like ... Such as ... — Такие как, например
16. On the one hand, ... on the other hand... — С одной стороны..., с другой стороны
17. Not only ... — Не только...
18. Although... — Хотя
19. Instead... — Вместо
20. In contrast to this ... — Напротив
21. In spite of ... / Despite ... — Несмотря на
22. Nevertheless — Тем не менее
23. To sum up ... In conclusion... — В заключение
24. Thus... Therefore... — Таким образом, ...
25. Finally... — Итак.

### Essay organization

*Title* (hidden question)

1. Introduction
  - 1.1. Background.
  - 1.2. Thesis.
2. Paragraph 1.
  - 2.1. Paragraph leader (topic sentence).
  - 2.2. Main body (fact(s) and example(s)).
3. Paragraph 2.
  - 3.1. Paragraph leader.
  - 3.2. Main body (facts and examples).
4. Paragraph 3.
  - 4.1. Paragraph leader.
  - 4.2. Main body (facts and examples).
5. Conclusion.
  - 5.1. Summary.
  - 5.2. Prediction.

### Некоторые типы эссе

*Persuasive / argumentative.* Makes a claim or takes a position and backs it up with statistics, expert opinions, and other evidence. You may review an opposing review and explain why it is wrong and you are right.

*Comparison.* Demonstrates similarities and differences between two topics.

*Descriptive.* Explains the what, why, how, when, and where of a topic. For example, a descriptive essay about a tree would explain what it is made of, why it grows, when it grows, and so on.

*Evaluation.* Describes a thing or event and explains its importance, value, and / or relevance. Did you like this thing? Why?

*Narrative.* Tells a story in a sequence of events. There should be some point, lesson, or idea gleaned from this narrative to make the essay meaningful.

*Expository.* The purpose of an expository essay is to present, completely and fairly, other people's views or to report about an event or a situation. Expository writing, or exposition, presents a subject in detail, apart from criticism, argument, or development; i.e., the writer elucidates a subject by analyzing it. The writer must present the evaluation of the issue and the conclusion based on the findings. Very close to expository is *Research essay*.

(Подробно о разных типах эссе см.:

<http://www.privatewriting.com/types-of-essays>,

[http://www.bestessaytips.com/types\\_of\\_essay.php](http://www.bestessaytips.com/types_of_essay.php)).

### Советы по написанию эссе

— не используйте личные местоимения I, we, you. Замените их на people, (companies, cities), they;

— сделайте ваше сочинение связным: помимо клише, в каждом абзаце должны присутствовать ключевые слова — основа выбранной темы;

— наиболее часто в эссе используются глаголы в present Simple (регулярное, постоянное, повторяющееся действие) и в Present Continuous (временное действие, меняющаяся ситуация);

— говоря о группах, используйте клише: most people (companies, cities), nearly everyone, many, almost all, some, few, not many;

— запомните, что в сложных предложениях в английском языке перед союзами and, but, so, or ставится запятая,

при этом в сложносочиненном предложении перед словами because, whereas, when, (al)though запятая не ставится; однако,

если эти слова стоят в начале предложения, т.е. придаточное стоит на первом месте, то запятая ставится:

*I'll inform you when the new version with this feature is ready.* — Я проинформирую вас, когда новая версия с этими функциями будет готова.

*Although we had reviewed the film twice before, we never noticed these details about the shooting.* — Хотя мы пересматривали этот фильм два раза, мы никогда не замечали эти детали съемки.

### The strategies of writing an essay

#### Стратегии написания эссе (алгоритм)

1. Analyze the title.
2. Collect all the ideas you have (brainstorm your ideas).
3. Draw a diagram to show which ideas and evidence to use.
4. Write your plan.
5. Write your first draft.
6. Ask for feedback on your first draft.
7. Write your final draft.

### Exercises

**8.1. Read the following advice on writing paragraphs. Make notes.** (URL: [www.writing.utoronto.ca](http://www.writing.utoronto.ca)).

#### Use Topic Sentences

State the central idea of each paragraph explicitly in a topic sentence. That's one way to show that you have thought through your material. In academic writing, the topic sentence nearly always works best at the beginning of a paragraph so that the reader knows what to expect. Don't count on your readers to guess what your paragraph is going to be about.



NOTE: The first and last paragraphs of an essay are exceptions to this rule. In both instances, readers already know you're leading up to something, and you can save the topic sentence to make a strong paragraph ending.

### **Expand on the Topic Sentences**

The body of a paragraph develops and demonstrates what your topic sentences state. Here are some common patterns:

- Explain more fully what you mean, giving definitions or indicating distinctions.
- Offer details, examples, or relevant quotations (with your comments).
- Follow through a logical sequence, showing the connections among your ideas in a recognizable pattern such as cause and effect or comparison and contrast.

### **Choose Appropriate Paragraph Length**

A series of long paragraphs can make prose dense and unpleasant to read. Check any paragraph that is longer than a page to see if it would work better as two or more paragraphs. Break it at a logical place (e.g., where your focus shifts), and see whether you need to create new topic sentences to make the shift clear. Also look for paragraphs only two or three sentences long. They make academic writing seem disjointed or skimpy. Try combining a few short paragraphs into one, using a single topic sentence to hold them together.

Prepared by Dr. Margaret Procter,  
University of Toronto Coordinator, Writing Support

## **8.2. Read the essay below slowly and carefully, using your dictionary to make sure you understand the words.**

(URL: <https://www.futurelearn.com/courses/english-for-study/steps/6981/progress>, by University of Reading).

## **Discuss the reasons why people choose to live in Reading**

Reading is a large town in south-east England with a population of 147,300. It is about halfway between London and Oxford. Some people were born in Reading, and they stay because of their family and friends. Other people, however, have relocated for personal reasons; perhaps they want to take up a new job opportunity or be near their social circle. This essay will discuss two common reasons why some people choose to live in Reading: to improve the quality of their family life and to study.

Reading offers the opportunity for a good work-life balance. It is only 25 minutes from London by train, but the environment is clean, houses are cheaper and there are many leisure opportunities for families. There are parks and pools in the town and the countryside is only a short car drive away. Shopping is also a growing attraction. The number of retail outlets has increased by one third since the opening of the 'Oracle', a new shopping complex, in 1999. The town also has a library, many places of worship, a theatre, a concert hall, an art gallery, a museum, two cinemas, a football stadium, and many restaurants. These facilities mean that local people of all ages have places to go.

Many people also come to Reading to study at a language school or at the university. They may choose Reading because the university has an excellent reputation, a beautiful campus and offers a high level of support to its students. Alternatively, the reasons may be more practical. Transport is efficient; there is easy access to London and Heathrow Airport. Accommodation is fairly easy to find and cheaper than London. Job opportunities are also good. Many students take up part-time work, even if English is not their first language.

In conclusion, people live in Reading for their own individual reasons. For some people, Reading represents a lifestyle choice, and for others it offers opportunities to study. With its good employment prospects, ideal location, wide range of leisure facilities, interesting educational opportunities and excellent transport links, it will no doubt continue to be a popular place to live in the future.

**8.3. Find out linking words in the previous text. What parts does it consist of? In the Introduction, find the background and the thesis. In paragraphs 2 and 3 find Paragraph leader (Topic sentence) and Main body. In the Conclusion, find the Summary and the Prediction.**

**8.4. Read the following rules concerning writing opinion essays.**

**Opinion essays** are pieces of writing in which we present our personal opinions on a particular topic. We normally write 5 paragraphs.

**Introduction**

1. In the 1<sup>st</sup> paragraph we introduce the topic and state our opinion clearly.

**Main body**

2—3. In the 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs, we write our viewpoints supported by examples or reasons. Each paragraph presents a different viewpoint.

4. In the 4<sup>th</sup> paragraph, we write the opposing viewpoint supported by examples or reasons.

**Conclusion**

5. In the last paragraph, we restate our opinion using different words.

**Useful language for opinion essays**

We **normally use** Present tenses and Formal language in opinion essays.

We **do not use** colloquial expressions, short forms or personal examples.

We **use** appropriate linkers to list our viewpoints.

**Expressions:** I believe / think / feel that; I strongly believe that; In my opinion / view; It seems / appears to me that; To my mind; I (do not) agree that / with; The way I see it; My opinion is that; As far as I am concerned; I am totally against; I (completely) agree that / with;

I (strongly) disagree that / with; I couldn't agree / disagree more that / with.

**8.5. Use the expressions above to write sentences, as in the example.**

1. all / students / learn / computer skills → have better career opportunities.  
*My opinion is that all students should learn computer skills. If they were to do this, they would have better career opportunities.*
2. the government / ban cars / city centres → reduce air pollution  
.....
3. children / watch / less TV → read more books  
.....
4. people / work from home → spend more time with their families  
.....
5. we / eat less / junk food → not put our health at risk  
.....

**8.6. Read the topic sentences and suggest suitable supporting sentences, as in the example.**

1. Computers play an important role in our lives.  
*For instance, we use them at home and at work for business and for pleasure.*
2. Taking part in team sports can be beneficial for children.
3. Learning a foreign language can be rewarding.
4. People spend too much time and money on fashion.
5. Having a car has many advantages.

**8.7. There are some topics from TOEFL exam. Choose one and write an essay (120—180 words). Use strategies for writing an**

**essay including brainstorming, writing a plan, writing the first and the final drafts. Express your opinion and give reasons for your point of view.**

1) When choosing a place to live, what do you consider most important: location, size, style, number of rooms, types of rooms, or other features? Use reasons and specific examples to support your answer.

2) Because of developments in communication and transportation, countries are becoming more and more alike. How is your country becoming more similar to other places in the world? Use specific examples and details to support your answer.

3) People attend colleges or universities for many different reasons (for example, new experiences, career preparation, increased knowledge). Why do you think people attend colleges? Use specific reasons and examples to support your answer.

4) If you could change one important thing about your hometown, what would you change? Use reasons and specific examples to support your answer.

5) If you had the time and money to invent something new, what product would you develop? Use specific details to explain why this product is needed.

6) It has been said, "Not everything that is learned is contained in books." Compare and contrast knowledge gained from experience with knowledge gained from books. In your opinion, which source is more important? Why?

7) Think of the most important class you have ever taken. Why did you enjoy this class so much? Use specific reasons and details to explain your answer.

8) Do you agree or disagree with the following statement? Universities should give the same amount of money to their students' sports activities as they give to their university libraries. Use specific reasons and examples to support your opinion.

9) You need to travel from your home to a place 40 miles (64 kilometers) away. Compare the different kinds of transportation

you could use. Tell which method of travel you would choose. Give specific reasons for your choice.

10) Do you agree or disagree with the following statement? Books are not needed any more because people can read information on computers. Use specific reasons and details to explain your answer.

11) Some people believe that students should be given one long vacation each year. Others believe that students should have several short vacations throughout the year. Which viewpoint do you agree with? Use specific reasons and examples to support your choice.

12) Students at universities often have a choice of places to live. They may choose to live in university dormitories, or they may choose to live in apartments in the community. Compare the advantages of living in university housing with the advantages of living in an apartment in the community. Which would you prefer? Give reasons for your preference.

13) Your country is going to build a new national university. What academic area should be the main focus of this university? Use specific reasons and examples to support your answer.

14) Do you agree or disagree with the following statement? Parents are the best teachers. Use specific reasons and examples to support your answer.

15) People learn in different ways. Some people learn by doing things; other people learn by reading about things; others learn by listening to people talk about things. Which of these methods of learning is best for you? Use specific examples to support your choice.

16) Do you agree or disagree with the following statement? There is nothing that young people can teach older people. Use specific reasons and examples to support your position.

17) A company has announced that it wishes to build a large factory near your community. Discuss the advantages and disadvantages of this new influence on your community. Do you support or oppose the factory?

18) English is quickly becoming the world language. Some people think this is good. Others think it is not good. Discuss the

advantages and disadvantages of English as the world language. Use specific reasons and examples to support your answer.

19) What is one of the most important decisions you have made? Why was this decision important? Use specific reasons and details to explain your answer.

20) You have been told that dormitory rooms at your university must be shared by two students. Would you rather have the university assign a student to share a room with you, or would you rather choose your own roommate? Use specific reasons and details to explain your answer.

**8.8. Assess your partner's essay by answering the following questions. Give your partner a feedback.**

- Does the introduction include some general background to the title? Is there a thesis statement?
- Is the topic focus of each paragraph clear? Are the ideas in each paragraph supported with details and examples?
- Does the conclusion sum up the main ideas of the essay? Is there a suggestion for the future (a recommendation or prediction or solution)?

**More detailed plan for a feedback**

**Write the title here**

**Introduction**

1. Is there some general background to the title being answered? Yes / no.
2. Is there a thesis statement which says what the purpose of the essay is? Yes / no.

**1<sup>st</sup> paragraph**

3. Is there a paragraph leader for this paragraph? Yes / no
4. Are the ideas in this paragraph supported with evidence from background knowledge? Yes / no

**2<sup>nd</sup> paragraph**

5. Is there a paragraph leader to this paragraph? Yes / no
6. Are the ideas in this paragraph supported with evidence from background knowledge? Yes / no

**3<sup>rd</sup> paragraph**

7. Is there a paragraph leader to this paragraph? Yes / no
8. Are the ideas in this paragraph supported with evidence from background knowledge? Yes / no

**Conclusion**

9. Does the conclusion sum up the body paragraphs?
10. Does it end with a prediction or some advice for the future?

**Summary**

What suggestions do you have for improving this essay?

