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Практикум з англійського термінознавства

Навчально-методичний посібник з термінознавства та перекладу для студентів факультету англійської філології

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Навчально-методичний посібник призначено для студентів–філологів вищих начальних закладів, які вивчають термінознавство та переклад з англійської мови. Методичний посібник вміщує завдання для практичних занять, тексти для перекладу з завданнями та перелік тем для самостійної науково-дослідницької роботи студентів.

ЗМІСТ

ВСТУП

Термінологічна лексика, яка складає суттєву частину словникового складу будь-якої мови, незабаром відіграватиме вирішальну роль у житті людини. Термінологічні знання вже зараз необхідні багатьом спеціалістам-лінгвістам, перекладачам, редакторам, упорядникам словників та комп'ютерних систем, ученим і викладачам. «Кожен фахівець повинен мати уявлення про особливості спеціальної лексики та шляхи її вивчення і упорядкування « (Гріньов С.В.).

Тому для кращого вивчення термінологічної лексики запропоновано низку вправ. До комплексу вправ включено: репродуктивні завдання на рівні слова, словосполучення та речення і рецептивно-продуктивні вправи на рівні термінологічних відповідників, словосполучень та синтагм, рецептивно-продуктивні вправи на рівні текстів. Усі тексти є оригінальними та неадаптованими, стосуються різних галузей науки і техніки, що забезпечує наявність елементів різних терміносистем.

Практичні вправи для студентів англійської філології

Практичне заняття № 1

Exercise 1.

Translate the following word combinations without using dictionary. Mind the table:

im -

+ adj. = adj.

in -

im +possible = impossible (неможливий)

1. invisible stars; 2. inexact measurements; 3. inconvenient device; 4. an immovable stand; 5. incomparable results; 6. immeasurable distance; 7. impassable road; 8. imperfect means of representing speech sounds; 9. inaccurate data of computation; 10. inelastic tubes.

Exercise 2.

List all the words you can make from the table and use them in suitable blanks in the sentences. Render the sentences in English:

Econom	**y** **ics** **ic** **ist**	**al**	**iy**

1. Marks and Keynes are two famous...
2. These people are studying the science of...
3. We call a person's work his ... activity.
4. The economic system of a country is called the national...
5. People should be very ... with the money they earn.
6. People in this town live very ...

Exercise 3.

Read the following sentences and render their context in Ukrainian, taking into consideration the meanings of the word "mark".

1. The teacher *marked* the examination papers. There were a lot of good *marks.* 2. The goods were *marked* "best quality". 3. Such qualities usually *mark* a great scientist. 4. The thermometer *marks* 40 degrees. 5. The recent achievements in the field of cybernetics *marked* new era in science.

Exercise 4.

Form the proper English equivalents of the following Ukrainian words and word-combinations, using the word "engineering":

машинобудування, атомна енергетика, ядерна техніка, енергетика, радіотехніка, електротехніка, техніка управління, цивільне будівництво, хімічна технологія, організація виробництва, будівельна техніка, автотракторна техніка.

Exercise 5.

Arrange the following words in pairs according to:

а) **similar meaning (synonyms):** foundation, conservation, link, cause, speed, change, connect, produce, turn into, thanks to, preservation, velocity, basis, convert, transform due to.

b) **opposite meaning (antonyms):** huge, destroy, modern, natural, artificial, important, small, low, ancient, similar, satisfied, high, different, unsatisfied, unimportant, create.

Exercise 6.

Render the following sentences into Ukrainian paying attention to the translation of the terms from different spheres of sciences:

1. The application of pesticides has led to short-term soil pollution (Agriculture).
2. Networks are groups of computers that are interconnected by communication facilities (Computer science).
3. The architect or engineer converts the requirements of the owner into a set of drawings and written specifications the usually are sent to interested general contractors for bids (Construction).
4. New investments have what is called a multiplier effect: that is, investment money paid to wage earners and suppliers becomes income to them and then, in turn, becomes income to others as the wage earners or suppliers spend most of their earnings (Economics).
5. Nuclear engineers develop methods to shield people from the harmful radiation produced by nuclear reaction and to ensure safe storage and disposal of fissionable materials (Engineering).
6. Autonomic nervous system, in vertebrate anatomy, is one of the two main divisions of the nervous system, supplying impulses to the body's heart muscles, smooth muscles, and glands (Anatomy).
7. In order for a contract to be binding, the parties to it must be competent to make it (Law).
8. Today we often say that we live in an age of technology meaning that the pace of inventions and changes has increased with amazing rapidity (Technology).
9. A prime function of the state is to survive; in principle, one way to improve chances of survival is to eliminate internal dissensions (Political Science).
10. The axioms of any system must be consistent with one another, that is, they should not lead to contradiction (Mathematics).

Exercise 7.

Render the following text into English and compare your translation with the given one:

Globalization poses an undeniable threat to the tax revenues of states in the developed word. Yet as the OESD secretariat point out in its new report on harmful tax competition, it has also prompted tax reforms that have broadened the tax base while reducing tax rates. This has minimized tax-induced distortions to trade and investment.	Глобалізація являє собою безумовну загрозу податковим надходженням в розвинутих країнах. Але, як відзначено у новому звіті секретаріату ОЕСР щодо негативних наслідків податкової конкуренції, глобалізація також стимулювала податкові реформи, які дозволили збільшити податкову базу, при цьому знизивши ставки оподаткування. Ці заходи звели до мінімуму перекоди в торгівлі та інвестуванні, які були спричинені різницею в оподаткуванні.

The fear that corporation tax yields will be driven down to zero by harmful tax competition is also not wholly justified by the numbers. Taxes on corporate income within OESD have remained remarkably constant as a percentage of GDP over the past 20 years.	Статистика не підтверджує побоювань того, що пагубна податкова конкуренція зведе до нуля прибутки деяких держав які вони отримують внаслідок отримання корпоративного податку. Упродовж останніх двох десятиріч бюджетні прибутки держав ОЕСР за цією статтею були дуже стабільними по відношенню до НВП.

Практичне заняття № 2

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the table:

v. + -able = adj.

eat + -able = eatable (їстівний)

1. the controllable processes; 2. the answerable questions; 3. the movable stand; 4. the usable salt; 5. the thinkable distance; 6. the parts attachable by the magnet; 7. hearable sounds; 8. the explainable grammar material.

Exercise 2.

Pay attention to the following verbs and their derivatives and determine their meaning without using a dictionary:

1. to change - changeable - changeability; 2. to measure - measurable - measurability; 3. to absorb - absorbable - absorbility; 4. to read - readable - readability; 5. to move - movable - movability.

Exercise 3.

Using the table, make up the words and fill the blanks in the sentences. Render the sentences in English:

produc(t)	- e - t	**- ive** **- ion**	**- tivity**

1. These companies ... new medicine every year.
2. The companies newest... is special drug for cough.
2. The ... of the cardiac medicines had great difficulties last year.
3. The factory is not as ... now as it was five years ago.
4. The ... of that factory has gone down over the last five years.

Exercise 4.

Form the proper English equivalents of the following Ukrainian words and word-combinations, using the word "power":

енергетика, виробництво електроенергії, споживання електроенергії, атомна електростанція, електростанція, енергопостачання, енергія поділу ядра, термоядерна енергія, реактивна сила, ядерна держава.

Exercise 5.

Arrange the following words in pairs according to:

a) **similar meaning (synonyms):** main, rapid, influence, modern, principle, outstanding, quick, obtain, impact, remarkable, amazing, also, get, contemporary, extremely, too.

b) **opposite meaning (antonyms):** cheap, limited, near, modern, unlimited, expensive, natural, distant, ancient, artificial.

Exercise 6.

Render the following sentences into Ukrainian, paying attention to the translation of the terms:

1. For Plato the ultimate Idea, which illuminated the rest of the pure ideas, was the Idea of the Good. As Plato grew older he became more mystical about this idea.
2. A key step in this development was the establishment of the idea of radicals as the organic equivalent of atoms.
3. Galileo's legacy includes both the modern notion of "laws of nature" and the idea of mathematics as nature's true language.
4. He also promoted the two-fluid theory of electrical charges, rejecting both the idea of the creation of electricity by friction and Franklin's sirjgle- fluid model.
5. The same idea can be expressed in terms of spheres to which are attached a certain number of handles.
6. The idea was to investigate what sort of organisms (programs) would emerge if the evolution of the system remained unguided.
7. This idea focuses on the replacement of the Neanderthals by modern peoples who migrated into Europe and the Middle East from their place of origin, often considered to be Africa.
8. Another idea being explored is the development of an interferometer using a telescope aboard a spacecraft to observe simultaneously with another telescope on Earth or also in orbit.
9. Symmetry commonly conveys the idea of harmony and proportion.
10. The scientific basis for prediction is the idea that an earthquake will occur when stress in the Earth at a given place exceeds the rock's strength.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Фотоапарат	**Camera**
Фотоапарат - це пристрій, який за допомогою лінз або іншої оптичної системи спрямовує зображення на фото чутливу поверхню, розміщену в захищеному від світла корпусі. З точки зору цього загального принципу, вказані компоненти виконують сьогодні тіж самі функції, що й майже 150 років тому, коли фотографію тільки но винайшли.	A camera is a device that directs an image focused by a lens or other optical system onto a photosensitive surface housed in a light-tight enclosure. In this very basic sense, these components perform the same functions today that they did when photography was invented nearly 150 years ago.

Прості фотоапарати мають об'єктив з фіксованим фокусуванням, що не дозволяє фокусуватися на об'єктах, які розташовані на різній відстані від фотоапарата. Більш складні камери оснащені ручкою або автоматичною системою для регулювання фокусної відстані, аби змінювати відстань між об'єктивом та фокальною площиною. (Фокальна площина - це точка за об'єктивом, в якій фокусується зображення.)	In simple cameras the lens is generally of the fixed focus variety : no provision is made on object at varying distances from the camera. More complicated cameras have a system to achieve good focus that is manually or automatically actuated, in order to vary the lens-to-focal-plane distance/ (The focal plane is the point behind the lens where the image comes into focus.)

Exercise 8

Do the editing of the computer translation of the text. Mind the usage of terms:

Characteristics of Money	**Характеристика грошей**
Money is indispensable in a society in which commodity exchange takes place. Gold is generally accepted money commodity. Because of its natural properties gold is very convenient thing to perform the social function of money. It can easily be kept safely because it has small volume for its weight while denoting a considerable value. Throughout history societies have used such things for their money as tobacco, salt, shells and of course, various forms of paper. Although anything can serve as money, as a practical matter the material should have the following qualities: stability, portability, durability, uniformity, divisibility, recognizability. Money performs a number of functions. First of all, money serves as a measure of value: that is money is used to measure the value of all other commodities. The value of a commodity in terms of money is called its price. When commodities are exchanged with the help of money, money also serves as a means of circulation. Money also serves as a means of accumulation. Money is a universal embodiment of wealth and a means of accumulating it. Money is not always in the form of cash. Sales and purchases are often made on credit. *Shapiro H.T., Dawson G.G., Antell G. Applied Economics*	Гроші обов'язкові в суспільстві в якому товарна біржа здійснює. Золото загалом прийнятий товар грошей. Завдяки своїм істотним властивостям золото дуже зручна річ для того щоб виконувати соціальну функцію грошей. Його можна легко тримати безпечно, тому що воно має малий том для своєї ваги поки визначає значне значення. Протягом історії суспільства використовували такі речі для їх грошей як тютюн, сіль, мушлі та авжеж різні форми паперу. Хоча що не будь може слугувати як гроші, по мірі того як практично справа матеріал повинно мати наступні властивості: стабільність, зручноносимість, стійкість, єдино подібність, ділимість, впізнаваємість. Гроші виконують ряд функцій. По-перше, гроші служать як міра вартості: гроші використовують щоб виміряти значення всіх інших товарів. Значення грошей оперує поняттям грошей викликано своєю ціною. Коли товари обміняти за допомогою грошей, гроші також слугують як засіб циркуляції. Гроші також слугують як засіб накопичення. Гроші загальне втілення багатства та засіб акумулювати його. Гроші не завжди у формі готівки грошей. Продаж та покупки часто зроблені на кредиті.

Практичне заняття №3

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the table:

n. + -ful = adj.

speed + ful = speedful (швидкий)

1. a powerful station; 2. the aimful work; 3. a fruitful research; 4. the forceful man; 5. the eventful year; 6. meaningful words. 7. peaceful uses of atomic energy; 8. a changeful character; 9. a manful person; 10. a speechful eyes.