## Unit 9. WRITING A SCIENTIFIC ARTICLE

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### Words and word combinations

1. we must apply... to finding a solution — мы должны применить..., чтобы решить эту задачу
2. comparative (experimental) method of investigation — сравнительный (экспериментальный) метод исследования
3. his method is to compare different versions — его метод состоит в сопоставлении разных вариантов
4. there are several methods of doing this — существует несколько способов сделать это
5. a method that is attended by some risk — метод, связанный с некоторым риском
6. convenient method — подходящий метод
7. to approximate to a solution of the problem — подходить к решению задачи
8. To use ... approach(to) — использовать... подход
9. interdisciplinary approach — междисциплинарный подход
10. We began the work by collecting material — Мы начали работу со сбора материала
11. we have two problems before us — перед нами две задачи
12. data for study — материал исследования
13. laboratory data — данные лабораторных исследований
14. adequacy of data — достоверность данных
15. acceptance of a theory — согласие с какой-л. теорией
16. application of a theory in actual practice — применение теории в практической деятельности

17. the backbone of a theory — основа теории
18. to back up a theory with facts — подкрепить теорию фактами
19. to construct a theory — создать теорию (see construct II)
20. the results of the experiment contradicted this theory / agreed with the theory — результаты опыта шли вразрез с этой теорией / согласовывались с теорией

### GIVING A DEFINITION

#### 9.1. Read some ideas about writing definitions.

Definitions describe an object, a device, a machine, etc. *Which* or *that* clauses are usually used in a definition. *Which* is more formal than *that*:

*A GPS is a device which / that uses satellites to locate the user's position.*

#### 9.2. There are also some other ways to write a definition. Translate them into Russian.

1. The dictionary definition of the term *illegal immigration* is “the migration of people across national borders in a way that violates the immigration laws of the destined country” (Meriam-Webster’s 1993). In this paper, the term *illegal immigration* is used to mean “nonresident who enter a country without an acceptable passport or visa”.
2. According to Webster (2001), the term *troll* is a noun that mean “.....”. In this paper, the term *troll* is a verb that means “to collect” as in “to troll the internet for quotes”.

#### 9.3. In the articles of your scientific interest, find out the examples of definitions.

**9.4. Using the information from <http://www.thefreedictionary.com/tool>, give a definition to the word *tool* or its synonym:**

***Tool, n.***

1. A device, such as a saw, used to perform or facilitate manual or mechanical work.
2. a) A machine, such as a lathe, used to cut and shape machine parts or other objects; b) The cutting part of such a machine.
3. Something regarded as necessary to the carrying out of one's occupation or profession: Words are the tools of our trade.
4. Something used in the performance of an operation; an instrument: "Modern democracies have the fiscal and monetary tools ... to end chronic slumps and galloping inflations" (P.A. Samuelson).

***v. tooled, tooling, tools***

***v.tr.***

1. To form, work, or decorate with a tool.
2. To ornament (a book cover) with a bookbinder's tool.
3. *Slang* To drive (a vehicle): tooled the car at 80 miles an hour.

***v.intr.***

1. To work with a tool.
2. *Slang* To drive or ride in a vehicle: tooled up and down the roads.

**Phrasal Verb:**

***tool up***

To provide an industry or a factory with machinery and tools suitable for a particular job.

**Synonyms:** tool, instrument, implement, utensil, appliance

These nouns refer to devices used in the performance of work.

**Tool** applies broadly to a device that facilitates work; specifically it denotes a small manually operated device: a box full of tools for bike repair.

**Instrument** refers especially to a relatively small precision tool used by trained professionals: sterilized the scalpel and the other instruments.

**Implement** is the preferred term for tools used in agriculture and certain building trades: rakes, hoes, and other implements.

**Utensil** often refers to an implement used in a household, especially in the kitchen: cooking utensils hung by the stove.

**Appliance** most frequently denotes a power-driven device that performs a specific function: a store selling toasters and other appliances.

**9.5. Give definitions to the following words.**

1.	An engineer	Head-phones	An office	A technician	Oil
2.	Scissors	A programmer	Scales	The universe	A hook
3.	A battery	Aluminium	A supervisor	A factory	A canal
4.	A bolt	Glass	An entrance	The president	Petrol
5.	A rope	Steel	The boss	Hydrogen	A welder
6.	A dormitory	The North Pole	An inventor	Glasses	The top
7.	An engine	Cardboard	A guard	The bottom	A screw
8.	Binoculars	The middle	A bulb	Cotton	A toll
9.	The earth	A pump	Silver	The ground	A ruler
10.	Plastic	A navigator	A socket	Stainless steel	Stairs
11.	A translator	Measurements	The back	A floppy disk	
12.	An interpreter	Statistics	A microphone	A writer	
13.	Rubber boots	A trainer	Gears	The edge	A drill

*Окончание таблицы*

14.	Ethanol	A teacher	Earth	A hard hat	Alcohol
15.	An inspector	Materials	Electricity	An architect	A garage
16.	A fan	Oxygen	An antenna	Carbon dioxide	A scientist
17.	The internet	A pedal	Printer paper	A chemist	A wheel
18.	Radioactivity	A brake	A physicist	Electronics	A professor
19.	A lecturer	An astronaut	A pilot	Specifications	A laboratory
20.	The peak	A wire	Water	Rules	The diameter
21.	A printer	A mechanic	Regulations	The radius	An elevator
22.	Cement	An oil platform	A factory	A tunnel	A ladder
23.	Petrol	A scientist	A notice board	A laptop	A tank
24.	A computer	Light	A fire fighter	A screw-driver	Bubble

**Алгоритм подготовки студенческой квалификационной научной работы**

Студенческая квалификационная научная работа — это не только магистерская диссертация. При преподавании математики как общенаучного цикла с целью развития навыков академического письма в качестве квалификационной научной работы можно практиковать фрагменты исследований в форме индивидуальных заданий, рефератов, курсовых работ.

П.А. Сафронов [Сафронов П.А.] предлагает следующий алгоритм подготовки студенческой квалификационной научной работы.

1. Продумать инструментарий: методы, математический аппарат.

2. Составить словарь ключевых слов (терминов).
3. Подготовить план работы (ибо содержание влияет на форму).
4. Наметить круг источников информации (что нужно узнать, прочитать).
5. Соблюдать при подготовке работы меру и баланс (не заумная, но и не простая).
6. Продумать аннотацию.
7. Дать посмотреть ее специалистам, желательно получить отзывы рецензентов перед презентацией научной работы.

**Академическое письмо на английском языке**

Следует отметить, что существует ряд отечественных монографий, учебных пособий и методических рекомендаций, посвященных проблеме развития культуры научной речи, ее отдельных составляющих, аннотированию и реферированию, подготовке научных статей как на русском, так и на английском языке. Фундаментальные европейские и американские издания, рекомендации и пособия включают советы по структуре научного текста, особенностям стиля, рекомендации по введению в текст статистической информации, по этическим правилам и особенностям устной презентации научных результатов [см. Приложение 1].

Основной совет, который можно дать авторам — не переводить статью или аннотацию с русского языка на английский дословно, а пересказывать ее. Это обусловлено как разницей в лексико-грамматическом строе двух языков, так и в некоторых различиях научного стиля [Сосинский А.В., с. 17].

После этого рекомендуется отдать статью на редактирование человеку, «знающему английский язык», желательно носителю языка. Как справедливо отмечает А.В. Сосинский, «это дает удовлетворительный результат при условии, что редактор подобран удачно... Идеальный редактор — англоязычный коллега, специалист в вашей области. Если уровень вашего перевода достаточно высок, он сможет “подчистить” статью заочно, без

вашей помощи, однако скорее всего ему потребуется обратная связь» [там же, с. 7—11].

### Что следует помнить при подготовке академического текста на английском языке

1. Академическое исследование на английском языке имеет четкую структуру, которой необходимо следовать в любой научной работе:

Introduction (Введение)

Literature review (Обзор литературы)

Main body (Основная часть), включающая:

— Methods (методы исследования)

— Results (полученные результаты)

Discussion (Обсуждение: где можно применить результаты исследования)

Conclusion (Заключение)

Appendix (Приложения)

References (Список литературы).

2. Каждое иноязычное издание предлагает т.н. “Образец” написания статьи (**Template**) и рекомендации по структуре работы, особенностям употребления некоторых фраз, выбору стиля при оформлении списка литературы и т.д., которым нужно четко следовать в процессе работы.

Следует знать терминологию своей специальности на иностранном языке. В ОмГТУ существенный вклад в работу по активизации процесса подготовки зарубежных публикаций могут внести достижения и многолетний опыт работы кафедры иностранных языков и Терминологического центра. За последние годы на кафедре защищены кандидатские диссертации по терминологии различных отраслей знания. Особое внимание уделяется изучению терминологии на занятиях по иностранному языку в профессиональной сфере.

3. Необходимо использовать определенные средства *когезии* — структурной и смысловой связности текста, как внутри абзацев, так и между ними. Такие лексико-синтаксические кли-

ше, характерные для английского научного текста, приведены, например, в пособиях Т.Н. Михельсон и Н.К. Рябцевой (см. список пособий в Приложении 1). Прекрасные советы, касающиеся разнообразных нюансов создания академического текста, находятся в свободном доступе на сайте университета Торонто [URL: [www.writing.utoronto.ca](http://www.writing.utoronto.ca)].

### 9.6. Find out main parts in the article from your scientific sphere.

#### Вводные слова

1. According to...	— Согласно...
2. However, ...	— Все-таки
3. In addition,	— К тому же
4. Furthermore,	— Более того
5. In this study	— В этом исследовании
6. In conclusion	— В заключение
7. Although	— Хотя
8. First... Firstly... First of all...	— Во-первых, ...
9. Secondly, ...	— Во-вторых, ...
10. Finally,	— Наконец,
11. Moreover...	— Более того, ...
12. To sum up...	— Подводя итоги
13. In conclusion...	— В заключение
14. Thus... Therefore...	— Таким образом, ...

#### Наиболее употребительные клише в английской научной статье

(кроме них могут быть использованы клише  
для аннотирования текста)

#### Introduction (Введение)

Recently, there has been growing interest in X — В последнее время наблюдался устойчивый интерес к...

Few attempts have been made to ... — Было сделано несколько попыток, чтобы (для)...

However, these studies have not addressed the issue of... — Тем не менее, эти исследования не затрагивали вопрос...



However, ... has received little attention. — Тем не менее, (проблема) получила недостаточно внимания

The aim (The purpose, The aim) of this study (research) is to... — Цель данного исследования...

This research seeks to address the following questions: (The main questions addressed in this paper are ...) — Данное исследование затрагивает следующие вопросы: ...

This article is divided into four main sections. — Статья делится на 4 основные части

This paper argues that... — В этой статье утверждается, что...

Chapter (part) 2 reviews existing literature in the field... — Во второй главе (части) дан обзор существующей литературы в области...

Chapter 3 describes the research design. — Глава 3 описывает структуру исследования.

This paper begins by... — Статья начинается с...

### **Literature review (Обзор литературы)**

(...) has been extensively studied in the last decade. — Проблема (...) детально / глубоко изучается в последние годы

Over the past three decades, (...) has been studied using various methods. — В последние десятилетия (букв. 30 лет) эту проблему изучали с использованием различных методов.

Researchers have identified... — Исследования определили...

A recent survey has shown that... — Последнее исследование показало, что

In their 2006 article entitled..., (author and author) discuss... — В статье 2006 г. авторы ??? дают

As stated in (author), ... — Как показано в работе (автор)

As (author) argues, ... — Как утверждает (автор)

According to (author), ... — Согласно...

(Author) and (author) conducted research on X and found that... — Такие-то провели исследование и выяснили, что...

While (author)'s research shows X, the results found in the study by (author) show that... — В то время как исследование (такого-то) показывает, что..., результаты, полученные (тем-то), говорят...

The present study is an attempt to replicate the research by (author) and apply it to the X context. — настоящее исследование — это попытка применить метод (подход такого-то) к проблеме...

It is important to note that... — Важно отметить, что...

### **Methodology (Методология)**

The participants of the present research are... — Участники настоящего исследования — это...

Seventy-five workers (50%) were in the control group, while another half of the participants were in the experimental group. — 75 рабочих (50%) составили контрольную группу, а другая половина — экспериментальную.

Participants were asked five similar questions, and were given a blank piece of paper for additional comments. — Участникам задавали 5 одинаковых вопросов, а также раздавали чистые листы для комментариев.

Measurement took place every 30 minutes after... — Измерения проводились каждые 3 минут после того как...

### **Discussion (Результаты и их применение)**

The present study investigates... — В исследовании изучается...

This study has shown that... — Исследование показало, что...

The main finding of this thesis is that ... — Основной результат данной работы (диссертации) в том, что...

This study demonstrates that... — Исследование показывает, что

In contrast to some reports in the literature, there were few differences between... — Вразрез с некоторыми результатами, представленными в литературе, было несколько отличий между...

These results describe for the first time... — Эти результаты впервые описывают...

This finding was unexpected and suggests... — этот результат был неожиданным и он предполагает, что...

The most likely explanation of the negative finding is... — Наиболее точным объяснением отрицательного результата будет...

The study has a number of possible limitations. — Исследование имеет ряд возможных ограничений...

Although this study was conducted in one region, the results should be generalisable to other areas. — хотя это исследование проводилось в одной области, результаты могут быть использованы и для других сфер.

The findings suggest that this approach would also be beneficial in other sectors. — результаты предполагают, что данный подход может применяться и в других областях.

These findings can contribute considerably to the development and evaluation of detection techniques... — данные результаты могут внести значительный вклад в развитие и оценку технологии определения...

The results are of direct practical relevance. — Результаты имеют практическую значимость.

Several questions remain to be resolved; in particular ... — Некоторые вопросы остаются нерешенными, в частности, ...

More research in this area is necessary before... — Необходимы дополнительные исследования в этой сфере, прежде чем...