Exercise 2.

Read the following sentences and render their context in Ukrainian, taking into consideration the meanings of the word "run".

1. The girl was running like mad. 2. He was running the presidency. 3. Click Search or press Enter to run the search. 4. its difficult to run the hotel. 5. She ran the office like the captain runs a ship. 6. How would you start and run your own business? 7. This train runs from Hamburg to Copenhagen.

Exercise 3.

Combine the words of the left and right columns to form meaningful word combinations:

machine	programme
heavy consumer power	device line goods
socialist	engineering
control	building
modernization	industry
transfer	construction

Exercise 4.

Translate the following word-combinations into English. Mind the meaning of the word "корисний":

1. корисна інформація; 2. корисні копалини; 3. корисна площа (для житла); 4. корисна площа; 5. корисна потужність; 6. корисна дія (машини) 7. корисне навантаження; 8. корисне використання; 9. корисні знання; 10. корисна порада.

Exercise 5.

Arrange the following words in pairs according to:

a) similar meaning (synonyms):important, vast, beautiful, significant, large, unlimited, wonderful, limitless, fierce, advanced, broad, severe, deep, indisputable, tremendous, wide, highly-qualified, developed, unquestionable, profound, well-trained, remarkable.

b) opposite meaning (antonyms) complete, high, favorable, important, advanced, short, peaceful, incomplete, low, broad, long, unfavorable, unimportant, backward, military, narrow, direct, simple, impossible, indirect, complex, difficult, possible, easy, unproductive, to start, to ruin, to stop, productive, to build.

Exercise 6.

Render the following sentences into Ukrainian, paying attention to the translation of the terms:

1. Skeptical thinkers have pressed the claim that no satisfactory standard can be found that will actually work for distinguishing the real from the apparent in all cases.
2. After Kant a new metaphysical movement developed in Germany starting from Kant's claim that the individual contributes the form of all possible experience.
3. No metaphysical claim, they insisted, could meet this test.
4. Intuitionists such as H.A. Prichard and W.D. Ross claim that the sort of knowledge we have of right and wrong is immediate and self-evident.
5. The two expressions "evening star" and "morning star" refer to the same thing - the planet Venus - and yet no one would claim that the sentence "Venus is Venus" means the same thing as The morning star is the evening star.
6. Central to his indictment of mentalism was his claim that introspection was not a scientific method, because it rested on data known only to the observer.
7. Capitalist theorists claim that economic planning cedes too much power to the state, thus threatening political liberty.
8. It is believed, but has not been proved, that everything inside the black hole will hit the singularity and be utterly destroyed within a few microseconds; however, some claim that matter and energy may reappear in another universe.
9. Practitioners claim that this group approach decreases authoritarianism, prejudice, and the need for structure and control.
10. Some theorists maintain that the election laws themselves are simply a reflection of the underlying realities of the political culture.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Комп'ютерна пам'ять	**Computer memory**
Первинна пам'ять - це блок пам'яті з безпосереднім доступом для центрального процесора. Сучасні процесори здатні працювати з обсягом первинної пам'яті до 4 гігабайт. Зазвичай ПК продаються з меншим обсягом первинної пам'яті, ніж процесор може обробляти. У подальшому її обсяг можна нарощувати. Вторинна пам'ять - це зовнішня пам'ять необхідна для зберігання даних, обсяг яких завеликий, аби зберігатися у первинній пам'яті, або якщо такі дані слід зберігати постійно. (У більшості ПК зміст первинної пам'яті втрачається, якщо живлення комп'ютера вимикають.)	Primary memory refers to memory that is directly accessible by the CPU. Modern processors can handle up to 4 Gbytes. PCs are usually sold with less primaiy memory than the CPU can handle. Upgrades can be made later on. Secondary memory refers to external memory required to store data that will not fit into primary memory or that must be kept permanently. (In most PCs, the contexts of primary memory are lost when power is removed.

Exercise 8.

Do the editing of the computer translation of the text. Mind the usage of terms:

Locking Devices	**Пристрій для закривання**
These devices are intended to prevent spontaneous unscrewing of threaded parts. When the joint members carry static load, these devices are not needed, since all threaded fasteners are proof against loosing, their helix angle is simpler than the angle of friction. Under dynamic load, vibration, chatter, etc., a threaded joint may be relieved of load during some period of its work. An experimental investigation of this phenomenon has shown that these cases the coefficients of friction are reduced by 75-80% in the thread and by 75-80% on the nut face. Therefore, a threaded joint has to be locked to prevent its loosing.	Ці пристрої призначені для того, щоб завадити самовільному згвинчуванню пов'язаних ниткою частин. Коли спільні члени носять нерухоме навантаження, ці пристрої не є обов'язковими, тому що, всі пов'язані ниткою деталі доведено проти втрати їх кут гвинтової лінії простіше ніж кут тертя. Під динамічним навантаженням, вібрацією, балачками та т.п. пов'язане ниткою сполучення може бути позбавлене навантаження протягом певного часу своєї роботи. Експериментальне дослідження цього явища показало, що в цих випадках коефіцієнт тертя зменшується на 75-80% у різьбі, та на 75-80% на стороні гайки. Таким чином пов'язане ниткою сполучення повинно бути зафіксоване для того щоб завадити своє втрачання

Практичне заняття № 4

Exercise 1.

Substitute the following word-combinations for one word using the prefix en-(em-). Render the words into Ukrainian:

a) to put smth. (smb.) into a circle (a frame, a danger, a plane, an act a trap);
b) to make smth. (smb) large (noble, bitter, able, dear, rich, feeble);
c) to give smth. (smb.) courage (power, a title).

Exercise 2.

Find the stem of the given bellow derivatives. Give the Ukrainian equivalents of the words. Mind the translation of the misleading words:

Impression, entertainer, trailer, borrowing, borrower, profiteer, profitable overdependent, unskilled, growth, rapidity, rapidly, aimless, aimlessly computing, costing, preferable, preferably, accounting, accountant, unoriginal.

Exercise 3

Give Ukrainian equivalents of the following word-combinations:

Electronic phenomenon, monofrequential pulse, digital broadcasting, all-purpose instrument, overall trend, suitable trade, printed board, charge carrier intrinsic semiconductor, space exploration, milling machine, scientific management, public ownership, fierce competition.

Exercise 4.

Translate the following Ukrainian words having the same root in English:

План - планувати - плановий - планування Просування - просуватися - передовий

Людина - забезпечувати (укомплектовувати) людьми - керований людиною

Рівновага - урівноважений - урівноваження Основа - засновувати - заснований - заснування.

Exercise 5.

Arrange the following words in pairs according to:

c) similar meaning (synonyms): close, tremendous, increase, significance, tight, branch, importance, raise, field, efficiency, work, huge, rest, labour, impact, effectiveness, influence, cornerstone, latest, reserve,

essential, resource;

b) opposite meaning (antonyms): backward, powerless, few, slow,

heavy, prime, natural, speed up, strong, major, dependent, weak, advanced, many, slow down, powerful, secondary, rapid, light, artificial, independent,

minor.

Exercise 6.

Render the following sentences into Ukrainian. Pay attention to the ways of term-building:

1. To be really cost effective, we must have a good footing in the world market.
2. In fact, software and the disk that contains it are often thought of as being the same thing.
3. It is a fact that some materials are available on insufficient quantities and the more effective use of new substitute materials should be made.
4. We have at our disposal several procedures to apply.
5. The inflation rate in October was higher than that in September.
6. Any list of operations a processing engineer has to deal with will be incomplete without mentioning the finishing process.
7. Iron is made by refining iron ore to a point where it reaches 90 to 95% purity.
8. The evidence may be biased or mistaken, fragmentary, or nearly unintelligible after long periods of cultural or linguistic change.
9. Few, if any, theories or empirical investigations in the field appear sufficiently related to the present area to permit extrapolation of testable hypotheses.
10. Many of the biggest pharmaceutical producers are involved in the search for genetically improved plants and animals and for genetically engineered vaccines.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Безжальна конкуренція в сучасній сталеливарній промисловості змушує виробників дбати як про підвищення коефіцієнту корисної дії прокатних станів, так і про скорочення власних виробничих витрат. Незалежно від того, яку стратегію - побудова нового прокатного стану чи модернізація вже існуючого - вибирає конкретний виробник, найбільшою його проблемою є надійність технічного обґрунтування ступеню продуктивності вибраної стратегії у майбутньому.	In today's steel industry, strong competition forces producers to improve their mill utilization while reducing costs. Regardless of what strategy is adopted to succeed in the market-designing a new mill or optimizing an existing mill - the most important challenge to producers is to obtain a reliable estimation of the future production of the chosen strategy.

Обчислення продуктивності прокатного стану та вирахування його річної потужності може здійснюватися з різним ступенем точності, залежно від вживаного методу. Для деяких випадків припустимою може бути і 5% похибка в розрахунках, однак при обрахуванні перспектив повернення інвестицій, навіть 1% похибка може призвести до збитків. Наприклад, розрахункова похибка в 1 тонну за годину при оцінці середнього обсягу виробництва може спричинити різницю в мільйон доларів на рік для прокатного стану середньої потужності.	Calculation of mill productivity and estimation of annual capacity can be performed with different levels of accuracy, depending on the approach used. For some applications a 5% estimation error is acceptable, however in forecasting the investment return, an error as small as 1% can result in losses. For example, an estimation error of one ton per hour in the mill's average throughput can result in a million dollar variance for a mid-size mill over the period of a year.

Exercise 8.

Do the editing of the computer translation of the text. Mind the usage of terms:

What are the Mass Media?	**Що таке засоби масової інформації?**
A mass media can be communicated to a mass audience by many means: hardly an American lives through a day without feeling the impact of at least one mass media. The oldest media are those of the printed word and picture which carry their message through the sense of sight: the weekly and daily newspapers, magazines, books, pamphlets, direct mail circulars, and billboards. Radio is the mass communication medium aimed at the sense of sound, whereas television and motion pictures appeal both to the visual and auditory senses. There are important agencies of communication which are adjuncts of the mass media. There are (1) the press associations, which collect and distribute news and pictures to the newspapers, television and radio stations, and news magazines; (2) the syndicates, which offer background news and pictures, commentary, and entertainment features to newspapers, television, radio and magazines; (3) the advertising agencies, which serve their business clients on the one hand and the mass media, on the other; (4) the advertising departments of companies and institutions, which serve in merchandizing roles; (5) the public relations firms and publicity organizations, which offer information in behalf of their clients, and (6) research individuals and groups, who help gauge the impact of the message and guide mass communication to move effective paths. Edwin Emery. Introduction to Mass Communication	Засоби масової інформації можна пов'язувати з масовою аудиторією багатьма засобами: навряд чи американські життя через день без відчуття удару хоча б одного засобу. Самі старі засоби ті з друкованого слова та зображення, які носять їх повідомлення через відчуття візування: кожної неділя та кожного дня газети, журнали, книги, памфлети, циркуляри прямої кореспонденції та афіші. Радіо засоби масової комунікації спрямовані на відчуття звуку, тобі як телебачення та кінофільми апелюють обидва к візуальним та слуховим відчуттям. Важливі агенції комунікації, які ад'юнкти засобів масової інформації. (1) Пресс асоціації, які збирають та розподіляють новини та зображення до газет, телебачення та радіостанцій та суспільно-політичних журналів; синдикати (2), які пропонують новини та зображення предпосилки, коментарі та характеристики вистави до газет, телебачення, радіо та журналів; (3) рекламні бюро, які слугують їх клієнти справи, на одній руці до засобів масової інформації, на іншій; (4) відділи реклами компаній та закладів, які служать продажу ролі; (5) суспільні відносини фірми та організації, які пропонують інформації від імені їх клієнта, та (6) індивідуали та групи дослідження, які допомагають калібрувати удар повідомлення та спрямовують масову комунікацію рухатися ефективним шляхом.

Практичне заняття № 5

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the table:

v. + -ing = n.

teach + -ing = teaching (навчання)

1. the intensive heating of the tubes; 2. the thick covering on the wall of the sound laboratory; 3. the drilling of the deep holes; 4. the findings of the researcher; 5. the systematic learning of language; 6. the practical teaching of the subject; 7. the new filming of "Hamlet"; 8. the accurate readings of the thermometer; 9. a half an hour airing of the laboratory.