Further studies are required to establish... — Для определения... требуются дополнительные исследования.

### 70 useful sentences for academic writing<sup>1</sup>

#### Argue

- Along similar lines, [X] argues that \_\_\_\_.
- There seems to be no compelling reason to argue that \_\_\_\_.
- As a rebuttal to this point, it might be (convincingly) argued that \_\_\_\_.
- There are [three] main arguments that can be advanced to support \_\_\_\_.
- The underlying argument in favor of / against [X] is that \_\_\_\_.
- [X]'s argument in favor of / against [Y] runs as follows: \_\_\_\_.

#### Claim

- In this [paper], I put forward the claim that \_\_\_\_.
- [X] develops the claim that \_\_\_\_.

- There is ample / growing support for the claim that \_\_\_\_.
- [X]'s findings lend support to the claim that \_\_\_\_.
- Taking a middle-ground position, [X] claims that \_\_\_\_.

#### Data

- The data gathered in the [pilot study] suggests / suggest that \_\_\_\_.
- The data appears / appear to suggest that \_\_\_\_.
- The data yielded by this [study] provides strong / convincing evidence that \_\_\_\_ (yielded = generated)
- A closer look at the data indicates that \_\_\_\_.
- The data generated by [X] is / are reported in [table 1].
- The aim of this [section] is to generalize beyond the data and \_\_\_\_.

In modern usage, data can also be treated as a mass / uncountable noun, like information. Before you submit your work, check whether the institution you're writing for / on behalf of prefers data + plural verb.

#### Debate

- [X] has fostered debate on \_\_\_\_ (fostered = encouraged)
- There has been an inconclusive debate about whether \_\_\_\_.
- The question of whether \_\_\_\_ has caused much debate in [our profession] [over the years].
- (Much of) the current debate revolves around \_\_\_\_.

#### Discussion

- In this section / chapter, the discussion will point to \_\_\_\_.
- The foregoing discussion implies that \_\_\_\_ (foregoing = that came before)
- For the sake of discussion, I would like to argue that \_\_\_\_.
- In this study, the question under discussion is \_\_\_\_.
- In this paper, the discussion centers on \_\_\_\_.
- [X] lies at the heart of the discussion on \_\_\_\_.

#### Evidence (Remember: Evidence is uncountable.)

- The available evidence seems to suggest that \_\_\_\_ / point to \_\_\_\_.

<sup>1</sup> Posted on April 17, 2013 Written by Luiz Otávio [URL]: <http://www.luizotaviobarros.com/2013/04/academic-writing-useful-expressions.html>

- b. On the basis of the evidence currently available, it seems fair to suggest that \_\_\_\_.
- c. There is overwhelming evidence corroborating the notion that \_\_\_\_\_. (corroborating = confirming)
- d. Further evidence supporting / against [X] may lie in the findings of [Y], who \_\_\_\_\_.
- e. These results provide confirmatory evidence that \_\_\_\_\_.

### Ground

- a. I will now summarize the ground covered in this [chapter] by \_\_\_\_\_.
- b. On logical grounds, there is no compelling reason to argue that \_\_\_\_\_.
- c. [X] takes a middle-ground position on [Y] and argues that \_\_\_\_\_.
- d. On these grounds, we can argue that \_\_\_\_\_.
- e. [X]'s views are grounded on the assumption that \_\_\_\_\_.

### Issue

- a. This study is an attempt to address the issue of \_\_\_\_\_.
- b. In the present study, the issue under scrutiny is \_\_\_\_\_.
- c. The issue of whether \_\_\_\_\_ is clouded by the fact that \_\_\_\_\_. (clouded = made less clear)
- d. To portray the issue in [X]'s terms, \_\_\_\_\_.
- e. Given the centrality of this issue to [my claim], I will now \_\_\_\_\_.
- f. This [chapter] is concerned with the issue of [how / whether / what] \_\_\_\_\_.

### Literature

- a. [X] is prominent in the literature on [Y].
- b. There is a rapidly growing literature on [X], which indicates that \_\_\_\_\_.
- c. The literature shows no consensus on [X], which means that \_\_\_\_\_.
- d. The (current) literature on [X] abounds with examples of \_\_\_\_\_.

### Premise (исходное условие, предпосылка)

- a. The main theoretical premise behind [X] is that \_\_\_\_\_.
- b. [X] and [Y] share an important premise: \_\_\_\_\_.
- c. [X] is premised on the assumption that \_\_\_\_\_.
- d. The basic premises of [X]'s theory / argument are \_\_\_\_\_.
- e. The arguments against [X]'s premise rest on [four] assumptions: \_\_\_\_\_.

### Research

- a. This study draws on research conducted by \_\_\_\_\_.
- b. Although there has been relatively little research on / into [X], \_\_\_\_\_.
- c. In the last [X] years, [educational] research has provided ample support for the assertion that \_\_\_\_\_.
- d. Current research appears / seems to validate the view that \_\_\_\_\_.
- e. Research on / into \_\_\_\_\_ does not support the view that \_\_\_\_\_.
- f. Further research in this area may include \_\_\_\_\_ and \_\_\_\_\_.
- g. Evidence for [X] is borne out by research that shows \_\_\_\_\_.
- h. There is insufficient research on / into \_\_\_\_\_ to draw any firm conclusions about / on.

### View

- a. The consensus view seems to be that \_\_\_\_\_.
- b. [X] propounds the view that \_\_\_\_\_. (propound = put forward for consideration)
- c. Current research (does not) appear(s) to validate such a view.
- d. There have been dissenters to the view that \_\_\_\_\_. (dissenter = someone who disagrees)
- e. The answer to [X] / The difference between [X] and [Y] is not as clear-cut as popular views might suggest.
- f. The view that \_\_\_\_\_ is (very much) in line with [common sense].
- g. I am not alone in my view that \_\_\_\_\_.
- h. [X] puts forward the view that \_\_\_\_\_.
- i. [X]'s views rest on the assumption that \_\_\_\_\_.

## Образец оформления статьи (Paper Template)

### Paper Title (use style: paper title)

Subtitle as needed (*paper subtitle*)

Authors Name / s per 1st Affiliation  
(Author) — the main author  
line 1 (of Affiliation): dept. name of organization  
line 2: name of organization, acronyms acceptable  
line 3: City, Country  
line 4: e-mail address if desired

Authors Name / s per 2nd Affiliation  
(Author)  
line 1 (of Affiliation): dept. name of organization  
line 2: name of organization, acronyms acceptable  
line 3: City, Country  
line 4: e-mail address if desired

**Abstract** — This electronic document is a “live” template. The various components of your paper [title, text, heads, etc.] are already defined on the style sheet, as illustrated by the portions given in this document. (Abstract)

**Keywords-formatting; style; styling;**  
*insert (key words)*

#### Introduction (Heading 1)

This template, modified in MS Word 2007 provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conference proceedings. Margins,

column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

#### Ease of Use

##### Selecting a Template (Heading 2)

First, confirm that you have the correct template for your paper size. This template has been tailored for output on the A4 paper size.

##### Maintaining the Integrity of the Specifications

The template is used to format your paper and style the text. All margins,

column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the head margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

#### Prepare Your Paper Before Styling

Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads—the template will do that for you.

Finally, complete content and organizational editing before formatting. Please take note of the following items when proofreading spelling and grammar:

#### Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Do not use abbreviations in the title or heads unless they are unavoidable.

#### Units

- Use either SI (MKS) or CGS as primary units. (SI units are

encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.

- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: “Wb / m<sup>2</sup>” or “webers per square meter”, not “webers / m<sup>2</sup>”. Spell out units when they appear in text: “...a few henries”, not “...a few H”.
- Use a zero before decimal points: “0.25”, not “.25”. Use “cm<sup>3</sup>”, not “cc”. (bullet list)

#### Equations

The equations are an exception to the prescribed specifications of this template. You will need to determine whether or not your equation should be typed using either the Times New Roman or the Symbol font (please no other font). To create multileveled equations, it may be necessary to treat the equation as a graphic and insert it into the text after your paper is styled. Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Italicize Roman

symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in

(уравнение) □□□□, 11

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is...”

### Some Common Mistakes

- The word “data” is plural, not singular.
- The subscript for the permeability of vacuum  $\square_0$ , and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
- In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an “inset”, not an “insert”. The word

alternatively is preferred to the word “alternately” (unless you really mean something that alternates).

- Do not use the word “essentially” to mean “approximately” or “effectively”.
- In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
- Do not confuse “imply” and “infer”.
- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the “et” in the Latin abbreviation “et al.”.
- The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

An excellent style manual for science writers is [7].

### Using the Template

After the text edit has been completed, the paper is ready for the template. Duplicate the template file by using the Save As command, and use the naming convention prescribed by your conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper; use the scroll down window on the left of the MS Word Formatting toolbar.

### Authors and Affiliations

The template is designed so that author affiliations are not repeated each time

for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations.

For author/s of only one affiliation (Heading 3): To change the default, adjust the template as follows.

*Selection (Heading 4): Highlight all author and affiliation lines.*

*Change number of columns:* Select the Columns icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

*Deletion:* Delete the author and affiliation lines for the second affiliation.

*For author/s of more than two affiliations: To change the default, adjust the template as follows.*

*Selection:* Highlight all author and affiliation lines.

*Change number of columns:* Select the “Columns” icon from the MS Word Standard toolbar and then select “1 Column” from the selection palette.

*Highlight author and affiliation lines of affiliation 1 and copy this selection.*

*Formatting:* Insert one hard return immediately after the last character of the last affiliation line. Then paste down the copy of affiliation 1. Repeat as necessary for each additional affiliation.

*Reassign number of columns:* Place your cursor to the right of the last character of the last affiliation line of an even numbered affiliation (e.g., if there are five affiliations, place your cursor at end of fourth affiliation). Drag the cursor up to highlight all of the above author and affiliation lines. Go to

Column icon and select “2 Columns”. If you have an odd number of affiliations, the final affiliation will be centered on the page; all previous will be in two columns.

### Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is “Heading 5”. Use “figure caption” for your Figure captions, and “table head” for your table title. Run-in heads, such as “Abstract”, will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced. Styles named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

### Figures and Tables

Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the

middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

Table 1

Type Type Styles

Table Head	Table Column Head		
	Table column subhead	Subhead	Subhead
copy	More table copy <sup>a</sup>		

a. Sample of a Table footnote. (Table footnote)

We suggest that you use a text box to insert a graphic (which is ideally a 300 dpi TIFF or EPS file, with all fonts embedded) because, in an MSW document, this method is somewhat more stable than directly inserting a picture. To have non-visible rules on your frame, use the MSWord “Format” pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.

Figure 1. Example of a figure caption. (figure caption) Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing

Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature / K”.

#### Acknowledgment (Heading 5)

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R. B. G.) thanks...” Instead, try “R. B. G. thanks”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

#### REFERENCES

[1] G. Eason, B. Noble, and I.N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529—551, April 1955. (references)

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[8] J.K. Author. (year, month day). *Online document* (edition) [Type of medium]. Available: [http://www. \(URL\),](http://www. (URL),)

the beginning of a sentence: “Reference [3] was the first...”

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors’ names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

All reference must be written in Latin.

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at

## Unit 10. ACADEMIC SPEAKING

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Сравним актера, играющего в кинобоевике, и физика, выступающего на заседании Американского физического общества. Актеру много легче. Он произносит слова, написанные для него специалистом по части умения держать аудиторию в руках (мы имеем в виду настоящий боевик). Он обладает какими-то способностями и опытом, иначе его не взяли бы в труппу. Кроме того, он не волен произносить отсебятины и поступать, как ему вздумается. Каждая фраза, интонация, жест, даже поворот на сцене указаны и проверены много раз опытным режиссером, который не скупится на указания, а при случае не постесняется и переделать классические строки, если они покажутся ему недостаточно выразительными.

*К. Дарроу. Как выступать на заседании американского физического общества. Полезные рекомендации при выступлении на защите диссертации // Physics Today, 14, 1961. — №7.*

Любое научное исследование складывается из двух этапов: получения знания, его опытной проверки и оформления результатов своего исследования в письменном виде. Однако высшей формой развития культуры научной речи является публичная защита результатов проведенного исследования. И, несмотря на возросшие требования к публикационной активности ученых, представители социологии, науковедения и сферы информационных технологий отмечают, что «в современных условиях публикация статьи перестала быть гарантией того, что с результатами исследования ознакомится наибольшее число работников

науки... Научные исследования находятся под угрозой быть задавленными своим собственным порождением — научной литературой»<sup>2</sup>. Таким образом, возрастает роль устной научной коммуникации, цель которой — не только общение, но и сообщение о полученном знании.

### Проблемы развития устной научной речи

1. Психологические: неуверенность в себе и страх публичного выступления. Решение подобных проблем видится в организации психологических консультаций, тренингов и использовании деятельностного подхода в развитии устной речи.

2. Методологические: общие дидактические и методические требования к научной речи (научному выступлению) находятся в стадии разработки. Существуют исследования по отдельным формам и жанрам устной научной речи, основные методологические принципы отражены в научных статьях и пособиях по развитию культуры речи и академического красноречия.

### Read the following text and make notes about successful presentation

#### TALKING THE TALK: TIPS ON GIVING A SUCCESSFUL CONFERENCE PRESENTATION

*By Abby Adler, the clinical science representative on the APASSC and a graduate student at Ohio State University*

Conducting and presenting research is a significant focus of graduate training for science-oriented psychology students. Faculty advisors push students to develop skills in writing and publishing scientific papers. But another skill of equal importance for disseminating research findings is giving conference presentations. Although some of us may cringe at the idea of standing in front of an audience of strangers to talk about our research, there are a

<sup>2</sup> Гурвич Ю. — URL: [http://revolution.allbest.ru/languages/00209310\\_0.html](http://revolution.allbest.ru/languages/00209310_0.html)

number of things to keep in mind that can make the experience more bearable and possibly even enjoyable.