Exercise 2.

Translate the following sentences. Pay attention to the polysemantic words:

1. The company's directing *agency* is located in Detroit. 2. The new chief executive *officer* was appointed in May. 3. Price *gap* has become the main reason for many domestic goods being brought out of the country. 4. Competitive *capacity* of the enterprises is number one issue. 5. The immediate task is to *temper* the impact of inflation. 6. This can hardly be treated as the free *article.* 7. They have been speculating on *margin* for a couple of years now.

Exercise 3.

Combine the noun with the proper adjective:

Nouns: star, sun, earth, sky, moon, year, night, time, day.

Adjectives: solar, astral terrestrial, lunar, celestial, annual, nocturnal, diurnal, temporal.

Exercise 4.

Form the proper English equivalents of the following Ukrainian words and word-combinations, using the word "living":

рівень життя, умови життя, заробляти на життя, життєвий простір, багате життя, жива матерія, жива істота, прожитковий мінімум, вітальня (спільна кімната), квартира на одну сім'ю, просте (скромне) життя.

Exercise 5.

Arrange the following words in pairs according to:

a) similar meaning (synonyms): to start, to perform, to call for, to propose, to raise, to carry out, to suggest, to begin, to increase, to supervise, to require, to control, complex, quick, radically, total, fast, considerably,

whole, complicated.

b) opposite meaning (antonyms): to increase, dynamic, dependently, different, static, to decrease, simple similar, possible, low-cost, complex, total, impossible, above, high-cost, independently, below, partial.

Exercise 6.

Render the following sentences into Ukrainian, using different ways ' of transformation:

1. Typical condensation polymers are polyamides, polyesters, and certain polyurethanes.

2. By using so called superheaters, modern boilers can achieve almost 90 per cent fuel efficiency.

3. A modem converts the digital signals of the sending computer to rivalries.

4. During the 20th century the suburbs of London continued to grow until 1935, when a Great Belt law was instituted to control further growth beyond a ring of parks.

5. Paleoanthropology calls on the skills of many specialists.

6. Governments do not relinquish their authority unless compelled to do so.

7. For unknown reasons Iraq chose not to unleash its chemical weapons arsenal in the Persian Gulf War of 1991.

8. Not until the 18th century scientists begin to appreciate the complex chemistry of metallurgy.

9. Some anthropologists use the term enculturation to refer to the process of socialization.

10. Bureaucracy is a system for administrating large organizations involving a specific structure of authority and a clear defined set of rules and regulations.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Поява металорізних верстатів з роторними пристроями знаменувала важливий крок у процесі автоматизації виробництва. В таких верстатах усі інструменти та робочі пристрої, необхідні для виконання відповідних операцій, встановлені на барабані, що обертається навколо власної осі. Верстати цього типу відрізняються від звичайних верстатів з точки зору співвідношення етапу транспортування заготівки до місця її обробки та технологічного етапу (тобто, власне її обробки). Зазвичай верстати виконують ці етапи послідовно і, відповідно, обробка заготівки не може початися, аж поки не закінчиться етап її транспортування і навпаки. Металорізальні верстати з роторними пристроями вільні від цього недоліку.	Machine tools with rotary device are an important step in the process of automatic production. In such machines all tools and work devices needed for machine operation are mounted on the rotary drum. Such machine tools are different from ordinary machines in separating the transportation phase (workpiece travel) from the technological phase (workpiece processing). Ordinary machine tools perform these operations in sequence and workpiece processing cannot start until the transportation phase is complete and vice-versa. Machine tools with rotary device lack this disadvantage and thus are much more effective.

Exercise 8.

Do the editing of the computer translation of the text. Mind the usage of terms:

Classification of drugs	**Класифікація ліків**
The drugs can be grouped according to the action they possess. The main groups are: **Antiseptic and disinfectants** - They kill bacteria by poisoning them directly either inside or outside the body;	Ліки можна зібрати відповідно до дії, вони виконують. Головні групи: **Антисептики та дезінфектанти:** вони вбивають бактерії шляхом отруєння їх відразу всередині або зовні тіла;

Expectorants - These are used for assisting in coughing up or mucus and sputum from lungs and bronchi;	**Експекторанти:** ці використовують для допомоги при кашляти вгору або слиз та мокрота від легень та бронхів;
Cough mixtures - These are used to suppress coughing by reducing the irritation of throat;	**Суміші кашлю** - ці використовуються для того щоб подавити кашель шляхом зменшення подразнення горла.
Analgesics - They are drugs that soothe or relieve pain;	**Анальгетики** - це ліки які заспокоюють або полегшують біль.
Tonics - These are drugs which are taken to strengthen the body and to supplement deficiencies in the nutritional value of foods;	**Тоніки** - це ліки, які прийняті для того щоб підсилити тіло та доповнити дефіцити у споживчому значенні їжі.
Application for skin and mucous membrane includes ointments, lotions and liniments. These are often poisonous and should not be taken orally or except by rubbing on or applying to the skin or mucous membrane.	**Використання** для шкіри та слизової мембрани включає мазі, лосьйони та лініменти. Це часто отруйні та не повинні використовуватися усно за винятком шляхом тертя на або використовувати на шкірі або слизовій мембрані.

Практичне заняття №6

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the table:

Adj. + -ity = n.

Conductive- + -ity = conductivity (провідність)

1. the reality of our life; 2. the elasticity of the plastic material; 3. the radioactivity of elements; 4. the activity of these acids.

Exercise 2.

Render in Ukrainian the following free word combination.

1. iron curtain; 2. perfect murder; 3. dog-eat-dog rules; 4. behind the scenes decisions; 5. no-more-war-actions call; 6. business communication workshop; 7. non-for-profit institutions; 8. structural reorganization goals; 9. non-taxable income; 10. Freedom Support Act.

Exercise 3.

Read and give Ukrainian equivalents of the following international words:

Potential, conservation, productivity, intensive, natural, character, modern, effect, extensive, universal, priority, total, reconstruction, scale, integrate, peak, transmission, distance, manufacture, national, concentration, primitive, utility, expressive, personal, exterior, dynamic, application, concept, assembly, radically, safe, interference, composition, coding, detective, sensitive, to register.

Exercise 4.

Use the words "advanced", "leading", "progressive" to translate the following Ukrainian word-combinations:

Передова наука, прогресивні ідеї, прогресивна технологія, прогресивна людина, прогресивний письменник, передовий робітник, передова бригада, передова стаття, провідний інженер, провідний спеціаліст, прогресивне людство, поглиблений курс.

Exercise 5.

Arrange the following words in pairs according to:

a) similar meaning (synonyms): exploration, cosmos, modern, change, launch, humanity, conquest, artificial, breakthrough, spaceman, open, send, man-made, cosmonaut, outerspace, up-to-date, mankind, achievement, begin, turn into;

b) opposite meaning (antonyms): late, near, advanced, complex, early, old, swift, long, short, slow, few, new, artificial, backward, simple, many, far, natural.

Exercise 6.

Render the following sentences into Ukrainian. Pay attention to the translation of titles and personal names:

1. Peter Schwarz, former head of the London Stock Exchange, illustrates the reformational nature of the planetary economy by noting that international foreign exchange transactions reached 87 trillion dollars in 1986, trade being only about 10 percent of that sum.

2. Such projects as the Strategic Defense Initiative or Star Wars have as their ultimate goal giving the USA absolute strategic superiority.

3. I spent most of my vacation in 1950 studying the first 354 pages of R.G.D. Allen's "*Mathematical Analysis for Economists "*, because Professor Milton Friedman said I needed calculus to take his University of Chicago course in price theory. This paper was originally presented at the 79th Annual Meeting of the Communications Association in Miami Beach, FL, Nov. 18-21,1993, as part of a program entitled "Communication, Education, and Culture: Perspectives on the Scholarly Activity of Neil Postman".

4. He once was the Co-director of the Institute for Health, Behavior, and Environmental Policy at the University of Ohio.

5. When I was teaching at the University of California Berkeley Law School, at a Lake Arrowhead conference I ran into important IBM executive.

6. Scientists at SIBLA, the corporate spin-off of the Balk Institute for Biotechnology La Jolla, California, are preparing to commercialize the first predictive diagnostic tests for Alzheimer disease.

7. In a paper reported in the *Journal of the Institution of Engineers,* Australia, Alan Price states that it is a mistaken idea that road corrugation results from the frictional action of motor car wheels.

8. On April 30 the U.S. responded to the French plan by detonating a nuclear bomb in a tunnel at the US Department of Energy Nevada Test Site.

9. The World Space Congress brings together scientists and engineers from the Committee on Space Research and the International Astronautical federation.

10. Tethered Satellite System is a cooperative undertaking with NASA, to be operated with its space shuttle.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Стільникові телефони	**Cellular telephones**
Стільникові телефони - це засоби зв'язку, якими можна користуватися подорожуючи в засобах транспорту або пішки. Працюючи на радіохвилі в діапазоні 800-900 Мгерц, вони забезпечують високий рівень мобільності користувача в межах зони покриття, яка може досягати сотень квадратних кілометрів. Усі системи стільникового зв'язку мають однакові принципові характеристики, які можна сформулювати так: конкретна зона покриття будь-якого оператора мобільно зв'язку розбиваються на дрібніші ділянки, які називаються стільниками. В межах кожного стільника зв'язок будь-якого мобільного телефону здійснюється через станцію-базу, яка обслуговує цей стільник. Завдяки значним досягненням у галузі компонентної технології, вага та розмір мобільних телефонів значно зменшились. У 1988 році група державних компаній зв'язку Європейського союзу оголосила про створення числового глобальної системи мобільного зв'язку (GSM) - Джі-Ес-Ем - , першої системи, що дозволяє користувачу з однієї європейської країни користуватися власним мобільним телефоном і в інших країнах союзу.	Cellular telephones are transportable by vehicles or personally portable devices that may be used in motor vehicles or by pedestrians. Communicating by radiowave in the 800-900-megahertz band, they permit a significant degree of mobility within a defined serving region that may be hundreds of square kilometers in area. All cellular radio systems exhibit several fundamental characteristics, as summarized in the following: the geographic area served by a cellular radio system is broken up into a smaller geographic areas, or cells. All communication with a mobile or portable instrument within a given cell is made to the base station that serves the cell. With significant advances in component technology the weight and size of portable transceivers have been significantly reduced. In 1988 a group of government owned public telephone bodies within the European Community announced the digital global system for mobile (GSM) communications, the first such system that would permit a cellular user in one European country to operate in another European country with the same equipment.

Практичне заняття №7

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the tables:

adj. + -ness = n.

dark + -ness = darkness (темінь)

-ion

v. + -ation = n.

-tion

compress + -ion = compression (стиснення)

1. the observation of stars; 2. the dryness of the sand; 3. the dampness of material; 4. the transformation of the electrical energy into the mechanical work; 5. the simpliness of the construction; 6. the milk separation; 7. the correctness of speech; 8. the formlessness of the figure; 9. the state of weightlessness; 10. the connection between the ideas.

Exercise 2.

Make the verbs out of the following nouns. Determine the meanings of the verbs and nouns. Find the Ukrainian equivalents that differ from international ones:

demonstration - to demonstrate

демонстрація - демонструвати

показ – показувати

1. illustration; 2. collection; 3. correction; 4. publication; 5. Reaction; 6. concentration; 7. discussion.

Exercise 3.

Find the meaning of the following word combinations. Mind the "misleading words":

1. banking officers; 2. public debt; 3. interest rate; 4. convention of the Entrepreneurs Union; 5. personnel department; 6. champion of peace;

ammunition storage; 8. null document; 9. legal maters; 10. accurate data; 11. title and position; 12. human values**.**

Exercise 4.

Express the following word combinations in English, using the synonymic terms "apparatus", "device", "instrument", 'mechanism":

затискувальний пристрій, підйомник, підйомний пристрій, підйомний механізм, вантажний пристрій, передавач, передавальний механізм, рентгенівська установка (апарат), розрахунковий пристрій, лічильний механізм, обчислювальний пристрій, лічильний прилад, прецизійний (високоточний) прилад, кодуючий пристрій, електронний прилад, електронний вимірювальний прилад.

Exercise 5.