### **Be yourself**

Figure out what presentation style is most natural for YOU. Reflect on the talks you've seen and consider which aspects you like or dislike. For example, if you think showing video clips is not your style, avoid using them. Or if you like how people use themes and a common metaphor throughout their talk, you can try to incorporate this into your talk as well.

### **Preparing slides**

When it comes to slides, less is more. Don't try to rush through 100 slides in 20 minutes. A good rule of thumb is 1 slide per minute.

Here is one way to divide your slides: The first slide should introduce the title of your talk, who you are and where you are from. To get the audience primed for your talk, include a slide introducing the main question and findings to be discussed. It is also important to include a slide outlining the flow of the talk to provide a sense of predictability. Background can be covered in two slides asserting the problem statement, reason why you are interested in the question, and prior work. Methods can be covered briefly in one slide (additional information can be provided later if requested). The bulk of your talk (4 slides) should be focused on the results. One slide summarizing your hypotheses and findings should follow. Finally, one slide can be dedicated to discussing future work or limitations.

### **Be clear and concise**

Structure your talk around 3—5 “take away” points you want the audience to remember, which can be repeated multiple times. This will help keep unnecessary details to a minimum and allow you to highlight your primary message more clearly. Additionally, avoid using jargon and technical language. You want a broad audience, not just experts in your field, to be able to understand your results.

### **Engage your audience with illustrations**

A picture (or graph) is worth a thousand words. Keep your slides light on text and heavy on figures, but avoid overly complicated figures that are hard to comprehend. The purpose of you giving your talk in person is to explain to the audience what the graph illustrates in an easy-to-understand manner.

### **Handling the questions and answers**

For some, the most nerve-wracking part of a presentation is after you have delivered your prepared talk and are awaiting unknown questions. However nervous you may feel (which is completely normal), rest assured that no one is more of an expert on your study than you are. You designed and implemented the study and conducted the analyses. If you still feel nervous about answering questions, prepare additional slides that can answer questions you anticipate. A useful way to deal with questions you are not prepared for is to say you want to think about the insightful question and are willing to discuss it in more detail individually after the presentation.

### **Practice makes perfect!**

As researchers we know this is fact yet we often ignore it. Allow yourself enough time to practice your talk at least three times before going live on stage, focusing on transitions, eye contact, and rate of speech, which are often problematic when first giving a talk. Practice your talk in front of a diverse audience, including your lab mates who likely know a lot about your research and can give detailed comments, as well as friends or family outside of your research area who can provide a more general perspective. It may also be useful to spend some time toying with any equipment you may use, such as a laser pointer or projector, so that you don't waste time during your presentation figuring out how to use it. The more comfortable you feel during a talk, the clearer your message will be to the audience.

(URL: <http://www.apa.org/science/about/psa/2010/04/presentation.aspx>)



**Фразы для устной презентации**  
**Language for presentations**

*Продолжение таблицы*

<p><b>Introduction</b></p>	<p><b>1. Welcoming your audience</b>          Good morning, ladies and gentlemen          Good morning, gentlemen          Good afternoon, ladies and gentleman          Good afternoon, everybody</p> <p><b>2. Introducing your subject</b>          I am going to talk today about...          The purpose of my presentation is to introduce our new range of...</p> <p><b>3. Outlining your structure</b>          To start with I'll describe the progress made this year. Then I'll mention some of the problems we've encountered and how we overcame them. After that I'll consider the possibilities for further growth next year. Finally, I'll summarize my presentation (before concluding with some recommendations).</p> <p><b>4. Giving instructions about questions</b>          Do feel free to interrupt me if you have any questions. I'll try to answer all of your questions after the presentation.          I plan to keep some time for questions after the presentation.</p>
<p><b>Main part (Body)</b></p>	<p><b>Introducing the subject</b>          I'd like to start by...          Let's begin with...          First of all, I'll...          Starting with...          I'll begin with...</p> <p><b>Finishing one subject...</b>          Well, I've told you about...          That's all I have to say about...          We've looked at...          So much for...</p>

	<p><b>...and starting another</b>          Now we'll move on to...          Let me turn now to...          Next...          Turning to...          I'd like now to discuss...          Let's look now at...</p> <p><b>Analysing a point and giving recommendations</b>          Where does that lead us?          Let's consider this in more detail...          What does this mean for ABC?          Translated into real terms...</p> <p><b>Giving an example</b>          For example...          A good example of this is...          As an illustration...          To give you an example...          To illustrate this point...</p> <p><b>Dealing with questions</b>          We'll be examining this point in more detail later on...          I'd like to deal with this question later, if I may...          I'll come back to this question later in my talk...          Perhaps you'd like to raise this point at the end...          I won't comment on this now...</p> <p><b>Summarising and concluding</b>          In conclusion...          Right, let's sum up, shall we?          I'd like now to recap...          Let's summarise briefly what we've looked at...          Finally, let me remind you of some of the issues we've covered...          If I can just sum up the main points...</p> <p><b>Ordering</b>          Firstly...secondly...thirdly...lastly...          First of all...then...next...after that...finally...          To start with...later...to finish up...</p>
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<b>Conclusion</b>	<p><b>1. Summing up</b> To conclude..., In conclusion..., Now, to sum up... So let me summarise / recap what I've said. Finally, may I remind you of some of the main points we've considered.</p> <p><b>2. Giving recommendations</b> In conclusion, my recommendations are... I therefore suggest / propose / recommend the following strategy.</p> <p><b>3. Thanking your audience</b> Many thanks for your attention. May I thank you all for being such an attentive audience.</p> <p><b>4. Inviting questions</b> Now I'll try to answer any questions you may have. Can I answer any questions? Are there any questions? Do you have any questions? Are there any final questions?</p>
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**Some useful resources:**

<http://www.nature.com/scitable/topicpage/oral-presentation-structure-13900387>

[http://www.labspace.net/blog/1390/Ten\\_tips\\_to\\_give\\_a\\_great\\_thesis\\_defense](http://www.labspace.net/blog/1390/Ten_tips_to_give_a_great_thesis_defense)

<http://www.uoguelph.ca/~gardnerw/research/defence.htm>

<http://carleton.ca/politiceconomy/wp-content/uploads/Defence-tips.pdf>

**Примеры использования устойчивых фраз с глаголами make, take, give, do**

(<http://englishwithatwist.com/2014/08/14/presentation-skills-25-useful-expressions-you-can-use-to-make-your-presentations-in-english-flow/>)

**MAKE**

1. We've **made** significant **improvements** to our invoicing system.
2. This is an area where we're finally starting to **make** real **progress**.
3. We've **made** a major **breakthrough** in AIDS research.
4. Together we can **make** a real **difference** to the way people shop.
5. I'd like to **make a distinction** here between what I call innovative and imitative research.
6. We want our clients to **make the most of** the facilities we can offer them.
7. After years of research into the technology, the company is finally **making an impact** on the sector.
8. There's an important **point** that needs to be **made** here.
9. They've really **made a mess** of the ordering system.

**TAKE**

10. Ladies and gentlemen, I'd like to **take this opportunity** to welcome you all to Infosystems.
11. It's vitally important that we **take action against** illegal drug sales.
12. I'd like to **take a few minutes** to talk you through last quarter's figures.
13. Of course, it's the innovative companies that consistently **take the lead** in cancer research that will benefit from this.
14. It's all too easy to think that research is all about **taking initiatives**.

15. Sometimes companies need to **take a chance** and try something new.
16. The illegal copies of DVDs have really **taken a bite out of** our profits.

## GIVE

17. I'll begin by **giving** you **an overview** of the history of our company.
18. Before I start, I'd like to **give you the background** to the work we've been doing in the last year.
19. This graph will **give you an idea** of how far we've come in the last few years.
20. I don't want to **give you the impression** that it's all doom and gloom.
21. I could **give you** hundreds of **examples** of where this system has worked.

## DO

22. We're extremely proud of the research our R&D team have done.
23. They have been **doing** some excellent **work** on the prototype.
24. We recently **did a survey** and the results were astonishing.
25. You can often **do** more **damage** to company profits by expanding too quickly.

## APPENDIX 1

## Some useful manuals and dictionaries

*Приложение 1.1.*

## Список пособий по развитию культуры научной речи

1. Барановская Т.А., Васильева И.Б., Шафоростова В.М. Развитие навыков академического письма. Подготовка студентов к государственному экзамену по английскому языку в НИУ ВШЭ: Лингвистическая часть (описание графика). — М., 2011.
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### *Приложение 1.2.*

#### **Англо-русские и русско-английские отраслевые словари**

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## APPENDIX 2

### EXAMPLES OF TECHNICAL WRITING

#### Пример патента

##### Chain for use in automobile engine

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Inventors Kenich Nagao

Applicant Tsubakimoto Chain Co.

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#### Claims

A chain (10) for use in an automobile engine comprising links interconnected by connecting pins (Q), wherein the base material of each of the connecting pins (Q) is steel, and an outer portion of each pin (Q), extending from the base material to an outer surface (Qa) thereof, contains vanadium carbide formed by diffusion penetration characterised in that said outer portion is composed of an inner layer containing V8C7, and an outermost layer containing V2C, in which the outermost layer of each of said pins (Q), containing V2C, is subjected to treatment to reduce the surface roughness of the pin (Q).

A chain (10) according to claim 1, in which said inner layer, containing V8C7, is thicker than said outermost layer containing V2C.

A chain (10) according to claim 1 or 2, in which said treatment to reduce surface roughness is a barrel polishing treatment.

A chain (10) according to one of claims 1 to 3, in which the links are composed of link plates arranged in interleaved rows (A, B), and in which the interleaved rows (A, B) are interconnected by said connecting pins (Q).

#### Description

##### FIELD OF THE INVENTION

This invention relates to power transmitting chains for use in automobile engines, and to improvements particularly useful in timing chains, that is, chains used to deliver rotating power from an engine crankshaft to one or more valve-operating camshafts.

##### BACKGROUND OF THE INVENTION

Metal roller chains, and rollerless chains known as bushing chains, have come into increasing use as power transmitting media for automobile engines, and have displaced toothed belts and V-belts because of the demand for reliable high speed operation, greater endurance, and increased capacity to withstand mechanical loads, and also because roller chains and bushing chains require less maintenance, and afford greater freedom in the design of the engine layout.

Silent chains have also come into increasing use as timing chains in automobile engines because of their quieter operation in addition to their high load capability and their capacity for high speed operation under severe conditions. A silent chain comprises interleaved rows of link plates interconnected by connecting pins, the pins and rows extending in the direction of the width of the chain. In a typical silent chain, the connecting pins are press-fit into guide link plates disposed along both sides of the chain, and extend through holes in inner link plates. Each inner link plates has a pair of teeth for engagement with sprocket teeth.

When the teeth of the inner link plates first come into contact with the sprocket teeth, they slide on the sprocket teeth as they

approach a seated condition on the sprocket, and again slide on the sprocket teeth as they separate from the sprocket. This action of the silent chain reduces shock due to the collision between the chain and the sprocket and results in a low noise level.

The useful life of a timing chain can be seriously shortened due to oxidation and corrosion from exposure to deteriorated lubricating oil having a high degree of oxidation. To address this problem, we developed a roller chain in which the bushings were subjected to carburizing treatment, and a vanadium carbide (VC) layer was formed on the surfaces of the connecting pins. This development is described in US patent application publication 2005 / 0090348, dated April 28, 2005. The patent application publication is directed to roller chains and bushing chains. Adaption of the same technology to silent chains has not been effective to extend their service life when exposed to highly deteriorated lubricating oil having high degree of oxidation.

It has also been proposed, in Japanese Laid-Open Patent Publication No. 2005—290435, to improve the wear resistance of a silent chain by subjecting the outermost surface layer of the connecting pins of the chain to barrel polishing treatment following vanadium carbide treatment. Barrel polishing fully removes the outermost surface layer, which contains impurities, leaving a vanadium carbide surface layer in which substantially all of the vanadium carbide is in the form of V8C7. The outermost surface layer formed on the V8C7 layer containing contains large amounts of vanadium carbide in the form of V2C. When the outermost layer is fully removed, excellent wear resistance is exhibited. However the pin does not conform well to the link plates, and the chain does not exhibit good shock resistance.

We made a detailed study of the cross-sections of vanadium carbide-treated pins by means of an electronic microscope. As a result of this study, and through repeated trial and error, we determined that, by reducing the surface roughness of the vanadium carbide layer on the pin, but without complete removal of the outermost, V2C-containing, layer, the wear resistance and shock

resistance of the pin could both be improved, so that, even when a silent chain incorporating the pins is used in highly deteriorated lubricating oil having a high degree of oxidation, abnormal wear elongation does not occur.

Accordingly, an object of the invention is to provide a chain for use in an automobile engine in which, even if the chain is used with a deteriorated lubricating oil having a high degree of oxidation, abnormal wear elongation is avoided, and the chain is capable of smooth flexing and sliding over a long period of time.

A further object of the invention is to provide a chain for use in an automobile engine which can maintain superior lubricity over a long period of time.

Still another object of the invention is to provide a chain, for use in an automobile engine, in which the connecting pins have a reduced tendency to attack the pin holes in the inner link plates, and in which the shock resistance of the chain is improved.