Pair the words-synonyms. Find their Ukrainian equivalents:

Courtesy, alike, couple, response, subject, achieve, additional, position, aim, try, essential, accommodation, obligation, allow, supplement, rapid, income, officer, objective, tranquil.

Politeness, similar, calm, obtain, reply, extra, attempt, extremely important, surcharge, lodging, pair, job, permit, speedy, revenue, official, duty.

Exercise 6.

Render the following sentences into Ukrainian. Pay attention *to the* international words and misleading words.

1. All examples are taken from actual texts.
2. This is dramatically illustrated by Ecrics.
3. The articles are arranged according to subject matter rather than chronology.
4. In addition to the work mentioned above, the volume contains six studies originally published in English.
5. The present notation is inaccurate and, in some cases, confusing.

6. The book concludes with a brief account of the renewed interests in Newton during recent decades.

7. The studies here range from the Middle Ages to the present, and offer a combination of general surveys along with detailed investigations of specific aspects.

8. Computers are something thought - unjustifiably - to demand deep technical knowledge or proficiency in mathematics and electronics. In actuality, computers, like any other discipline, inspire different levels of expertise.

9. The victory of the popular revolution in Cuba has become a splendid example for the people of Latin America.

10. As they realize in the fight for dramatic reforms, large sections of the population come to realize the necessity of unity of actions with the working class and become more active politically.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Альтернативні технології виробництва заліза	**Alternate Iron-Making Processes**
Вже кілька років розробляються нові, дешеві та менш шкідливі для довкілля, технології виробництва заліза із залізної руди. При застосуванні технології безпосереднього відновлення залізо виробляється прямо із руди, подрібненої до порошкоподібного стану, з використанням природного газу, який виконує функції коксу - нагрівання та відновлення. Пальне (нафта(та порошкове або гранульоване вугілля також можуть бути відновлювальними реагентами, в той час як піч - це часто псевдо розріджений шар (прикладом такої технології є згоряння псевдо розрідженого шару у випадку, коли замість залізної руди використовується вугілля). Технологія відновлення заліза за допомогою плавлення передбачає використання металевої "ванни", в якій попередньо розігріта залізна руда плавиться разом з уже розплавленим металом, вугіллям та гарячим повітрям.	Recent years have seen the development of new, less expensive and more environmentally friendly processes for producing iron from ore. Direct reduction iron is made directly from iron ore, in the form of "Fines", or powders, using natural gas as the heating and reducing agent instead of coke. Fuel oil, andpowdered or pelleted coal, also serves as reducing agent, while the furnace is often a fluidized bed (see fluidizes bed combustion for an example of this technology applied to coal rather than iron ore). Smelting reduction processes involve the use of metal "bath", where preheated iron ore is smelted in a vessel containing already melted hot metal, coal, and hot air.

Exercise 8

Do the editing of the computer translation of the text. Mind the usage of terms.

Chemistry and Cosmetics	**Хімія та косметика**
Face powder. Face powder is used to give the skin a pleasant appearance. The powder requires several ingredients to obtain proper appearance,	*Порошок для обличчя*. Порошок для обличчя використовується для того, щоб надати шкірі приємне відчуття. Порошок потребує декілька інгредієнтів

sticking properties and absorbance. A typical formula is : talc - 65%, precipitated chalk - 10%, zinc oxide - 20%, zinc stearate - 5% to which are added small amounts of perfume and colouring matter. Compact powders are similar to face powder with mineral oil or lanolin, and organic hydroxyl compounds as binders added. They are pressed after mixing. *2. Lipstick.* Lipstick consists of a solution or suspension of colouring agents in a mixture of high molecular weight hydrocarbons or their derivatives or both. The material must be soft to produce a good application . on lips, yet the film must not be too easily removed. Lipstick is perfumed to give an odour and pleasant tastes. The colour easily comes from a dye or from the eosin group of dyes. In the manufacture of lipstick the dye is added to the castor oil and then the waxes, lanolin and perfume are mixed with them. Then the mass is heated till a homogenous mixture is obtained. The mass is then put into suitable forms, and after a number of other operations packaged.	отримати відповідний вигляд,скріпляючи властивостями та абсорбцію. Типова формула є наступною: тальк - 65%, осаджена крейда - 10%, окис цинку - 20%, стеарат цинку - 5%, до який додаються невелика кількість парфумів та справи розфарбування. Компактні порошки подібні до обличчя порошку з мінеральною олією або ланоліном та органічними сумішами гідроксилу по мірі того як скріплювати додаються. *2.Губна помада.* Губна помада складається з рішення та суспензії, які випадає в осадок агентів фарб в суміші з високомолекулярним вуглецем ваги або їх похідних або обох. Матеріал повинен бути м'яким, щоб про ізвести добре враження на губах, але плівку потрібно дуже легко знімати. Губна помада парфумована, щоб надати запах та приємний смак. Колір легко приходить з красителя або з групи красок еозину. При виготовлені губної помади краситель додається до касторової олії та потім віск ланолін та парфуми змішенні з ними. Після цього маса нагрівається доки однорідна суміш отримана. Маса після цього покладена у відповідні форми та після декількох інших операцій упакована.

Практичне заняття №8

Exercise 1.

Read and translate the following word-combinations without using a dictionary. Mind the table:

adj. + -en = v.

red + -en = redden (фарбувати у червоний колір)

1. to freshen water; 2. to lighten the weight; 3. to whiten the walls; 4. to shorten the steel bar; 5. to lessen the speed; 6. to quicken the interest;. J. to widen a street.

Exercise 2.

Find the stem of the given bellow derivatives. Give the Ukrainian equivalents of the words. Mind the translation of the misleading words:

Connection, integrated, reliable, unlimited, inclusion, validity, bargaining, hourly, identification, processing, transferring, declaration, coincidence, familiarity, reference, applicant, payable, undoubtedly, caterer, obtainable, inaccessible, scheduled, illegal, exceptional, irrational, renovation, outgoing, marketing, impersonal, rigidity, permission, tranquility, incoming, unskilled, qualitative, contributor, unoriginal, briefing, contracting, negotiator, promotion.

Exercise 3.

Find the main meanings of the following words in a dictionary. Write not less than four most typical word-combinations with them.

n. fuel, gold, oxide, silver, value;

v. charge (elect), coat, interpret, provide, remain, state;

adg. single, valid.

Exercise 4.

Form the proper English equivalents of the following Ukrainian words and word-combinations, using the word "energy":

атомна енергія, внутрішня енергія, біологічна енергія, енергія активації, енергія кванта, енергія спокою, звукова енергія, накопичена енергія, кінетична енергія, механічна енергія, потенціальна енергія, хімічна енергія, світлова енергія, питома енергія, теплова енергія, ядерна енергія.

Exercise 5.

Arrange the following words in pairs according to:

a) similar meaning (synonyms): fierce, advanced, broad, severe, deep, indisputable, tremendous, wide, highly-qualified, developed, unquestionable, profound, well-trained, remarkable;

b) opposite meaning (antonyms): complete, high, favorable, important, advanced, short, peaceful, incomplete, low, broad, long, unfavorable, unimportant, backward, military, narrow.

Exercise *6*.

Render the following sentences into Ukrainian. Pay attention to the translation of the terms and misleading words:

1. The one thing an archeologist is always cognizant of is the long term - especially long term patterns. (McCaffrey)
2. There was not a police force in the world that could monitor phone calls made on cellular-phone equipment.(Clancy)
3. A team of four snaked a fueling hose towards the aircraft, eager to demonstrate the speed with which the US Navy services aircraft. (Clancy)
4. Did the invaders exterminate the native population, or did they superimpose themselves upon them and became to some extent blended with them. (Metalious)
5. Naval intelligence reports that due to our successful actions during the past several weeks, as well as the actions of the rest of the Navy, the Chinese units in the area are running low on supplies and moral. (Clancy)

6. It wasn't a basketball, but a hybrid of rugby, wrestling, judo, and Basketball. (Grisham)

7. he was also a distinguished observer and an amazingly accurate forecaster of events. (Clancy)

8. He was one of my thesis readers. I'm an ethologist. I study large mammals in Africa grassland ecosystem. East Africa. Carnivores, in particular.(Crichton)

9. Christine knew that was why credit managers occasionally risked extending credit or approved checks in slightly doubtful cases, walking a mental tightrope as they did. (Hailey)

10. After paying the outstanding mortgage and taking care of minor stockholders, there would be ample money left on which he could live, at whatever standards he chose, for the reminder of his life. (Hailey)

Exercise 7.

Render the following text into English and compare your translation with the given one. Do the editing of the translation or propose the own one:

Straightening up, he cast a glance around the living room, with its comfortable mixture of furnishings and color - a French provincial sofa with a leaf-designed tapestry print in white, blue, and green; a pair of Hepplewhite chairs near marble topped chest, and the inlaid mahogany sideboard on which he was mixing drinks. The walls held some Louisiana French prints and a modern impressionist oil. The effect was of warmth and cheerfulness, much like Christine herself, he thought. Only a cumbrous mantel clock on the sideboard beside him provided an incongruous note. *Hotel by Arthur Hailey*	Потім він випрямився та оглянув затишну кімнату, в якій колір меблів так приємно пасував до оббивки: софа у французькому провінційному стилі, обтягнута гобеленом з рослинним орнаментом білих, блакитних та зелених тонів; два хепплуайтских крісла біля комода з мармуровою дошкою, сервант, інкрустований червоним деревом, біля якого він змішував напої. На стінах - гравюри, на яких зображені пейзажі Луїзіани, та сучасна картина в дусі імперіалізму. Все це робило кімнату теплою, веселою - зовсім як сама Христина, подумав він. Тільки громіздкі часи на серванті вибивалися із загального стилю.

Практичне заняття № 9

Exercise 1

Form the verbs after the models. Render the words into Ukrainian.

a) S + -(i)fy: gas-gasify: satisfaction, class, beauty, glory, type, acid, quality;

b) A + -(i)fy: solid-solidify: electric, simple, pure, just, false, intensive, liquid, rectification.

Exercise 2.

Substitute the following word combinations for one word of identical meaning:

Model: to make smaller - to reduce

To make larger, to make possible, to use instead of, to make steps forward, to work out, to carry out, to make contribution, to make progress, to gain victory, to draw dividing lines, to make sure.

Exercise 3.

Give Ukrainian equivalents of the following word-combinations:

Insolvable problem, financial standing, adequate funds, housing policy, commercial approach, elementary conveniences, unheated flats, housing stock, property companies, council houses, huge rent, constructional property, interior appearance, finishing material, architectural shape.

Exercise 4.

Form the proper English equivalents of the following Ukrainian word-combinations, using the word "computer":

Аналогова обчислювальна машина, управляюча обчислювальна машина, цифрова обчислювальна машина, малогабаритна лічильна машина, транзисторна обчислювальна машина, електронна обчислювальна машина, інформаційно-статистична машина.

Exercise 5.

Arrange the following words in pairs according to similar and opposite meaning:

Obtain, aid, different, cold, long, joined, take, hot, give, take apart, clean, assembling, absent, the same, short, dirty, help, on the one hand, impossible, dissembling, present, on the other hand, possible, get, various.

Exercise 6.

Render the following sentences into Ukrainian. Pay attention to the translation of the misleading words. Try to use different ways of transformations:

1. The interviewer must very his technique according the particular situation he faces.
2. Many semiconductors, particularly at high temperature, conduct because both electrons and holes are thermally exited.
3. These are all conceived to be alternate manifestations of the phenomenon.
2. What we would like to emphasize is that we need to expand our international contacts.
3. A shrink joint differs from a press joint by the methods of assembling it.
4. The contributions contain fewer original ideas and exhibit less fruitful discussions than could have been expected.
5. Unless scientists have studied the principles of the functioning of the human brain, they will not be able to tackle the problem of artificial intellect.
6. A similar broad range of cost and potential sound quality is available in car stereo systems designed for installation in automobiles.
7. Both ferrous and nonferrous metals can be forged, including low- carbon steel cooper, aluminum, magnesium, and titanium.
8. This fact has little relevance for the further development.

Exercise 7.