#### SUMMARY OF THE INVENTION

The chain according to the invention comprises links interconnected by connecting pins. In the case of a silent chain, the plates are link plates arranged in interleaved rows. The base material of each of the connecting pins is steel, and an outer portion of each pin, extending from the base material to an outer surface thereof, contains vanadium carbide formed by diffusion penetration. The outer portion is composed of an inner layer containing V8C7, and an outermost layer containing V2C. Preferably, the inner layer, which contains V8C7, is thicker than outermost layer, which containing V2C.

The V2C-containing outermost layer of each of the pins, can be subjected to treatment, preferably barrel polishing, to reduce the surface roughness of the pin, that is, by reducing the ten point mean surface roughness (R2) as measured using the Japanese Industrial Standard JIS 0601—1976.

The V2C layer and the V8C7 layer exhibit different characteristics. The inner layer, which consists primarily of V8C7



on the base material of the pin, has a high hardness, i.e., a Vickers hardness (HV) of 2500 to 3000 or more. The outermost layer, which consists primarily of V2C is porous, and exhibits superior wear resistance, heat resistance and lubricity. Thus, even if the chain is used in an extremely deteriorated lubricating oil having a high degree of oxidation, a synergistic effect is achieved by the two layers. The second layer suppresses the attack on the first layer by deteriorated oil. Thus, abnormal wear elongation is suppressed, and a chain having excellent wear resistance, heat resistance and lubricity can be obtained for use in an automobile engine.

When the pin is subjected to treatment to reduce its surface roughness, the affinity of the pin for the inner surfaces of the pin holes in the inner link plates of a silent chain, or in the bushings of a roller chain or a rollerless bushing chain, is reduced. Furthermore, wear occurring during initial conformation of the pins and the pin holes is reduced. Thus, both initial wear and steady-state wear are reduced.

Various finishing processes are available for reducing the surface roughness of the pin. Among the options is "superfinishing," which is a process used to finish inner and outer surfaces of a workpiece. The superfinishing process comprising using a spring to press a grindstone into contact with a wide surface area of a rolling workpiece, and imparting a minute, low-frequency, vibration in the direction of the axis of rotation of the rolling workpiece. Another option is chemical polishing, in which a workpiece is immersed in a processing solution to make the surface of the work smooth by a chemical reaction, thereby imparting brilliance to the work. Another option is electrolytic polishing, in which the workpiece is immersed in an electrolytic solution and passing an electric current between the workpiece, which is connected to the positive side of the electric current supply and becomes an anode, and another electrode which is immersed in the electrolytic solution and connected to the negative side of the electric current supply so that it becomes a cathode. The surface of the workpiece is eluted into the electrolytic solution. The best option, however, is barrel polishing. When barrel polishing is used as the treatment to reduce the surface roughness of the pin,

greater friction is generated between the pin being worked and the abrasive material used in the finishing process. Barrel polishing produces results superior to those produced by superfinishing, chemical polishing, and electrolytic polishing, and makes it possible to carry out finishing of a small part such as a pin efficiently.

When the inner vanadium carbide layer on the pin, i.e., the layer containing V8C7, is thicker than an outer vanadium carbide layer, containing V2C, good wear resistance can be achieved while the affinity of the pin for wall of the pin hole is reduced. Thus, the shock resistance of the chain is improved, and abrasion loss of the inner surface of the pin hole can be suppressed.

The invention provide, for use in an automobile engine, a silent chain which exhibits excellent endurance, wear resistance and shock resistance. In addition, wear due to adhesion is suppressed, and therefore, the chain flexes and slides smoothly over a long period of time. Because the endurance of the chain is improved, the invention is also environmentally beneficial in that it can effectively extend the lifetime of the lubricating oil used with the chain.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a partially broken-away perspective view of a part of a silent chain according to the invention;

FIG. 2 is a graph depicting the results of chain elongation tests, of a conventional silent chain and chains in accordance with the invention, carried out in deteriorated lubricating oil; and

FIG. 3 is a microphotograph showing the cross-sectional structure of a pin in a silent chain according to the invention.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

Although the invention will be described with reference to a silent chain, it should be understood that similar effects can be achieved in a roller chain and also in a rollerless bushing chain. In the case of a silent chain, the connecting pins are in sliding contact with the inner walls of the pin holes in the link plates of the chain. In the case of a

roller chain or a rollerless bushing chain, the connecting pins are in sliding contact with the inner walls of the bushings. In all of these kinds of transmission chains, the invention can prevent deterioration due to sliding contact between the connecting pins and their opposed surfaces, especially in a deteriorated lubricating oil environment.

In FIG. 1, two guide link plates GLP are partly cut away to show a link plate having a pair of teeth 12a. The silent chain 10 is an endless chain formed by interleaved rows of link plates interconnected by pins Q. Each row comprises a plurality of inner link plates ILP, and every second row also comprises a pair of guide link plates GLP. The silent chain 10 shown in FIG. 1 comprises guide rows B, each consisting of two inner links ILP and two guide link plates GLP, and joint rows A, each consisting of three inner link plates ILP. The connecting pins Q are press fit into holes in the guide link plates GLP, which having no teeth. The inner link plates ILP, are rotatable on the pins.

The link plates are composed of carbon steel. The base material of the pins can be steel or a low carbon steel. A high carbon surface layer is formed on a surfaces Qa of the pins. The method of forming the high carbon surface layer is not particularly limited, but the formation of the high carbon surface layer is preferably carried out by a carburizing treatment. In the carburizing treatment, the pin 12 is heated to approximately 900EC to 950EC in a carburizing agent in order to diffuse carbon into the surface of the pin and thereby increase the carbon content in the surface. If high carbon steel is used as the base material of the pin Q, carburizing treatment is not needed.

A vanadium carbide layer is formed on a surface of the pin Q by a diffusion penetration treatment, preferably carried out by the "powder pack" method, in which pins are placed in vanadium powder or a vanadium alloy powder. Preferably, an anti-sintering agent such as alumina or the like, and a reaction promoting agent such as ammonium chloride or the like, are added to the vanadium or vanadium alloy powder. The pins are then heat-treated at a high temperature in the range from about 900EC to 1200EC, for about 5 to 25 hours, to form a vanadium carbide layer on the surface of each of the pins.

Another known option for forming the vanadium carbide layer is to utilize a molten salt method, also known as the "Toyota Diffusion" method, in which the pin is treated in molten salt. Still another known option for forming the chromizing layer is to utilize the so-called "A application" method, in which a vanadium powder and a suspending agent are applied as a coating material to the pin, and the coated pin is then dried and heated in an inert gas atmosphere or in a vacuum. The "powder pack" method, however, is preferred because it is inexpensive and especially suitable for treatment of small articles such as connecting pins for timing chains.

As the vanadium carbide layer is formed on the high carbon surface layer of the pin by the diffusion penetration treatment, the treatment temperature is preferably set to about 1000EC. Since vanadium is a strong carbide-forming element, carbon contained in the high carbon surface layer formed of the pin, or from the pin base material itself in the case of a pin formed of high carbon steel, penetrates by diffusion into the vanadium layer formed on the surface of the pin to combine with the vanadium. As can be seen from a cross-sectional photograph of FIG. 3, which was taken by an electron microscope, the vanadium carbide layer is composed of two parts: an inner layer, formed on the steel base material, which becomes a V<sub>8</sub>C<sub>7</sub> containing layer, and an outermost layer, which becomes a V<sub>2</sub>C containing layer. V<sub>8</sub>C<sub>7</sub> is the main component of the inner layer, and V<sub>2</sub>C is the main component of the outer layer.

In the preferred embodiment, the thickness of the inner layer, i.e., the V<sub>8</sub>C<sub>7</sub>-containing layer, is in the range from 8 to 12 μm, and the thickness of the V<sub>2</sub>C-containing outermost layer is in the range from about 1 to 4 mm.

The mechanism by which the vanadium carbide layer on the surface of the pin becomes divided into two different sublayers is not fully understood at the present time. However, it appears that the vanadium, supplied as a powder, combines with carbon supplied from the high carbon pin, or from the high carbon surface layer of the pin, to form a V<sub>8</sub>C<sub>7</sub> layer, i.e. a layer having a high carbon to vanadium ratio in the vicinity of the base material, and

a V2C layer, i.e., a layer having a lower carbon to vanadium ratio, farther from the base material. It is believed that, in the process of formation of the solid phase vanadium carbide, a balancing takes in which the vanadium carbide becomes divided into the two different layers.

Wear elongation tests were carried out to determine the properties of the pin according to the invention under the following test conditions: Chain: Silent chain having a pitch of 6.35 mm

Number of teeth on the sprockets: 18 and 36

Rotation speed: 6500 r / min

Lubricating oil: Deteriorated engine oil

Amount of oil: 1L / min

The tests were carried out using a testing apparatus and method generally used by the art. However, the same general results can be expected even if a different test method is used.

Three examples were compared, a conventional chain and two chains according to the invention.

The chain of Example 1 is a chain according to the invention in which no treatment was applied to reduce the surface roughness of the pins. The surface roughness of the chain of Example 1 had a ten point mean roughness (Rz) value in the range of 0.4 to 0.8 $\mu$ m.

The chain of Example 2 is a chain which is the same as the chain of Example 1, except that a treatment was applied to reduce the surface roughness of the pins, while still leaving an outermost layer containing V2C. In this case, the surface roughness of the outermost layer of the pin, i.e., the layer containing V2C, was decreased by barrel polishing. In barrel polishing, friction between a pin and an abrasive material is generated, and polishing of small articles such as pins can be carried out efficiently. The ten point mean surface roughness (Rz) of the pin of Example 2 had a value in the range from 0.2 to 0.3 $\mu$ m. The V8C7-containing outermost layer in Example 2 was porous, so that recesses were formed in the exposed surface of the layer. The recesses function as basins that maintain improved lubricity over a long period of time, so that the endurance of the roller chain is improved.

In the conventional case, used for comparison, the pins were subjected to a full barrel polishing treatment, so that the outermost V2C layer was completely removed. Thus, the surface roughness of the pin of the conventional case was improved and was substantially the same as the surface roughness of the pin Example 2.

From the results of the chain elongation tests shown in FIG. 2, it can be seen that, after 100 hours of operation, the elongation of the chain of Example 1 was only about 70% of the elongation of the conventional chain. The curves in FIG. 2, are relatively steep until about twenty hours of testing, at which time, the slope of the curves becomes more gradual. The steeper slopes at times up to twenty hours are due to initial wear. It can be seen, however, that the initial wear is smaller in Examples 1 and 2 than in the case of a conventional silent chain. The initial wear in Example 1, which had two vanadium carbide layers on the surface of the pin, was less than in the conventional case where the connecting pins had only one vanadium carbide layer. Furthermore, in Example 2, wear due to the attack by the pin on a surface of the pin hole through which it extends was reduced as a result of the reduced surface roughness of the pin.

In the roller chain of Example 2, the surface roughness of the outermost layer of the pin Q, containing V2C, was decreased by barrel polishing treatment. The barrel polishing treatment resulted in superior lubricity that could be maintained over a long period of time. Thus, the endurance of the silent chain was improved. Barrel polishing generates relative friction between a pin to be worked and an abrasive material. Thus, polishing of a small article such as a connecting pin can be carried out efficiently by barrel polishing.

From the results of the chain elongation tests shown in FIG. 2, it can be seen that, at 100 hours, the elongation of the silent chain of Example 2, in which the surface roughness was reduced, was only about 40% of the elongation of the conventional silent chain. Thus, when the thickness of the outermost layer of the pin is within the range of about 1 to 4  $\mu$ m, so that the outermost layer is not completely removed, a much lower wear elongation of the chain is achieved compared to that of the conventional chain.

In the silent chain of Example 2, in which the surface roughness of the pins is reduced while the presence of an outermost V2C layer is maintained, attack by the connecting pins on the inner walls of the pin holes in the inner link plates is reduced, and abrasive loss of the inner circumferential surfaces of the pin holes is suppressed.

### **INDUSTRIAL APPLICABILITY**

The invention has significant industrial applicability in that the V2C layer, which was previously considered a useless impurity, reduces abnormal wear elongation of the chain due to operation in deteriorated lubricating oil, and improves shock resistance, heat resistance, and lubricity. Moreover, when the surface roughness of the V2C layer is reduced, the affinity of the outer surfaces of the pins for the walls of the pin holes in the inner link plates is reduced by reducing the surface roughness of the outermost layers of the pins. These effects can be achieved reproducibly and without the need for special production facilities or expensive materials.

<http://www.google.com/patents/EP1881231B1?cl=en&dq=automobile&hl=en&sa=X&ei=Y3UUUfDBGMiL4gT-4IGIAQ&ved=0CDkQ6AEwAQ>.

<http://litirus.ru/lektsii/nauchnyiy-stil.html>

### **Пример описания технического процесса**

#### **Process Description: How a Turbofan Engine Works**

Colin Kling  
ENGL 202 C  
Section 33  
3/17/11

#### **Audience and Scope of Description**

The purpose of this document is to provide the reader with a basic understanding how a jet engine functions. The document will

focus on the turbofan engine (a specific type of jet engine common to commercial airliners) and the process it employs to generate thrust. After reading this document, the audience will be able to identify the key components of a turbofan engine, the role of these components in the overall process, and how these components interface with one another. The intended audience for this document is high school upperclassmen in a physics or advanced science course. The document could appear within a textbook or stand alone as a technical process description. Students should gain a better understanding of concepts that they have learned in other courses through the real world example of a turbofan engine. These concepts may have been learned in other science courses, such as chemistry or physics, and will be tied together by the process description of how a turbofan engine works. This general understanding will be beneficial to the students should they seek higher education, an internship, or a career in this field.

#### **Introduction to Process**

Turbofan engines are found on commercial airliners around the world and have revolutionized the way we travel. The turbofan engine functions by way of a thermodynamic cycle where air is ingested into the engine, compressed, combusted, expanded, and exhausted from the engine creating thrust to propel the vehicle. These five steps are carried out by five major engine components: the fan, compressor (low and high pressure), combustor (or combustion chamber), turbine (high and low pressure), and exhaust nozzle. These components can be seen in Figure 1.

To fully understand how a turbofan engine functions, we will examine the engine from front to back, following the path that air passing through the engine would take. Each of the five major components will be discussed in the order they occur. By outlining their purpose and how they interact with the other components, we will gain an understanding of each part separately as well as an understanding of the engine as a whole.

Figure 1: A diagram of the components of a turbofan engine

The implication of the ideal gas law is that when the volume decreases (when the fluid is compressed), the temperature and pressure must increase. The converse of this is also true: when the volume increases (when the fluid expands), the temperature and pressure decrease. These concepts are important throughout this process description. For our purposes, we will assume the fluid within the turbofan to be ideal.

### How a Turbofan Engine Works

Figure 2 is a sketch of a turbofan cross section. In this side view, the components or stations have been numbered. The air travels through the engine from left to right, starting at the fan (number 1 on the figure) and progressing towards the exhaust nozzle (number 5 in the figure). The components and what occurs at each station are described in detail below.

### The Ideal Gas Law

One useful concept to keep in mind throughout the entire process is the ideal gas law. The ideal gas law is an equation which relates the pressure, volume, and temperature of an ideal fluid. The ideal gas law states that the product of the pressure and the volume of a fluid is equal to the amount of the fluid multiplied by the ideal gas constant and the temperature of the fluid. That is,  $PV = nRT$ , where P represents pressure, V represents volume, n represents the amount, R is the ideal gas constant, and T represents temperature. For this description, it is assumed that the amount (n) of fluid and the ideal gas constant (R) are constant and of little consequence.

1 2 3 4 5  
Bypass Air

Figure 2: A cross section of a turbofan engine with bypass air labeled and processes numbered Figure 3: A turbofan engine, viewed from the front, with the fan visible 1. Air Intake / Ingestion

The fan is responsible for producing the majority of the thrust generated by a turbofan engine and is easily visible when looking at the front of the engine, as seen in Figure 3.

The fan is directly connected to the low pressure compressor (LPC) and the low pressure turbine (LPT) by way of a shaft known as the low pressure shaft. The fan is station 1 in Figure 2 (above). Ambient air enters the engine by passing through the fan. Most of the air that passes through the fan travels around the core of the engine (the center of the engine where the compressor, combustor, turbine, and exhaust nozzle are located). This air that travels around the core is known as bypass air (it bypasses the core, as seen in Figure 2). Bypass air is accelerated out of the back of the engine by the fan thereby creating thrust. It never interacts with the compressor, combustor, turbine, or exhaust nozzle. The remaining air enters the core of the engine. This air has been somewhat accelerated by the fan, and immediately enters the low pressure compressor.

### 2. Compression

The purpose of compression is to prepare the air for combustion by adding energy in the form of pressure and heat. The compressor is divided into two portions: the low pressure compressor, mentioned above, and the high pressure compressor. The compressor is station 2 in Figure 2. Both compressors function in a similar manner; however, they interact with different parts of the turbofan engine.

### The Low Pressure Compressor (LPC)

The LPC is directly connected to the fan and the low pressure turbine (LPT) by the low pressure shaft. The LPC has rows of spinning blades which push the air further back into the engine. As the air is being forced rearward, the LPC's cross sectional area decreases, causing the volume of air to decrease. From the ideal gas law, this implies that the air is becoming pressurized and the temperature is increasing. Immediately after the air passes through the LPC, it enters the high pressure compressor.

### **The High Pressure Compressor (HPC)**

The high pressure compressor, or HPC, is located directly downstream of the LPC and directly upstream of the combustor. The HPC is connected directly to the high pressure turbine by the high pressure shaft. Like the LPC, the HPC has rows of spinning blades which force the air flow rearward into a higher pressure and higher temperature state due to a decrease in volume. The HPC typically has more rows of blades when compared to the LPC. Air exiting the HPC has a high temperature and pressure and is now ready for combustion.

### **Combustion**

Combustion occurs within the combustor, a stationary chamber within the core of the engine, which is station 3 in Figure 2. The combustor is directly downstream of the HPC and directly upstream of the high pressure turbine. The purpose of the combustor is to add even more energy to the air flow by way of heat addition. Within the combustor, fuel is injected and mixed with the air. This fuel-air mixture is then ignited, creating a dramatic increase in temperature and energizing the flow, propelling it rearward towards the high pressure turbine.

### **4. Expansion**

Expansion occurs within the high pressure and low pressure turbines. The turbines are station 4 in Figure 2. Similar in appearance to the compressors, the turbines have rows of blades which spin (as seen in Figure 4). The purpose of the turbines is to extract energy from the flow which is then used to spin the compressors and the fan. The spinning fan draws more air through the core of the engine which continues the entire process, and it pulls more bypass air around the engine, generating continuous thrust.

### **The High Pressure Turbine (HPT)**

The high pressure turbine, or HPT, is located directly downstream of the combustor and directly upstream of the low pressure turbine.

The HPT is driven by the high pressure air that passes through it. The HPT's cross sectional area is initially small and then increases downstream. This change in area allows the air to expand, increasing in volume thereby decreasing in pressure and temperature. This decrease in pressure and temperature, along with the energy used to spin the turbine, correspond to a decrease in the overall energy in A Quick Recap... At this point, the air within the engine has had fuel added to it and has been burned very rapidly. This air is at a much higher pressure and temperature compared to when it entered the engine. These elevated pressures and temperatures are due to the energy added to the flow from compression and combustion.

*Figure 4: Rows of turbine blades the air flow.*

Air exiting the HPT is significantly cooler and less pressurized than the air entering; however, it still has viable energy which will be extracted by the low pressure turbine. As mentioned earlier, the HPT is connected to the HPC by the high pressure shaft. The high pressure shaft spins the HPC when the HPT is spun by the air passing through it. This interaction ensures that the HPC will be pulling air into the combustor continuously, thus feeding the HPT highly energized, combusted air continuously.

### **The Low Pressure Turbine (LPT)**

The low pressure turbine, or LPT, is located directly downstream of the HPT and directly upstream of the exhaust nozzle. The LPT functions exactly as the HPT does; however, it is connected to the LPC and the fan via the low pressure shaft. Therefore, when the LPT is driven by the air passing through it, it also drives the LPC and the fan. When the LPC is spinning, it provides the HPC with air to feed to the combustor. When the fan is spinning, it provides the LPC with air to feed to the HPC, and it produces thrust by accelerating bypass air out of the engine. Air exiting the LPT is significantly cooler than when entering, but it is still hotter than the ambient air. This hot air exits the LPT and immediately enters the exhaust nozzle.

## 5. Exhaust

The exhaust nozzle is located directly downstream of the LPT and it is the last component that the air flow touches before exiting the engine. An example of an exhaust nozzle can be seen in Figure 5. The exhaust nozzle is at station 5 in Figure 2 and it is stationary, like the combustion chamber. The purpose of the exhaust nozzle is to propel the core flow out of the engine, providing additional thrust. This is accomplished by way of its geometry or shape. The nozzle also helps regulate pressures within the engine to keep the other components functioning properly and efficiently.

*Figure 5: An exhaust nozzle as seen from the back of an engine*  
*Conclusion*

This entire process can be broken down into steps as follows:

1. Air enters the engine through the fan, which is being driven by the low pressure turbine.
2. Most of the air is accelerated out of the back of the engine, creating thrust.
3. A portion of the air enters the core of the engine where it travels through the low pressure and high pressure compressors.
4. This compressed air is then mixed with fuel and ignited in the combustor where heat energy is added.
5. Heat energy and pressure energy cause the air to expand through the turbines, spinning the high pressure and low pressure turbines which in turn spin the fan and the compressors.
6. Air exits the turbines and exits the engine through the exhaust nozzle, which also generates thrust, propelling the engine and vehicle forward.

This process is continuous, with each component doing a specific task to keep the engine as a whole running. Overall, the idea behind a turbofan engine is relatively simple: add energy to the air flowing through the engine then extract this energy in order to drive the fan and create thrust. Turbofans are the main powerplant propelling jet liners across our country and around the world. With some general

physics and chemistry concepts, one can gain an understanding of these machines that have revolutionized the way we travel and have a greater appreciation for the technology behind them.

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## APPENDIX 3

### Internet resources for developing writing skills

1. Write for 10: <http://www.writeforten.com/>. Here, you should write anything you want for 10 minutes every day. You can also see how many words people write for 10 minutes in general. There are also some ex-s.
2. Notes IO is a quick way to write notes and share them: <http://www.notes.io/#>.
3. Wordcounter ranks the most frequently used words in any given body of text: <http://www.wordcounter.com/>. You can use it to see what words they overuse or maybe just to find some keywords from a document.
4. You have 60 seconds to write anything about the word you see on the screen: <http://oneword.com/>.
5. Writing reports: <http://writing.colostate.edu/guides/page.cfm?pageid=1594>
6. <http://www.equator-network.org/toolkits/authors/examples-of-good-research-reporting/>
7. <http://www.marketest.co.uk/index.php?menu=example>

## APPENDIX 4

### Scientific degrees in English (по Т.В. Минаковой, с. 4—11)

Научный статус ученого в известной степени характеризуется рядом формальных показателей, среди которых степень, звание, место работы, занимаемая должность, обладание специальными наградами, членство в различных обществах и ассоциациях. Одним из важнейших показателей научной квалификации является степень (*degree*).

**Бакалавриат.** В англоязычных странах успешное окончание трех-, четырехлетнего курса обучения в вузе, как правило, приводит к получению степени бакалавра (*Bachelor's degree*): Bachelor of Science, сокр. B.Sc. / B.S. (естественные науки); Bachelor of Arts, сокр. A.B. / B.A. (гуманитарные науки); Bachelor of Fine Arts, сокр. B.F.A. (искусство); Bachelor of Business Administration, сокр. B.B.A. (управление) и т.д. Степень бакалавра часто называется в англоязычных странах первой степенью (*first degree*). Например, ученый, изменивший свою специализацию, может сказать так: “*I got my first degree in chemistry and then I switched over to the field of biology*”. Принято считать, что степень бакалавра соответствует диплому выпускника российского вуза с четырехлетним циклом обучения (бакалавра), сдавшего государственные экзамены.

**Магистратура.** Студенты, продолжающие занятия после получения первой степени (*graduate / postgraduate students*), могут претендовать на степень магистра (*master's degree*): Master of Science, сокр. M.S.; Master of Arts, сокр. M.A.; Master of Fine Arts, сокр. M.F.A. и т.д. Для получения этой степени после года или двух лет учебы и участия в исследовательской работе необходимо сдать еще ряд экзаменов и, как правило, представить диссертацию (*thesis*). Принято считать, что степень магистра соответствует диплому выпускника российского вуза с пяти-, шестилетним циклом обучения, выполнившего и защитившего дипломный проект.

Отметим, однако, что использование слова *diploma* по аналогии с русским словом диплом (свидетельство об окончании вуза) может привести к неточному пониманию собеседником вашей мысли. Дело в том, что в англоязычных странах завершение курса обучения получением *diploma*, как правило, менее почетно, чем получение *degree*. Это



обстоятельство можно учесть путем обращения к слову *degree*, когда речь идет о высшем образовании.

**Докторантура.** Как правило, к работе над докторской диссертацией исследователь приступает после получения степени магистра: *“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”*. Рассказывая о своем научном пути, ученые нередко называют степени магистра и доктора одним из сочетаний типа *advanced / graduate / higher degree*: *“After graduation from Florida State University I received an advanced degree in economics at Duke University”*. Ученый может обладать несколькими степенями в разных областях и от разных учебных заведений: *“I have graduate degrees from the American University and the University of Miami in Florida”*.

Принято считать, что степень доктора философии соответствует ученой степени кандидата наук, что позволяет российскому научному работнику этой квалификации представляться доктором при общении на международном уровне. Понятие ученая степень кандидата наук может быть выражено, например, словом **doctorate**: *“I got my doctorate in economics two years ago”*.

При использовании сочетаний типа **candidate’s degree / candidate of sciences или candidate of chemistry / candidate of chemical science(s)** и т.п. следует иметь в виду, что они, являясь дословным переводом с русского, будут понятны только тем зарубежным ученым, кто знаком с научными реалиями нашей страны, что ограничивает круг их употребления или, во всяком случае, требует дополнительных пояснений, например, таких: *“I have a candidate’s degree which corresponds to the Ph.D. degree in your country”*.

Сочетание **doctoral candidate** может быть удачным эквивалентом русскому понятию соискатель. Ср.: Сейчас я являюсь соискателем степени кандидата экономических наук. — *Now I am a doctoral candidate in economics*.

Соответственно для обозначения понятия **аспирант** наряду со словосочетаниями *graduate / postgraduate student* можно использовать и сочетание *doctoral student* особенно, если учесть, что оно точнее передает позицию аспиранта как исследователя, работающего над диссертацией, соответствующей докторской диссертации в англоязычных странах. Дело в том, что сочетания *graduate student* (амер.) и *postgraduate student* (брит.) употребляются для обозначения студентов,

которые могут работать по программам, ведущим к получению степени, как доктора философии, так и магистра.

По-видимому, сочетание **senior doctorate** может быть использовано в устной речи для передачи русского понятия степени **доктора наук**: *“I hope to get my senior doctorate within the next three years”*. Однако здесь обязательно нужно пояснить, что степень доктора наук в нашей стране требует представления диссертации, а также, как правило, написания монографии. Например, можно сказать: *“Our senior doctorate is not an honorary degree. It requires the writing of a dissertation and the publication of a monograph”*.