Render the following text into English and compare your translation with the given one:

Принтер	**Printer**
Принтер - це комп'ютерний пристрій виводу, який фіксує інформацію на папері. Ця інформація може мати вигляд тексту, числових даних, або графічних зображень. Принтер здатний забезпечити якість друку тексту на рівні друкарської машинки. Існує два головних різновидів принтерів: матричні та струменеві. У матричному принтері застосовується матриця з невеличкими стрижнями, які, коли на них натискають ззаду, роблять відбиток, що складається з великої кількості точок на папері. Матричний принтер може репродукувати найрізноманітніші символи, а також графічні зображення. Струменеві принтери такі ж зручні у використанні, як і матричні, але характеризуються нижчим рівнем шуму. До того ж їх можна адаптувати до складного повнокольрового друку. Типовий сучасний струменевий принтер має подвійний картридж (чорно-білий та кольоровий), і здатний друкувати як на звичайному папері, так і на прозорих плівках та спеціальному фотопапері, що суттєво покращує якість відбитку. Лазерний принтер є більш досконалим пристроєм, який може працювати як у чорно-білому, так і в повнокольровому режимі.	A printer is a computer output device that records information on paper. The information can be in the form of written script, numerical data, or graphics. Printers can produce letter-quality print, like a typewriter. There are two main types of printers: dot- matrix printers and ink-jet printers. Dot-matrix printer employs a matrix of small pegs that, hit from behind, impact a series of dots on paper. The dot-matrix printer can form a wide variety of characters, as well as graphics. Ink-jet printers share the flexibility of dot-matrix printers and operate more quietly. In addition, ink-jet printers can be adapted to complex color printing. A typical modern ink-jet printer has a dual cartridge (black and white and color printing cartridges), and is capable of printing on plain paper, as well as on transparency and special photo paper which greatly improves the images quality. The more advanced type of printers is the laser printer which is capable of both black and white and colour printing.

Exercise 8

Do the editing of the computer translation of the text. Mind the usage of terms:

Users with a Direct Financial Interest	**Користувачі з прямим фінансовим інтересом**
A major function of finance is to measure and report information about how a business has performed. Most businesses periodically publish a set of general-purpose statements that report on their success in meeting objectives of profitability and liquidity.	Головна функція фінансів виміряти та повідомити про те як справа виконується. Більшість справ періодично видають комплект загально цільових заяв як репортажі про їх успіхи в завданнях, зустрічі про дохідність та ліквідність.

Though these statements that report on their success in meeting objectives of profitability and liquidity. Though these statements show what has happened in the past, they are important guides to future success. Today there are many people outside the company who carefully study these financial reports.

Present or Potential Investors. Those who are thinking of investing in a company and those such as financial analysts who advice investors are interested in the past success of the business and its potential earnings in the future. A thorough study of the company's financial statements will help potential investors to judge the prospects for a profitable investment. After investing in a company, investors must continually review their commitment.

Present or Potential Creditors. Most companies must borrow money for both long-and short-term operating needs. The creditors, who lend the money, are interested mainly in whether the company will have the cash to pay the interest charges and repay the debt at the appropriate time.

Rachman D.J., Mens on M. H.
Study Guide. Business Today

Хоча ці заяви показують що було в минулому, вони є важливими спрямовуючими виступами щодо майбутніх досягнень. Сьогодні багато людей

Зовні компанії, які уважно вивчають цю фінансово-господарські рапорти.

Присутні та потенційні вкладники. Ті, які думають інвестувати в компанії та ті як спеціалісти в галузі фінансів, в консультації яких зацікавлені вкладники в минулих успіхах справи та своїх потенційних заробітків в майбутньому. Ретельне вивчення фінансових звітів компанії допомогу потенційним вкладникам судити перспективність прибуткового інвестування. Після інвестування в компанії, вкладники повинні постійно розглядати їх прийняття остаточного рішення.

Присутні або потенційні кредитори. Більшість компаній повинна позичати гроші для довгих та недовготривалих робочих нужд. Кредиторів цікавить, які позичають гроші, головним чином, чи буде компанія мати готівкові гроші, щоб оплатити обов'язки інтересу та сплатити заборгованість в певний час.

TEXTS

Завдання для роботи з текстами

1. Прочитайте текст та перекладіть його українською мовою.
2. Випишіть з тексту терміни, поділяючи їх на: загальнонаукові, міжгалузеві та вузькогалузеві.
3. Проаналізуйте терміни з точки зору їх структури.
4. Поясніть, як Ви переклали власні назви у тексті. Назвіть прийоми перекладу, до яких Ви вдалися, доведіть правильність Вашого вибору.
5. Проаналізуйте терміни з точки зору їх походження. Вкажіть, які терміни побудовані за допомогою використання внутрішніх ресурсів мови, а які є запозиченими.
6. Зазначте (у разі наявності в тексті) терміни-інтернаціоналізми та терміни-псевдоінтернаціоналізми.
7. Вкажіть, які прийоми перекладу термінів та види перекладацьких трансформацій було використано при перекладі термінів у тексті.
8. Чи довелося Вам звертатися до енциклопедично-довідкових або тлумачних словників при перекладі термінів? Зазначте, якими словниками Ви користувалися при перекладі тексту або окремих термінів.

1. The Order of the Wall

Response to the Sun By David Paul Bingham
Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State
University Blacksburg, Virginia April 2003

The heat retaining mass and wall does triple duty. Not only does it store and ration heat energy in winter, but it serves also as heat absorption mechanism / climate moderator in summer. Moreover, the openings in the wall serve to limit and control the amount of light admitted into the main house. Lastly, it restricts, but more importantly guides and focuses, the views of the exterior obtainable from the interior of the house. The wall is constructed of solid concrete blocks, held together by mortar. The blocks are, for the most part, flush. However, numerous among them project inward and outward in organized groups forming discrete walls within the wall. This serves both to affect the energy properties of the wall and to break up what might otherwise be a mere facade, lifeless and dull. These projections and recesses modulate the light, creating patterns of light and shadow that vary continuously with the movement of the sun through seasons and days.

Adjustable dampers serve to control and moderate energy flow and conservation. Energy flow is further moderated - stretched in time - by the propensity of the differing thicknesses of the wall to give off or absorb heat at different times and rates of exchange. By its combination of openings and solid barriers, the wall unites two disparate structures to make a unified whole.

Elevations of interior wall looking south through the addition's heat retaining wall. Former openings are shown with a dashed line. The existing wall openings propose the location of most of the openings in the new addition wall.

The wall acts as the mediator between the old and the new, deciding how much southern light the interior receives, as well as how much of the existing structure is revealed in the addition.

The Construction of the Cellar

Rural Architecture
By Lewis F. Allen

Every farm house and farm cottage, where a family of any size occupy the latter, should have a good, substantial *stone*-walled cellar beneath it. No room attached to the farm house is more profitable, in its occupation, than the cellar. It is useful for storing numberless articles which are necessary to be kept warm and dry in winter, as well as cool in summer, of which the fanner is well aware. The walls of a cellar should rise at least one, to two, or even three feet above the level of the ground surrounding it, according to circumstances, and the rooms in it well ventilated by *two* or more sliding sash windows in each, according to size, position, and the particular kind of storage for which it is required, so that a draft of pure air can pass through, and give it thorough ventilation at all times. It should also be at least seven and a half feet high in the clear; and if it be even nine feet, that is not too much. If the soil be compact, or such as will hold water, it should be thoroughly drained from the lowest point or corner, and the drain always kept open; (a stone drain is the best and most

durable,) and if 55 floored with a coat of flat, or rubble stones, well set in good hydraulic cement-or cement alone, when the stone cannot be obtained-all the better. This last will make it *rat proof.*

For the purpose of avoiding these destructive creatures, the *foundation* stones in the wall should be brought to a joint, and project at least six inches on each side, from the wall itself, when laid upon this bottom course; as the usual manner of rats is to burrow in a nearly perpendicular direction from the surface, by the side of the wall, when intending to undermine it. On arriving at the bottom, if circumvented by the projecting stones, they will usually abandon their work. Plank of hard wood, or hard burnt bricks, may answer this purpose when stone cannot be had.

All cellar walls should be laid in good lime mortar, or if that be not practicable, they should be well pointed with it. This keeps them in place, and renders them less liable to the ingress of water and vermin. The thickness of wall should not be less than fifteen to eighteen inches, in any event, when of stone; and if the house walls above be built of stone or brick, two feet is better; and in all cases the cellar wall should be full three inches thicker than the wall resting upon it.

In the cellar of every farm house there should be an outside door, with a flight of steps by which to pass roots and other bulky or heavy articles, to which a wagon or cart may approach, either to receive or discharge them. This is indispensable. Every out-building upon the farm, let it be devoted to what purpose it may, having a wooden floor on the 56 ground story, should be set up sufficiently high from the surface to admit a cat or small terrier dog beneath such floor, with openings for them to pass in and out, or these hiding places will become so many rat warrens upon the premises, and prove most destructive to the grain and poultry. Nothing can be more annoying to the farmer than these vermin, and a trifling outlay in the beginning, will exclude them from the foundations and walls of all buildings. Care, therefore, should be taken to leave no haunt for their convenience. With these suggestions the ingenuity of every builder will provide sufficient guards against the protection of vermin beneath his buildings.

Lighting Solutions

Lighting for Universal Design by Patricia Rizzo Ultimate Home Design Issue 07 Jan/Fab.2007

As we get older, we need more light, but it must be more shielded, balanced, and uniform light. A few tips include:

- Avoid direct glare caused by exposed lightbulbs. Place some kind of translucent material between you and the light source if you can see the lightbulb while standing or sitting. Select luminaires with some type of shade or diffuser
- Avoid glossy surfaces, especially on floors or countertops; they become mirrors, reflecting the brightness of the light source and increasing the impression of glare.
- Avoid placing bright luminaires against dark ceilings. Use indirect lighting whenever possible; it fills in the shadows and creates a soft, glare-free environment while seeming brighter than a directly lit environment.
- Conceal linear fluorescent luminaires behind a decorative fascia, creating a cove or valance. This works especially well when you have nine-foot ceilings or higher, allowing

the light to wash the walls and ceilings so your room surfaces become an extension of your light source.

- Use light color finishes on walls and ceilings to soften the effects of bright light sources and to reduce shadows.
- Avoid making the interior of your home too dark compared to the exterior; use dimmers to balance the brightness of your table lamps, floor lamps, and chandeliers. Balancing light levels within spaces and between adjacent spaces is important, since our accommodation is reduced. We can't negotiate sharp transitions from bright to dark spaces and vice versa as easily.
- Provide good contrast between transition areas. For example, around a doorway, lighting horizontally and vertically around a door jamb is a helpful cue for someone who has a hard time focusing clearly. During the day, contrasting paint colors between wall and door jamb will work well, but illuminated delineation is needed at night. Think about waking up in the middle of the night and trying to orient yourself to the room configuration. Light that is just bright enough to enable you to see and guide you to where you want to go, without being so bright as to disturb you, is very helpful—a type of large area night-light. Maintain uniform illumination where possible. Oftentimes the way recessed or track lighting is located creates scallops of light on our walls or floors. These patterns, or pools, of light can be confusing and disorienting (Figure 4).
- Place more light close to the task. If you are writing at your desk, place your desk lamp opposite your writing hand to avoid working m your own shadow. This is true with overhead lights as well. In your kitchen, make sure the down light over your sink or stove is in front of you, not over your shoulder.

Choice of Material

Guidelines on Design of Noise Barriers
Environmental protection Department
Highways department Government of the
Hong Kong SAR Second Issue, Jan 2003

In general, roadside noise barriers could be divided into the following categories:
Reflective type - transparent and non-transparent
Absorptive type - sound absorbent materials and possible finishes of absorptive panels
Earth landscaped mound and retaining structures Mixed type - a combination of the above types

One of the key features in all structures is the material ultimately chosen. Despite the above categorization, the materials could largely be categorized as reflective and absorptive. The determination whether reflective or absorptive or the combination of both are already done in the EIA or NLA studies. In general the following could be used :

Steel (painted, galvanized, stainless)
Aluminium
Polycarbonate or acrylic sheets
Concrete, brick or glass fibre reinforced concrete (GRC)
Proprietary-made acoustic panels
Landscaped earth berm

An acoustic panel is typically made up of a perforated cover sheet enclosing noise absorptive material (mineral wool or fiberglass inside and wrapped up with polyester film). An absorptive GRC noise barrier relies on noise absorptive material inside the GRC surface grill for noise absorption.