Использование сочетаний типа **Doctor of Science / Doctor of the Sciences / Doctor of History / Doctor of Technical science (s)** и т.д. для передачи степени доктора наук также может потребовать аналогичных разъяснений, если ваш собеседник не ориентируется в российских научных реалиях. В частности, можно подчеркнуть, что степень доктора наук является высшей ученой степенью в нашей стране, а многие из ее обладателей имеют звание профессора: *“The Russian Doctor of Science degree is the highest research degree in this country. Many scientists having that degree are professors”*.

Позиции **исследователей** типа *research assistant, senior research assistant, research associate, senior research associate, research fellow, senior research fellow* и т.д., в названиях которых не обозначена научная дисциплина, встречаются, как правило, в высших учебных заведениях и относящихся к ним научных организациях. Обычно их занимают исследователи, претендующие на получение докторской степени или обладающие ею, что видно из следующего объявления: *“Research associate: Applicants should have submitted their Ph.D. thesis or have a recent Ph.D. degree in biochemistry or chemistry”*.

Если место предназначено только для исследователя с докторской степенью, то в названиях появляется слово **postdoctoral: postdoctoral research fellow, postdoctoral research associate, postdoctoral fellow**.

Добавим также, что позиция *associate* выше по рангу, чем *assistant*, и предполагает большую самостоятельность в научной работе. Следует отметить, что научные сотрудники типа *postdoctoral fellow* или *research fellow* занимаются исследовательской работой одновременно с повышением своей научной квалификации. Для этой цели им выделяется специальная стипендия (*fellowship*).

**Профессор.** Высшее ученое звание в англоязычных странах — профессор *professor / full professor* (амер.): *professor of oceanology, professor of economics, professor of mathematics*. За большие заслуги перед университетом ученый может получить звание почетного профессора (*emeritus professor / professor emeritus*): “*Dr. Green, Emeritus Professor of Biochemistry, University of London*”. Как правило, обладатель этого звания не занимается активной научной и преподавательской деятельностью.

Что касается позиции профессора в вузах России, то она обозначается на английском языке словом *professor*. Доктора наук, имеющие это звание, могут использовать его для уточнения своего научного статуса относительно своих коллег с кандидатской степенью, например, при представлении зарубежному коллеге: “*I’m Professor Petrov and this is my colleague Dr. Ivanov*”.

**Лектор.** На ступеньку ниже профессора в иерархической должностной лестнице в британских вузах стоят **reader**: “*Brown B.B., Reader in Criminal Law, University of Strathclyde*”; *principal lecturer*: “*Johnson J.J., Principal Lecturer in Criminal Law, Liverpool polytechnic*”; *senior lecturer*: “*Senior Lecturer, University of Birmingham*”; в американских университетах — **associate professor**: “*White W.W., Associate Professor of Economics, University of Alaska*”. Вышеприведенные сочетания могут быть использованы для приблизительной передачи позиции **доцента** в вузах нашей страны.

Иногда для обозначения соответствующего звания на английском языке в европейских неанглоязычных странах употребляется слово **docent**. Обратим внимание, однако, что в некоторых американских университетах этим словом называют преподавателей младшего ранга, не являющихся постоянными членами педагогического коллектива. Поэтому вряд ли можно считать **английское слово docent удачным эквивалентом** русскому слову доцент. Если же оно все-таки используется в устной речи, то не будет лишним соответствующее пояснение: “*Now I occupy the position of docent which corresponds to associate professor or reader in English-speaking countries*”.

Следующая категория преподавателей в британских вузах известна как **lecturer**: “*Jones J.J., Lecturer in Land Law, University of East Anglia*”, в американских — *assistant professor*: “*Brown B.B., Assistant Professor of Economics, University of Texas*”. В вузах России аналогичную позицию занимает **старший преподаватель**. Помимо вышеприведен-

ных аналогов для обозначения этой должности можно употребить сочетание **senior instructor**. Во всяком случае им иногда пользуются авторы из англоязычных стран, когда они пишут о системе образования в нашей стране. Заметим, что дословный перевод на английский язык русского словосочетания старший преподаватель как **senior teacher** может соответственно потребовать дополнительных пояснений, ибо английское слово *teacher* в основном используется в отношении школьных учителей.

Для обозначения группы младших преподавателей в англоязычных странах используются такие сочетания, как **assistant lecturer (брит.) и instructor (амер.)**.

**Кафедра.** Несмотря на определенные отличия в организации и функционировании таких подразделений, как кафедра в нашей стране и **department** в вузах англоязычных стран, эти слова можно использовать в качестве ближайших эквивалентов: кафедра физики — *department of physics* и наоборот: *department of modern languages* — кафедра современных языков, но не факультет, как иногда ошибочно переводят сочетания подобного типа. Слово кафедра нельзя переводить на английский язык как *chair*, так как данное слово используется лишь для обозначения поста заведующего кафедрой или лица, занимающего эту должность: см., например, два следующих объявления: “*The Chair of Economics remains vacant*”; “*The University of California College of Medicine is seeking a Chair for the Department of Biological Chemistry*”.

**Факультет.** Во главе учебного подразделения типа факультета, называемого в британских университетах **faculty** (*faculty of arts, faculty of science, faculty of law, faculty of economics, etc.*), а в американских — *college* или *school* (*college of fine arts, college of arts and sciences, college of business administration, school of law, school of pharmacy, etc.*), стоит *dean* (декан). Для передачи позиции декана в высших учебных заведениях можно использовать слово *dean*, соответственно заместителя декана — *sub-dean / associate dean / assistant dean*. Отметим, что в американских университетах есть ряд должностей, в названия которых входит слово *dean*: *dean of students, dean of university, dean of faculty* и т.п., но их функции отличны от функций декана в нашем понимании. Добавим, что в американских вузах слово *faculty* обозначается основной преподавательский состав, в то время как в британских используется сочетание *academic / teaching staff*. В беседе с американскими учеными нужно иметь в виду особенность употребления слова

faculty и в случае необходимости ввести соответствующие коррективы: “When I use the word ‘faculty’ I mean by that a division of the university and not the teaching staff”.

**Ректорат.** Формально университет в странах с британским вариантом английского языка возглавляет *chancellor*, изредка посещающий его для участия в торжественных церемониях. Фактически университетом руководит ученый, занимающий пост *vice-chancellor*. Аналогичную функцию в американском университете выполняет **president**. Для передачи позиции ректора вуза кроме вышеприведенных аналогов (*vice-chancellor*, *president*) можно воспользоваться и словом *rector*, которое применяется в европейских странах и будет понятно зарубежным ученым. В устной беседе никогда не помешает краткое пояснение: “The rector of our university, in America you would call him president, is a physicist by training”.

По-разному в высших учебных заведениях англоязычных стран называются должности, обладатели которых занимают ключевые административные позиции: *Vice president for academic affair*, *vice-president for research*, *pro-vice-chancellor* и т.д. Ученый, занимающий должность, обозначенную словом *provost*, фактически отвечает за всю учебную и исследовательскую работу, проводимую в институте: “I was dividing my time between research and administration as Provost for MIT (Massachusetts Institute of technology), a position that put me in charge of all the teaching and research done at the Institute — everything in fact, except the Institute’s financial matters and its capital equipment.” Соответственно для обозначения на английском языке позиции проректора в вузе можно воспользоваться сочетаниями: *prorector*, *vice rector* или *deputy vice-chancellor*; проректор по учебной работе — *prorector for academic affairs*; проректор по научной работе *prorector for research*.

**НИИ.** Что касается научно-исследовательских институтов и других организаций подобного типа, то в названиях должностей, которые занимают их сотрудники, часто встречается слово *scientist* без указанной научной дисциплины: *assistant scientist*, *research scientist*, *senior research scientist*, *principal scientist*, *senior scientist* и т.п. Представляется гидролог, специалист в области поведения рек: “I am a research scientist and my specialty is hydrology, behavior of rivers particularly.”

**Лаборатория.** Подбирая английские эквиваленты названиям руководящих научных должностей типа заведующий отделом, лабораторией, руководитель группы и т.п., можно рекомендовать нейтральное и

ясное во всех контекстах слово *head*: *head of department*, *head of laboratory*, *head of group*. Отметим, что использование слова *laboratory* предполагает, что речь идет о естественно-научной тематике исследований. Поэтому сочетание лаборатория гуманитарных дисциплин можно передать по-английски *the humanities group*. Добавим, что за названием *laboratory / laboratories* может скрываться и крупная научная организация (*Bell Telephone Laboratories*), и ее руководитель (*director*) соответственно имеет статус директора научно-исследовательского института.

## APPENDIX 5

### Grammar rules

Таблица 1

#### Образование времен английского языка

	Present	Past	Future
<b>Simple</b>	Вспом. гл.: <b>do / does</b> Окон-е: -, -s Формула: <b>V (+s)</b>	Вспом. гл.: <b>did</b> Окон-е: <b>-ed, -</b> Формула: <b>V2</b>	Вспом. гл.: <b>will / shall</b> Окон-е: - Формула: <b>will / shall + V</b>
	+ I work + He writes	+ I worked + He wrote	+ I will work + He will write
	— I do not work — He does not write	— I did not work — He did not write	— I won't work — He won't write
	? Do I work? ? Does he write?	? Did I work? ? Did he write?	? Will I work? ? Will I write?
<b>Continuous</b>	Вспом. гл.: <b>be (is / am / are)</b> Окон-е: <b>-ing</b> Формула: <b>am / is / are + Ving</b>	Вспом. гл.: <b>was / were</b> Окон-е: <b>-ing</b> Формула: <b>was / were + Ving</b>	Вспом. гл.: <b>will be / shall be</b> Окон-е: <b>-ing</b> Формула: <b>will / shall + be + Ving</b>
	+ I am working + He is writing	+ I was working + He was writing	+ I will be working + He will be writing
	— I am not working — He is not writing	— I was not working — He was not writing	— I won't be working — He won't be writing
	? Am I working? ? Is he writing?	? Was I working? ? Was he writing?	? Will I be working? ? Will he be writing?

Таблица 1 (окончание)

	Present	Past	Future
<b>Perfect</b>	Вспом. гл.: <b>have / has</b> Окон-е: <b>-ed</b> Формула: <b>have / has + V3</b>	Вспом. гл.: <b>had</b> Окон-е: <b>-ed</b> Формула: <b>had + V3</b>	Вспом. гл.: <b>will have / shall have</b> Окон-е: <b>-ed</b> Формула: <b>will / shall + have V3</b>
	+ I have worked + He has written	+ I had worked + He had written	+ I will have worked + He will have written
	— I have not worked — He has not written	— I had not worked — He had not written	— I won't have worked — He won't have written
	? Have I worked? ? Has he written?	? Had I worked? ? Had he written?	? Will I have worked? ? Will he have written?
<b>Perfect Continuous</b>	Вспом. гл.: <b>have been / has been</b> Окон-е: <b>-ing</b> Формула: <b>have / has + been + Ving</b>	Вспом. гл.: <b>had been</b> Окон-е: <b>-ing</b> Формула: <b>had been + Ving</b>	Вспом. гл.: <b>will have been / shall have been</b> Окон-е: <b>-ing</b> Формула: <b>will / shall + have been + Ving</b>
	+ I have been working + He has been writing	+ I had been working + He had been writing	+ I will have been working + He will have been writing
	— I have not been working — He has not been writing	— I had not been working — He had not been writing	— I won't have been working — He won't have been writing
	? Have I been working? ? Has he been writing?	? Had I been working? ? Had he been writing?	? Will I have been working? ? Will he have been writing?