Each of these materials will have its special advantages and disadvantages and it is dependent upon the nature and requirement of a specific project to determine the suitability. As a general rule, the following should be noted :

Except for absorptive GRC composites, acoustic panels and earth berms, all other materials to various degree reflect sound (i.e. reflective) to premises on the opposite side of the receiver to be protected;

Metallic and transparent material can produce "glare" effects at certain incident angles;

The appropriate surface treatment of polycarbonate must be chosen to avoid weathering, ultra-violet attack and consequent loss of transparency; and Non-transparent materials such as steel, aluminium and concrete normally require greater efforts in surface treatment to soften the visual impact.

Cleaning

Guidelines on Design of Noise Barriers Environmental protection Department Highways department Government of the Hong Kong SAR Second Issue, Jan 2003

With the passage of time, barrier surfaces may become stained by contaminants such as water-splash from the road surface, airborne grime, bird droppings, honeydew or sap from overhanging trees. Concrete or masonry noise barriers may not need cleaning in certain locations as the surfaces would be washed by rain water and their textured finish may control staining. Flat surfaces, however, will require regular cleaning as contamination will be more apparent and will detract from the appearance of the barrier. High pressure water jets mounted on purpose built tankers, or hand washing with brushes and low pressure water are suitable treatments.

The frequency of cleaning required will depend on the degree of contamination that occurs. Water splash contamination can be reduced by distancing the barrier from the edge of the carriageway, although this will have the drawback of reducing its effectiveness in attenuating the road traffic noise. Effective road surface drainage will also reduce splash effects by preventing puddles from forming. Bird dropping staining can be controlled by the use of design details or chemical repellents that deter birds from perching on the barrier. A very thin wire at a height of about 50 mm along the top edge of the barrier will help to prevent birds resting, thus control bird droppings. Trees and other overhanging vegetation may need trimming or cutting back to prevent abrasion and marking of the barrier. Transparent noise barriers will need to be cleaned more frequently than other types because they will show any contamination more readily or surface treatments can be used. Proprietary-made self-cleansing panels could also be considered where its use is justified.

Purpose-made vehicles fitted with water tanks, hoses, brushes and access platforms would reduce the cost of cleaning barriers but long lengths of barrier will be required to justify the necessary investment. In the short term, access platforms can be used to reach the

far sides of barriers in order to carry out cleaning and other maintenance. Noise barriers erected near to the carriageway may require lane closures during maintenance; traffic management will be especially important for access to any barriers in the central reserve. Their use is not encouraged, but zero maintenance barriers (self cleaning, impact resistant) would be appropriate in this location.

Similarly, it would be difficult to clean the outside of noise barriers erected on high level structures, as such zero maintenance barriers should be used.

Ocean Engineering

Reliability Transform Method By R. Benjamin Yong Thesis submitted to the Faculty of the Virginia Polytechnic Institute and State University Blacks burg, Virginia April 2003

Since the end of the cold war the United States is the single dominant naval power in the world. The way that it achieved this status can be linked to the large infrastructure developed during the cold war. Without the threat of a common enemy, however, the United States Navy has seen a significant shift in its policies for ship operations, maintenance and design. The emphasis of the last decade has been to reduce cost while maintaining status as the world's dominant power. These cost reduction policies have extended into shipbuilding where the Navy relies increasingly on contracting of important design and maintenance functions to civilian contractors and shipyards.

As the Navy's infrastructure decreases, so too does its ability to be an active participant in all aspects of ship operations and design. One way that the navy has achieved large savings is by using the Military Sealift Command to manage day to day operations of the Navy's auxiliary and underway replenishment ships. While these ships are an active part of the Navy's fighting force, they infrequently are put into harm's way. The natural progression in the design of these ships has been to have them fully classified under current American Bureau of Shipping (ABS) rules, as they closely resemble commercial ships. The first new design to be fully classed under ABS is the T-AKE. The Navy and ABS consider the T-AKE program a trial to determine if a partnership between the two organizations can extend into the classification of all new naval ships. A major difficulty in this venture is how to translate the knowledge base which led to the development of current military specifications into rules that ABS can use for future ships. This is more of a concern with surface combatants, as these ships must depend on specifications to provide the performance to complete required missions while preserving the life of their crew in war-fighting situations.

As the Navy can no longer specify that all components of its ships be designed to military specifications, the acquisition of commercial off-the- shelf (COTS) technology is becoming more common. COTS technology allows a much broader range of well-tested equipment and machinery to be used in a new ship design. COTS systems are generally supplied with the bugs, worked out by a large commercial customer base, but using this equipment and machinery in a military application cannot be considered the equivalent of a pure commercial application. Commercial equipment and machinery used in military applications are not operated in the same way as in commercial applications. Furthermore, at

least some design changes are typically required for use in the Navy's operating conditions. These changes affect reliability. Some of the differences in operating conditions are:

Shock: commercial equipment and machinery are not designed to be able to withstand the loads that are associated with explosions and other weapons effects.

Extreme environmental conditions: such as high seas, extreme temperatures, or sand. While a commercial vessel may be designed to operate in specific conditions or has the ability to avoid such hazards, many times a Navy vessel is forced to endure these extreme conditions in order to complete its mission.

Redundant operation and part loads: frequently Navy ships partially load multiple engines, machinery and equipment as opposed to completely loading one, in order to reduce the probability of complete loss of load or power. While this may have little immediate effect on the machinery, over time differences in loading may cause problems such as carbon build up in engines that increases wear on engine parts and reduces performance. Because of the different operating conditions and design changes made to equipment and machinery for military application, important performance characteristics may become difficult to predict. This includes reliability and inherent availability (Ao). As availability is an essential performance characteristic for a military ship, an accurate projection of Ao is required for T-AKE.

Commercial and Industrial uses of Small Engines

Introductions to Small Engines

Welcome to the exciting world of outdoor power equipment! You're probably saying to yourself, outdoor power equipment, exciting? Come on! Well, we believe that once you complete this study unit, you'll find that the outdoor power equipment field can be lots of fun. And, once you see the opportunities available to qualified technicians (and how much money you can save by doing your own repairs), you'll be well on your way to enjoying this career field!

The outdoor power equipment field has really grown in the past few years. Small gasoline engines power more machines now than ever before.

This equipment is used not only by individuals but also by many businesses and industries. Visit a local hardware store; you'll probably have a new appreciation for just how many types of equipment are powered by small engines! If you're like most people, you already own at least one gas- powered machine yourself. Keep in mind that all of this equipment requires periodic maintenance and servicing, along with all types of repairs.

Later in the unit, we'll take a closer look at some of the many types of gas powered machines that are produced today. You're probably familiar with many of these items, such as lawn mowers, weed trimmers, and snow throwers. However, you may not have thought of the many other gas- powered devices such as water pumps and portable generators. All of these machines contain small engines, and all require the frequent services of qualified outdoor power technicians. But first, let's look more closely at the small engine itself, and the small-engine repair field.

What Is a Small Engine?

The term *small engine* can be somewhat confusing. For example, a typical lawn mower engine may be small compared with the engine in your car.

Figure 1. This 5 hp, pull-start engine is used to power a lawn mower. (Courtesy American Honda Motor Co., Inc.)

However, the lawn mower engine seems quite large next to an engine that powers a model airplane. Similarly, the engine in your car is quite large compared to the engine found in a lawn mower, but it would be much smaller than the engine in a large locomotive or cruise ship. As you can see, the meaning of "small engine" is relative depending on your point of view. However, when we use the term small engine in this course, we're referring to a gas-powered engine that produces less than 25 hp (horsepower). At this point, you may not be familiar with horsepower, but we'll discuss this term in detail later in the unit. The important thing to remember is that (in general) the larger the engine, the more horsepower it produces. Figure 1 shows a typical small engine.

Styles of Therapy

50 Ways to Prevent and Manage Stress

Contemporary Books

A range of therapy techniques are used in stress counseling, Here are some of the most common: *Cognitive-behavioral therapy* is oriented toward upbeat thinking and correcting what is referred to as *diso thinking.* Instead of dwelling on negative thoughts, this form of therapy is based on the premise that how you think can affect how you feel. For example, if a friend cancels a lunch date with you or somebody doesn't return your phone call or E-mail, you may take it personally and assume that the person dislikes you. That thought leads you to feel bad about yourself, reinforcing feelings of low self-esteem or even self-loathing, A cognitive-behavioral therapist will ask you to consider other reasons for the cancellation or unretumed call. Perhaps the person was overwhelmed by problems that have

absolutely nothing to do with you. Perhaps a last-minute deadline came up. In other words, not everything you perceive to be negative is really negative, and not everything you take personally is personal.

Ultimately, the premise of cognitive-behavioral therapy is this: If you think negative thoughts about yourself and believe you're a failure or that your life is doomed, you are more apt to be sad. On the other hand, if you think positive thoughts and believe in yourself, you are more apt to be happy. Essentially, what s past is past, and you can decide *today* to be a more positive person, which in turn can attract more positive experiences into your life. Although this approach might sound easy and a quick fix, changing your perspective on life can be powerful. However, in the midst of a depression, this may have limited success.

Interpersonal therapy is a very specific approach to therapy, based on the idea that malfunctioning relationships contribute to the emotional symptoms of stress. You and your therapist will explore current relationships and recent events that may have affected those relationships, such as loss, conflict, or change. You may also explore the roles various people are playing in your life, your expectations of those people, and their expectations of you. Your therapist works in a supporting role to help you develop better strategies to cope or negotiate with key people in your life, which in turn can help to resolve conflicts. Much of this has to do with setting reasonable expectations for relationships and looking at how you might have misinterpreted the actions of others.

PsychoDynamic therapy deals with the ghosts of relationships and events from your past, the dynamics of your upbringing, and present events and relationships. Here, you will examine your thoughts, emotions, and behavior over a lifetime. Moreover, you will discuss patterns of behavior and aspects of your personality as possible sources of both internal and external conflict. Couples or groups are often involved in psychodynamic therapy, The adage "the past is history, the future a mystery, and the present a gift" works well in this context.

Practice Yoga (pg 75)

50 Ways to Prevent and Manage Stress
Copyright 2002 by M. Sara Rosenthal
Contemporary Books

For many, yoga is not just about various stretches or postures - it is actually a way of life. It is part of a whole science of living known as the

Ayurveda, The Ayurveda is an ancient (roughly 3,000 years old) Indian approach to health and well ness. Essentially, it divides the universe into three basic constitutions or energies known as *dosbas.* The three doshas are based on wind *(yata),* fire *(pitta),* and earth *(kapha).* These doshas also govern our bodies, personalities, and activities. When your doshas are balanced, all functions well, but when they are not balanced, a state of disease (disease, as in *not at zade)* can set in. Finding the balance involves changing your diet to suit your predominant dosha, Foods are classified as kapha, vata or pitta, and we eat more or less of whatever we need for balance.

Practicing yoga is a preventive health science that involves certain physical postures, exercises, and meditation. Essentially, yoga is the exercise component of the Ayurveda, It involves relaxing meditation, breathing, and physical postures designed to tone and soothe your mental state and physical state, Most people benefit from introductory yoga classes or videos.

Anger (pg 1 introduction)

Anger management for Dummies By W. Doyle Gentry, PhD Copyright 2007 by Wiley Publishing, Inc., Indianapolis, Indiana

Anger is part of life - no less than memory, happiness, and compassion.

No one chooses to be angry. Anger is a reaction that's built into your nervous system. In fact, anger is one of the first emotions mothers recognize in their newborn infants. So, it's never too early to start anger management.

Anger says more about you - your temperament, how you view the world, how balanced your life is, and how easily you forgive others - than it does about other people. You don't have to be a victim of your own anger - you can choose how you respond when the world doesn't treat you the way you want it to. You have just as much choice about how you express your anger as you do about what color shirt you wear, what you eat for breakfast, or what time you go jogging this afternoon. You also have a choice about how much of yesterday's anger you carry into the future and how much anger you are likely to experience tomorrow. If I didn't believe that, I would have been doing something very different with my professional life for the past 40 years!

No one is exempt from problematic anger. Anger is a very democratic

emotion - it causes problems for men and women, kids and the elderly, rich and poor, educated and uneducated, people of all colors and ethnic backgrounds, believers and nonbelievers. Tens of millions of human beings needlessly suffer from what I call *toxic anger* - anger that literally poisons your life - each and every day of their lives.

Anger is not something that can - or should be - cured. But you have to *manage* it well - at home, at work, and in your most intimate relationships - if you want to benefit from it. *Anger Management For Dummies* tells you how to manage your anger by focusing on the positive - how to get a good night's sleep, how to change your perspective on life, why confession is better for you than venting, how to transform conflicts into challenges, and much more. Anger management has moved far beyond the simplistic (albeit well-intentioned) advice of years past to count to ten or take a couple of deep breaths every time you get angry - and that's good news!

Botulism (pg 17-18)

Guidelines for the Control of Infectious Diseases Copyright 2005 State of Victoria, Department of Human Services

Victorian statutory requirement

Clostridium botulinum infection (Group A disease) must be notified immediately by telephone or fax followed by written notification within five days.

School exclusion is not required.

Infectious agent

Clostridium botulinum is a spore-forming anaerobic bacillus. Several serotypes exist, however types A, B and E cause most human disease.

Identification Clinical features

There are three forms of botulism:

- Classical botulism is a severe and often fatal infection resulting from ingestion of contaminated food. Symptoms include double vision, dysphagia and dry mouth. It can be followed by descending flaccid paralysis which may be associated with respiratory paralysis and result in death. Fever is absent unless a complicating infection occurs.
- Intestinal botulism is the most common form and usually affects infants under one year of age. It can affect adults who have altered gastrointestinal anatomy and microflora. The illness typically begins with constipation followed by lethargy, listlessness, poor feeding, ptosis, difficulty in swallowing and generalised muscle weak-ness ('floppy baby').
- Wound botulism is rare but has been seen after contamination of wounds where anaerobic conditions developed. Method of diagnosis Diagnosis is made by culture of C. *botulinum* or demonstration of specific toxin in serum, gastric aspirate, faeces, implicated food or wounds. Electromyography may be useful in corroborating the clinical diagnosis.

Incubation period

Classical botulism occurs within 12-36 hours (sometimes several days) after eating contaminated food. The incubation period for infant botulism is unknown due to difficulty in determining the precise time of ingestion. Shorter incubation periods are associated with more severe disease and higher casefatality rates.

Public health significance and occurrence.

Botulism is a rare disease internationally. However missed diagnoses particularly for intestinal botulism are likely due to low clinician suspicion and limited laboratory diagnostic capacity in many areas. There have been only six cases of botulism reported in Australia between 1991 and 2003. Two of these occurred in Victoria in 2000 and 2001 (Communicable Diseases Network Australia - National Notifiable Diseases Surveillance System). C. *botulinum* has been identified as a potential bioterrorist agent.

Reservoir

It is most commonly found in soil and agricultural products. Spores have been found in marine sediments and the intestinal tracts of animals, including fish.

Mode of transmission

Classical botulism is acquired by ingestion of inadequately cooked food or processed or refrigerated foods in which toxin has formed, particularly canned and alkaline foods. Most cases of wound botulism are due to ground- in soil or gravel. Several cases have been reported amongst chronic drug users. Infant botulism arises from ingestion of spores rather than pre-formed toxin.

Sources of spores include foods such as honey and dust. Honey has been described in the US literature as a source of infection but never implicated in Australia and surveys of Australian honey have failed to identify *C. botulinum.*

Period of communicability

Secondary transmission has not been documented.

Susceptibility and resistance

Everyone is susceptible to infection.

Control measures.

Preventive measures Ensure effective control of processing and preparation of commercially canned and preserved foods. Educate people undertaking home canning and other food preservation techniques about cooking time, pressure, temperature, adequate refrigeration and storage. The absence of a bulging lid on tinned food does not preclude *C. botulinum* contamination.

Control of case

Botulism is a medical emergency. Suspected cases should immediately be referred for specialist care and trivalent botulinum antitoxin (types A, B, E) administered as soon as possible. A limited supply is available from CSL Limited. Antitoxin is not used in infant botulism due to the risk of anaphylaxis. Antibiotics do not affect the course of the disease. For wound botulism, in addition to antitoxin the wound should be debrided or drained, and appropriate antibiotic prophylaxis against other potential infections should be administered. Isolation or quarantine is not needed but hand washing is indicated after handling soiled nappies. Usual sanitary disposal of faeces from infant cases is acceptable. Any implicated food should be retained for collection and investigation by public health authorities. Contaminated utensils should be cleaned by boiling or with household bleach.

Control of contacts

Those who have eaten incriminated food should be purged with emetics, gastric lavage or high enemas. Administration of polyvalent antitoxin to asymptomatic individuals should be considered carefully, assessing potential protection against the risk of sensitisation and severe reactions to horse serum.

Control of environment

Environmental health officers and food safety officers should coordinate the appropriate disposal of implicated food.

Outbreak measures.

An outbreak of botulism is defined as one or more cases of disease. The immediate aim is to identify possible sources of the disease and other people possibly exposed. Recall any implicated food immediately and send samples to the Microbiological Diagnostic Unit for analysis. Take sera and faeces from cases as well as exposed but asymptomatic persons for analysis, before administration of antitoxin. Undertake efforts to recover and test implicated foods. This should be coordinated through Food Standards

Australia New Zealand (02) 6271 2222.

Current gas flowmeter technologies

Andrew Mangell, MD of Bronkhorst UK
07 July 2008 Bronkhorst UK

Flow measurement is recognized as one of the 'need-to-know' process parameters, alongside temperature, pressure and level. Accurate measurement of gas flow is critical in the operation and control of many industrial and laboratory processes.

In the food and beverage sector, the chemical industry and semiconductor fabrication, flowmeter accuracy is often the determining factor between optimum qualities and rejects products, while in areas like laboratory research, pilot plants and custody transfer, precise and repeatable measurement is equally critical. Elsewhere, high levels of accuracy are not so crucial and flowmeters are used to give an indication of the rate at which a gas is flowing through a pipeline.

In this article, I will attempt to review the main categories of gas flowmeter available on today's market and consider their relative strengths.

While Bronkhorst is the market leader in mass flow measurement and control, we do maintain an intelligent overview of the whole flowmeter sector, as well as its main customer groups, and I have endeavoured to offer a balanced appraisal of the current scene. Doubtless there will be debate from some quarters and new product developments may well have

addressed some of the perceived technical shortcomings. Nevertheless, I hope to convince you that compatibility with existing meters, familiarity with a traditional technology and low purchase price are not necessarily the most valid specifying criteria for many applications. 'New technology' flowmeters are offering increased levels of accuracy, fewer maintenance issues, impressive digital output capabilities and competitive lifecycle costs, which surely make them worthy of serious consideration.

Installed base

With regard to the global installed base, differential pressure (DP) is the dominant means of measuring both gas and liquid flow, although there are clear signs that emerging or evolving technologies like coriolis, ultrasonic, vortex and thermal are growing strongly, as considerations like accuracy, reliability and lifecycle cost ascend the customer's agenda. Not surprisingly, DP flowmeters are currently maintaining their market lead, partly because users keep replacement instruments in stock and partly since retaining the same type of flowmeter is often regarded as the most risk- free solution. But reliability and performance problems reportedly arising with these instruments mean that coriolis flowmeters in particular are being increasingly specified for new plant and new processes, in addition to being integrated into existing schemes.

Indeed, flow control experts now tend to distinguish between 'new technologies' and 'traditional technologies', grouping coriolis, magnetic, ultrasonic and vortex flowmeters under the 'new' category, with methods such as DP, turbine, positive displacement and variable area (VA) under the 'old'. It is a useful classification that I will adopt in part, especially since it underlines the advanced computer processing capabilities of newer instruments; although I would unequivocally place thermal flowmeters in the 'new' category, since they are very much at the forefront of *digital* technology and upcoming innovations from manufacturers like Bronkhorst put thermal mass monitoring firmly at the cutting edge of flowmeter design. For the purposes of this article, I have also had to ignore magnetic flowmeters, since they are restricted to monitoring conductive liquids, so cannot measure gases.

Metals (pg 14-15 1 abs)

Welding and the World of Metals Memo News,
MILLER Electric Manufacturing Co.,
Issue June-July 1961

In the time of the Roman Empire, iron was in general use all over Europe, in the Near East and in the Far East. The Romans manufactured considerable iron but still imported steel from India where the iron workers of Hyderabad manufactured steel of a high quality, as we have seen, from a very early date. This material was known as "Seric Iron" to which Pliny alludes in his Natural History. The Roman Empire was at this time riding the crest of conquest and was the great center of metal manufacturing. With the fall of the Horn an Empire to the Goths and the Barbarians there was, naturally, a great decline in the metalworking arts. At this point, let us briefly recapitulate the facts we have learned. We know that the working of metals - copper, bronze, silver, gold, tin, lead, and iron- closely followed one another. As techniques in grafting one type of metal were perfected, those same techniques were tried on various other types of metals. Where they could be utilized in their entirety, this was done.

Obviously, it would be more difficult to work the harder materials and, therefore, modified techniques were developed. We have shown that the knowledge of iron, manufacturing was known at an early date (about 1500 B.C.) by the people in the area between the Black and Caspian Seas on the southern slope of the Caucasus Mountains and also by the people of India and Hindustan. TVe have also shown that the Damascus steel blades were welded together in laminated strips which gave them the supple strength for which they were so justly famous. We have discussed the fact that bronze was welded and/or soldered at an early date venerable smiths and metallurgists has not to this day, been duplicated. Most notable among ttieir very considerable anetallurgical feats was their ability to harden bronae to steel-like tempers. Another was their ability to laminate and manufacture the Damascus steel blade which was not duplicated until 1823 and then only for a brief time (approximately thirty years) under the direction of one man. Yes we can truly say that we owe, these ancient people very much for the technology they pioneered and the procedures which they have one way or another passed down to us.

Lest we in our modern air-conditioned offices and well-equipped plants, get too complacent with the feeling that the ancient metal smiths did "yes, beautiful work but only on small articles," the following story is told.

In the ancient city of Delli, India, there is an iron pillar which shows unmistakable signs of having been welded. It is of a total length of approximately 62 feet of which 22 feet rises above the earth's surface arid 4O feet is below ground level. It is approximately 16 inches in diameter and is apparently made from iron blooms of about 70 pounds weight apiece which Eire forge welded together. The joints are nearly perfectly forge welded although they must have been done by hand for the date of the manufacture of this article of iron the Delhi Fillar, has been, set by archeologits at about the time of Christ which would be about 4-40 A.D.

For the purposes of this series of articles it would be repetitious for us to discuss the advancements of the metalworking and welding arts during the period from, the time of Christ to about the 16th Century. We may however indicate some of the significant advances which did occur. This information comes to us from a variety of sources.

Most of the history written during the latter part of the ancient and first part of the medieval period has religious or classical connotations. Unfortunately, the writers did not show the same zeal for documenting the advances in the metalworking arts as they did for chronicling the deeds of their patrons and their patrons' causes. Because of this, much of the metalworking information we have today has been deduced by experts from fragmentary writings and from relics and artifacts found, by investigators and related to specific time periods.

Troubleshooting (part 2,2.1)

Maintenance and Service Guide HP Pavilion dv 9000 Notebook PC Copyright 2006 2007 Hewlett-Packard Development Company, L.P

WARNING: Only authorized technicians trained by HP should repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly-/module-level repair. Because of the complexity of the individual boards and subassemblies, do not attempt to make repairs at the component level or modifications to

any printed wiring board. Improper repairs can create a safety hazard. Any indication of component replacement or printed wiring board modification may void any warranty or exchange allowances.

Setup Utility in Windows XP

The Setup Utility is a ROM-based information and customization utility that can be used even when your Windows operating system is not working or will not load. The utility reports information about the computer and provides settings for startup, security, and other preferences.

1. Turn on or restart the computer in Windows.
2. Before Windows opens and while the "Press <F10> to enter setup" prompt is displayed in the lower-left comer of the screen, press 110.

Using the Setup Utility

Changing the Language of the Setup Utility

The following procedure explains how to change the language of the Setup Utility. If the computer is not in the Setup Utility, begin at step 1. If the computer is in the Setup Utility, begin at step 2.

2-2 *Maintenance and Service Guide*

Troubleshooting

1. To open the Setup Utility, turn on or restart the computer in Windows, and then press flO while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.
2. Use the arrow keys to select **System Configuration > Language,** and then press **enter.**
3. Press **f5** or **f6** (or use the arrow keys) to select a language, and then press **enter** to select a language.
4. When a confirmation prompt with your preference selected is displayed, press **enter** to save your preference.
5. To set your preferences and exit the Setup Utility, press fl0 and then follow the instructions on the screen. Your preferences go into effect when the computer restarts in Windows.