Таблица 2

## Употребление времен в английском языке

	Present	Past	Future
<b>Simple</b>	<p><b>I work</b></p> <p>1) Обычное, повторяющееся действие <i>I always close the window at night.</i></p> <p>2) Законы и явления природы, научные результаты, факты <i>The sun rises in the east.</i></p> <p>3) Бытовые ситуации <i>Do you want to spend a lot of money here?</i></p> <p>4) Истории, анекдоты, обзоры, спортивные комментарии <i>Then the prince gets on his horse and rides away.</i></p> <p>5) Расписания поездов, сеансов в кинотеатре <i>The plane from London arrives at 17:40.</i></p>	<p><b>I worked</b></p> <p>1) Факт или одинокое законченное действие в прошлом <i>The Titanic sank in 1912.</i> <i>I went to Germany two years ago.</i></p> <p>2) Несколько прошедших действий, происходивших в хронологическом порядке. <i>I woke up, took a shower, got dressed and went out to have breakfast in a café.</i></p> <p>3) Повторяющееся действие в прошлом <i>I took English courses when I was twelve.</i></p>	<p><b>I will work</b></p> <p>1) Простое одинокое действие в будущем <i>He will miss the bus.</i></p> <p>2) Действие, которое будет занимать определенный период времени в будущем <i>Will you be my friend?</i></p> <p>3) Последовательность действий в будущем <i>I will meet you and tell you the whole story.</i></p> <p>4) Повторяющиеся действия в будущем <i>I will visit you a few times while I'm in London.</i></p> <p>5) Предположения или мысли насчет будущего <i>I'm afraid the rain won't stop soon.</i></p>

Таблица 2 (продолжение)

	Present	Past	Future
			<p>6) Решение, принимаемое в момент разговора <i>I will order a steak and chips, and you?</i></p> <p>7) Обещания, предложения, угрозы, просьбы <i>Don't worry, everything will be alright.</i></p>
<b>Continuous</b>	<p><b>I am working</b></p> <p>1) Действие, происходящее в момент речи или в настоящий период времени <i>I can't understand what you are talking about now.</i> <i>I am reading a new novel by Fedor Dostoevsky.</i></p> <p>2) Действие, охватывающее какой-либо временной отрезок в настоящем <i>She is studying at the institute.</i></p> <p>3) Изменяющаяся ситуация <i>Is your Russian getting better now?</i></p>	<p><b>I was working</b></p> <p>1) Длительное действие, которое происходило в определенный момент в прошлом <i>We were playing chess at 5 o'clock.</i></p> <p>2) Два или более длительных действия в прошлом, происходивших одновременно <i>She was playing piano and her sister was singing.</i></p> <p>3) Длительное действие в прошлом, которое прерывается другим (как правило, коротким) действием.</p>	<p><b>I will be working</b></p> <p>1) Действие, которое будет происходить в определенный момент в будущем <i>This time next Sunday we will be flying to Hawaii.</i></p> <p>2) Действие, которое, по убеждению говорящего, обязательно будет происходить в будущем <i>He won't be meeting you tomorrow, because he has fallen ill.</i></p> <p>3) Вежливый вопрос о планах собеседника на ближайшее будущее, особенно когда нам нужно,</p>

Таблица 2 (продолжение)

	Present	Past	Future
	<p>4) Запланированное действие (известно место и время) <i>I'm meeting my sister at 5 at the café.</i></p> <p>5) Действие в ближайшем будущем (с глаголами движения) <i>They are moving to the other city.</i></p> <p>6) Для выражения отрицательной характеристики <i>She is always interrupting me when I'm talking.</i></p>		<p>чтобы этот человек что-то для нас сделал <i>Will you be using the printer for long? I need to print a document promptly.</i></p>
<b>Perfect</b>	<b>I have worked</b>	<b>I had worked</b>	<b>I will have worked</b>
	<p>1) Действие, полностью завершённое в прошлом, но имеющее связь с настоящим через результат этого действия <i>We have bought a new car, so it's time to sell the old one.</i></p> <p>2) Действие, которое началось в прошлом и продолжается в настоящем</p>	<p>1) Действие, которое произошло ранее определенного момента в прошлом <i>By the end of the year she had learned to cook.</i> <i>Fortunately the rain had stopped before we left the house.</i></p> <p>2) Действие, которое началось в прошлом и длилось до или во</p>	<p>1) Будущее действие, которое окончится до определенного момента в будущем <i>I will have translated the article by noon.</i> <i>By the time you come home, I will have cooked dinner.</i></p> <p>2) Прошедшее предпологаемое действие (“должно быть”, “вероятно”)</p>

Таблица 2 (продолжение)

	Present	Past	Future
	<i>We have known each other since school years.</i>	<p>время другого момента в прошлом <i>I got to know that Mary and Jacob had not met since our wedding.</i></p> <p>3) Во фразах «не прошло и... как», «не успел и... как», «едва», «только» <i>He hadn't said a few words when somebody interrupted him.</i> <i>We had scarcely finished dinner when Lily brought a big cake.</i></p>	<i>The reader will have noticed our negative attitude to any form of nationalism.</i>
<b>Perfect Continuous</b>	<b>I have been working</b>	<b>I had been working</b>	<b>I will have been working</b>
	<p>1) Действие, которое началось в прошлом, длилось некоторое время и продолжает совершаться в настоящем <i>She has been cooking dinner for three hours already.</i></p> <p>2) Длительное действие в прошлом, которое закончилось</p>	<p>1) Длительное действие, которое началось до определенного момента в прошлом и продолжалось в этот момент <i>She had been cooking for an hour when I came.</i></p> <p>2) Длительного действия, которое</p>	<p>1) Будущее длительное действие, которое начнется ранее другого будущего момента или действия и будет продолжаться в этот момент <i>I will have been working at the project for a month when you join me.</i></p>

Таблица 2 (окончание)

	Present	Past	Future
	непосредственно перед моментом речи, и результат этого действия оказывает влияние на настоящее <i>The streets are wet. It has been raining all the morning.</i>	началось до определенного момента в прошлом и закончилось прямо перед ним <i>They had been discussing some important matters and he looked upset after that conversation.</i>	

Таблица 3

### Общие вопросы

Вопросы, требующие ответа да или нет, называются <b>общими</b> .			
Порядок слов в общем вопросе			
Вспомогательный или модальный глагол	Подлежащее	Смысловый глагол	Дополнения и обстоятельства
Are	you	crying	now?
Ты сейчас плачешь?			
Have	they	read	the book today?
Они сегодня читали книгу?			
Can	we	call	them?
Можем ли мы позвонить им?			
Does	she	love	me?
Она любит меня?			

Таблица 3 (окончание)

Правило		
Если сказуемое выражено глаголами to be или to have в Present или Past Simple, то оно ставится перед подлежащим.		
Is	he	in London?
Он в Лондоне?		
Have	they	a car?
У них есть машина?		
Правило		
Если глагол to be употребляется в качестве глагола-связки, то он ставится перед подлежащим, а именная часть сказуемого — после подлежащего.		
Is	he	an economist?
Он экономист?		

Таблица 4

### Разделительные (расчлененные) вопросы

Разделительный вопрос задается в том случае, если говорящий хочет получить подтверждение своего высказывания. Подобные вопросы состоят из двух частей: повествовательной и вопросительной.	
Правило	
Если говорящий задает вопрос, и при этом повествовательная часть утвердительна, то вопросительная часть будет отрицательной.	
Mary is very polite, is not she?	Мария очень вежлива, не так ли?
Tom likes action films, does not he?	Том любит боевики, не правда ли?
She can help us, can't she?	Она может помочь нам, не так ли?

Таблица 4 (окончание)

<b>Правило</b>	
Если говорящий задает вопрос, и при этом повествовательная часть отрицательна, то вопросительная часть будет утвердительной.	
Kate doesn't love her husband, does she?	Катя не любит своего мужа, не правда ли?
Our friend can't translate this text, can he?	Наш друг не сможет перевести этот текст, не так ли?
They don't go to the theatre, do they?	Они не ходят в театр, не правда ли?

Таблица 5

**Ответы на разделительные (расчлененные) вопросы**

Вопрос	Ответ, выражающий	
	согласие с говорящим	несогласие с говорящим
Повествовательная часть вопроса утвердительная.		
Her teacher likes flowers, doesn't she?	Yes, she does.	No, she doesn't.
Ее учительница любит цветы, не правда ли?	Да, любит.	Нет, не любит.
Повествовательная часть вопроса отрицательная.		
Mary hasn't ever seen his children, has she?	No, she hasn't.	Yes, she has.
Мария никогда не видела его детей, не так ли?	Нет (да), не видела.	Нет, видела.

Таблица 6

**Специальные вопросы**

\*в данной таблице не рассмотрены специальные вопросы, в которых после вопросительного слова ставится существительное, а не вспомогательный (модальный глагол).

Вопросы, которые в ответе требуют какой-то дополнительной информации, называются <b>специальными</b> . Подобные вопросы начинаются с вопросительного слова.				
Порядок слов в специальном вопросе				
Вопросительное слово	Вспомогательный или модальный глагол	Подлежащее	Смысловой глагол	Дополнения и обстоятельства
When	will	you	buy	that book?
Когда ты купишь ту книгу?				
How	can	you	stay	here?
Как вы можете оставаться здесь?				

Таблица 7

**Модальные глаголы**

Модальный глагол can	
Форма настоящего времени	can
Форма прошедшего времени	could
Значение	Возможность или способность сделать что-либо. На русский язык, как правило, переводится словами «могу», «умею»



Таблица 7 (продолжение)

Случаи употребления с примерами	<p>1. Can указывает на возможность или способность сделать что-либо. Пример. My friend can write compositions well. — Мой друг умеет хорошо писать сочинения. Can he persuade us? — Может ли он убедить нас? Those workers can't speak English. — Те рабочие не говорят по-английски (не умеют говорить по-английски).</p> <p>2. С помощью глагола can мы указываем на сомнение, удивление говоря о возможности совершения действия. Пример. My sister cannot think so. — Не может быть, чтобы моя сестра подумала так.</p> <p>3. Could используется для того, чтобы показать возможность или способность сделать что-либо в прошлом. Пример. Mary could play tennis well. — Мария умела хорошо играть в теннис.</p>
Альтернатива	<p>Вместо can / could уместно употребление сочетания to be able to. Оно употребляется как вместо can / could (I am able, she was able и т.д.), так и с другими формами, в которых невозможно употребление can / could (She has been able, Peter will be able и т.д.) Пример. My friends will be able to translate this text. — Мои друзья смогут перевести этот текст.</p>
Особенности глагола	<p>Особенность модального глагола can заключается в том, что в отрицательной форме can пишется слитно с частицей not — cannot.</p>

Таблица 7 (продолжение)

<b>Модальный глагол should</b>	
Форма настоящего времени	should
Форма прошедшего времени	отсутствует
Значение	Данный модальный глагол указывает на моральную обязанность или совет.
Случаи употребления с примерами	<p>1. Совет. Пример. Mary should be more polite. — Марии нужно быть более вежливой.</p> <p>2. Моральная обязанность. Пример. What should I do now? — Что мне сейчас лучше сделать?</p>
Альтернатива	В английском языке нет альтернативы, которая во всех случаях могла бы заменить модальный глагол should.
Особенности глагола	Модальный глагол should произошел от глагола shall, являясь его прошедшей формой. Shall в свою очередь употребляется в качестве вспомогательного глагола для образования будущего времени с первым лицом ед. и мн. числа (однако в современном английском языке его функцию полностью заменяет will), а в некоторых случаях также имеет модальное значение.
<b>Модальный глагол may / might</b>	
Форма настоящего времени	may / might
Форма прошедшего времени	отсутствует

Таблица 7 (продолжение)

Значение	Этот модальный глагол используется, когда необходимо указать на разрешение. На русский язык переводится словами могу, можешь, может и т.д.
Случаи употребления с примерами	<p>1. Выражение разрешения. Пример. John may smoke here. — Джон может курить здесь.</p> <p>2. Выражение предположения. Пример. My neighbour may know about that accident. — Мой сосед, возможно, знает о том случае. It may snow today — Сегодня, возможно, пойдет снег.</p> <p>3. Might в свою очередь также используется, чтобы выразить предположение касательно будущего или настоящего. Пример. My sisters might call tonight. — Мои сестры, может быть, позвонят сегодня вечером.</p> <p>4. Might употребляется в условных предложениях второго типа (в главной части). В этом случае might переводится словами мог бы, может быть бы. Пример. If Tom were here, he might show the magazine. — Если бы Том был здесь, он мог бы показать журнал.</p>
Альтернатива	Поскольку may для указания разрешения употребляется лишь в настоящем времени, в прошедшем времени в этом смысле употребляется не might, а сочетание to be allowed. Оно употребляется и с другими временами. Пример. John was allowed to smoke there. — Джону разрешили курить там. Peter will be allowed to speak English. — Петру разрешать говорить на английском.
Особенность глагола	отсутствует

Таблица 7 (продолжение)

<b>Модальный глагол must</b>	
Форма настоящего времени	must
Форма прошедшего времени	отсутствует
Значение	Этот модальный глагол указывает на необходимость сделать что-либо ввиду определенных обстоятельств. Кроме того, must употребляется в предложениях, в которых необходимо выразить приказ или совет. При переводе глаголу must соответствуют слова «нужно», «надо», «должен».
Случаи употребления с примерами	<p>1. Обязанность, необходимость, запрещение (в отрицательных предложениях). Пример. You must be here at 5 o'clock. — Вы должны быть здесь в 5 часов. She mustn't stay here. — Она не должна оставаться здесь.</p> <p>2. Предположение. Пример. Mary must be at the station now. — Мария сейчас, должно быть (вероятно), на станции.</p>
Альтернатива	Чтобы заменить модальный глагол must в других временах, употребляется сочетание have to. Пример. My friend had to bring the newspaper. — Мой друг должен был принести газету.
Особенность глагола	отсутствует
<b>Модальный глагол ought</b>	
Форма настоящего времени	ought
Форма прошедшего времени	отсутствует

Таблица 7 (продолжение)

Значение	Данный модальный глагол используется для указания морального долга или совета. На русский язык ought переводится словами «следовало бы», «должен», «следует».
Случаи употребления с примерами	Выражение морального долга или совета. Пример. You ought to help your aunt — Ты должен (тебе следует, следовало бы) помочь своей тете. Kate ought to be more polite. — Катя должна (ей следует, следовало бы) быть более вежливой.
Альтернатива	Модальный глагол ought довольно часто совпадает по своему значению с глаголом should.
Особенность глагола	С модальным глаголом ought инфинитив всегда употребляется с частицей to, хотя с другими модальными глаголами смысловые глаголы употребляется без to.
<b>Модальный глагол need</b>	
Форма настоящего времени	need
Форма прошедшего времени	отсутствует
Значение	Указывает на необходимость сделать что-либо. На русский язык переводится словами нужно, надо. Как смысловой глагол переводится как 'нуждаться'.
Случаи употребления с примерами	1. Необходимость сделать что-либо (need — модальный глагол). Need John invite her? — Нужно ли Джону приглашать ее?

Таблица 7 (окончание)

	2. Значение нуждаться (need — смысловой глагол). I don't need her help any longer. — Мне больше не нужна ее помощь.
Альтернатива	отсутствует
Особенность глагола	В качестве модального глагола употребляется только в вопросах и отрицательных предложениях.

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ООО «ФЛИНТА», 117342, г. Москва, ул. Бутлерова, д. 17-Б, комн. 324.

Тел./факс: (495)334-82-65; тел. (495)336-03-11.

E-mail: flinta@mail.ru; WebSite: www.flinta.ru

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