Navigating and Selecting in the Setup Utility

Because the Setup Utility is not Windows-based, it does not support the Touchpad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.
- To choose an item in a drop-down list or to toggle a field, for example an Enable/Disable field, use either the arrow keys or **f5** or **f6.**
- To select an item, press enter.
- To close a text box or return to the menu display, press **fl.**
- To display additional navigation and selection information while the Setup Utility is open, press fl.

Displaying System Information

The following procedure explains how to display system information in the Setup Utility. If the Setup Utility is not open, begin at step 1. If the Setup Utility is open, begin at step 2.

Troubleshooting

Maintenance and Service Guide 2-3

1. To start the Setup Utility, turn on or restart the computer in Windows, and then press flO while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.

2. Access the system information by using the **Main** menu.
3. To close the Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes,** and then press **enter.** (The computer restarts in Windows.)

Restoring Default Settings in the Setup Utility

The following procedure explains how to restore the Setup Utility default settings. If the computer is not in the Setup Utility, begin at step 1. If the computer is in the Setup Utility, begin at step 2.

1. To start the Setup Utility, turn on or restart the computer in Windows, and then press **flO** while the prompt, "Press <F10> to enter setup," is displayed in the lower-left corner of the screen.
2. Select **Exit > Load Setup Defaults,** and then press **flO.**
3. When the Setup Confirmation is displayed, press **enter** to save your preferences.
4. To set your preferences and exit the Setup Utility, press *flO, and then* follow the instructions on the screen. The Setup Utility default settings are set when you exit the Setup Utility and go into effect when the computer restarts.

What is Particle Physics?

(pg 2-5)

A Brief Introduction to Particle Physics By
Nari Mistry Cornell University

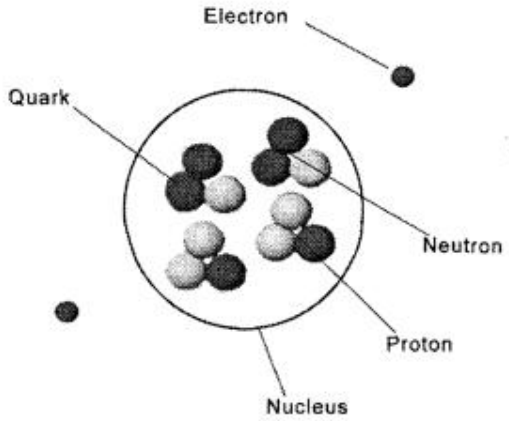
Protons, electrons, neutrons, neutrinos and even quarks are often featured in news of scientific discoveries. All of these, and a whole "zoo" of others, are tiny sub-atomic particles too small to be seen even in microscopes. While molecules and atoms are the basic elements of familiar substances that we can see and feel, we have to "look" *within* atoms in order to learn about the "elementary" subatomic particles and to understand the nature of our Universe. The science of this study is called Particle Physics, Elementary Particle Physics or *sometimes* High Energy Physics (HEP).

Atoms were postulated long ago by the Greek philosopher Democritus, and until the beginning of the 20th century, atoms were thought to be the fundamental indivisible building blocks of all forms of matter. Protons, neutrons and electrons came to be regarded as the fundamental particles of nature when we learned in the 1900's through the experiments of Rutherford and others that atoms consist of mostly empty space with electrons surrounding a dense central nucleus made up of protons and neutrons.

The science of particle physics surged forward with the invention of particle accelerators that could accelerate protons or electrons to high energies and smash them into nuclei - to the surprise of scientists, a whole host of new particles were produced in these collisions.

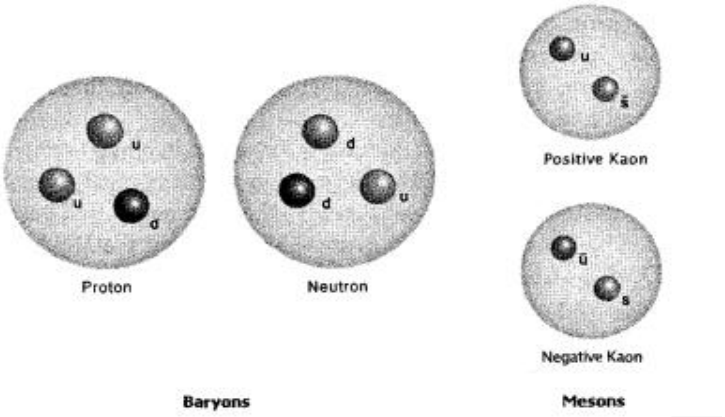
By the early 1960s, as accelerators reached higher energies, a hundred or more types of particles were found. Could all of these then be the new fundamental particles? Confusion reigned until it became clear late in the last century, through a long series of experiments and theoretical studies, that there existed a very simple scheme of two basic sets of particles: the *quarks* and *leptons* (among the leptons are *electrons* and *neutrinos),* and a set of fundamental forces that allow these to interact with each other. By the way, these "forces" themselves can be regarded as being transmitted through the exchange of particles called

gauge bosons. An example of these is the *photon,* the quantum of light and the transmitter of the electromagnetic force we experience every day.



Inside an Atom: The central *nucleus* contains protons and neutrons which in turn contain quarks. Electron clouds surround the nucleus of an atom

Together these fundamental particles form various combinations that are observed today as protons, neutrons and the zoo of particles seen in accelerator experiments. (We should state here that all these sets of *particles* also include their *anti-particles,* or in plain language what might roughly be called their complementary opposites. These make up *matter* and *antimatter.)*



Matter is composed of tiny particles called quarks. Quarks come in six varieties: up (*u*), down *{d),* charm I, strange (*s*), top (/), and bottom *(b).* Quarks also have antimatter counterparts called antiquarks (designated by a line over the letter symbol). Quarks combine to form heavier particles called baryons, and quarks and antiquarks combine to form mesons. Protons and neutrons, particles that form the nuclei of atoms, are examples of baryons. Positive and negative kaons are examples of mesons.

Today, the ***Standard Model*** is the theory that describes the role of these fundamental particles and interactions between them. And the role of Particle Physics is to test this model in all conceivable ways, seeking to discover whether something more lies beyond it. Below we will describe this Standard Model and its salient features.

DNA Computing Nature's Power Book

(pg 18 + pg 56 DNA)

Extreme Genetic Engineering

While Endy and his cadre use computer code to build life, others are using life to build computers. The fledgling science of DNA computing is founded on the insight that, like a computer, DNA both stores and processes coded information. DNA computing was born in 1994 when Leonard Adleman, professor of computer science at the University of Southern California, demonstrated how to solve a complex computational problem (whose solution he already knew) using DNA to sort through possible answers and find the correct one.

While computers store and process information in binary strings - coded as the numbers 0 and 1 - DNA operates in (mathematical) base four. Its information is coded by the sequence of the four nucleotide bases, A, C, T and G. The bases are spaced every 0.35 nm along the DNA molecule, giving DNA a data density of over one-half million gigabits per square centimeter, many thousands of times more dense than a typical hard drive. For example, it would take more than a trillion music CDs to hold the amount of information that DNA can hold in a cubic centimeter .Moreover, different strands of DNA can all be working on computational problems at the same time - and are a lot cheaper than buying multiple PowerBooks. Adleman's rudimentary DNA computer performed 1014 operations per second. DNA computers are still in the proof-of-principle stage - they look nothing like computers - just DNA strands suspended in liquid, and practical applications are in very early stages. But it is the potential to exploit DNA's storage and processing capacity that excites researchers. In 2000, Adleman asked, ".. .if you can build a computer, then what other useful devices could you build on that very small scale? The possibilities are endless." One hope is that DNA computers can function as sensors. With funding from the US National Aeronautics and Space Agency (NASA), Columbia University researcher Milan Strojanovic is developing a DNA computer that will act as a biosensor to monitor the health of astronauts.85 Meanwhile, scientists at Israel's Weizmann Institute, led by Ehud Shapiro, are developing a DNA computer to recognize and treat disease. In an *in vitro* experiment, a DNA computer was able to detect abnormal activity in four targeted genes that are associated with prostate and lung cancer.

Not only that, after recognizing the malignancy, the computer released a drug suppressing the genes responsible for the abnormal activity. The researchers hope to develop an injectable version that could work inside the body - an accomplishment that could take decades. Ned Seeman, working with DNA computers at New York University, is trying to apply DNA's self- assembly process to the manufacture of nanoscale structures. While hoping to make the most of DNA's computing potential, he remains cautious: "DNA computation is sort of like aviation in about 1905. There was such a thing as an airplane, but who knew if it was actually going to become a major mode of transportation or just sort of a toy?"

Howard Packer, Rasmussen's collaborator as well as a pioneer of chaos theory, says that using PNA rather than DNA is a good idea for biosafety reasons. Because PNA doesn't exist in nature, he says, the Bug may be easier to control so it doesn't "escape and cause problems." Rasmussen and Packard have established a synthetic biology start-up based in Venice, Italy, ProtoLife, to commercialize the Bug and/or its components. While Packard acknowledges that their bottom-up approach appears to lag behind life creating teams led by Venter, Endy and Jay Keasling (see below), he argues that the protocell approach will lead to a better understanding of living and non-living systems. "Right now," he contends, "the state of the art for synthetic biology is a hodgepodge of techniques which is, from an engineering and scientific perspective, groping. "

Rasmussen said, in February 2005, that he couldn't promise a functioning cell in three years - about the time it took to build the atomic bomb - but he "can guarantee that we'll have good progress." There's a good chance that the first lab to produce a working, evolving protocell will be, like ProtoLife, a member of the PACE consortium. PACE - Programmable Artificial Cell Evolution - is a project involving 14 European and US universities and companies and is funded by the European Commission. PACE has received over €6.5 million through the Commission's 6th Framework Programme.

How Managers Make Decisions

Arthur C. Laufer Operations Management

The way a manager will make a particular decision depends largely on the nature of the problem facing him. If the problem is similar to others that the manager must decide on a day-to-day basis, his approach to a solution will be quite different than if the problem is new and unique. Simon differentiates between decisions on these two bases and calls them either programmed decisions or nonprogrammed decisions.

Programmed decisions are those types of decisions that are made frequently and that are related to the normal day-to-day performance. These decisions result from the application of established standard procedures. Consequently, the making of such decisions can often be delegated to middle and lower levels of management. A specific decision rule can be stated for this type. A typical example is the reordering of an item in stock when the inventory of that item reaches some predetermined level.

Nonprogrammed decisions are required when the problem or the conditions are not uniform or recurrent. These are the exceptional, unexpected decisions which must be handled on an individual basis. No specific procedure can be stated for making such decisions.

Simon further compares the traditional and modern decision-making techniques applied to these two types of decisions. While it is only natural that modern decision-making techniques are of greatest interest, the fact that the traditional methods still can play a large role in the manager's decisionmaking processes should not be overlooked. In some situations, it is not possible to ignore such time-honored managerial methods as habit, judgment, hunch, or intuition. Certainly, the intention here is not to suggest that such personalized and subjective approaches to decision making should be the rule. The experienced manager will find that resorting to such techniques can still be useful.

Algorithms. The modern decision-making techniques applied to programmed type decisions depend on deductive and systematic methods.

These methods are usually referred to as algorithmic methods. An algorithm is essentially any calculating method such as a mathematical formula or model. Algorithms will always lead to a solution where a solution is possible, and such a solution is usually optimal.

Heuristics. In contrast, nonprogrammed decisions depend largely upon heuristic methods. A heuristic is an intuitive approach based on rules-of- thumb for finding solutions to problems. A heuristic will not always result in the best decision; for that matter, it may not result in any solution to the problem at all. However, when it does, the solution is a good one. The decisions achieved are usually reached in a much shorter period of time than would be possible using an algorithm. In fact, there are some problems that are not possible to frame as an algorithm, and must be subjected to heuristic methods. Heuristic problem solving is not limited to problems composed of quantifiable variables. Research in heuristic problem solving has been aimed at simulating the human problem solving process. Simon and Newell conducted studies in this direction by setting up a problem and requesting a subject to vocalize his thinking in the process of arriving at a solution. Both his oral thinking and his problem solving commands were recorded on tape. These recordings or protocols were studied, and a computer program was written to simulate the human thought processes followed in arriving at a decision. While the applications have been limited to date, the potential of combining heuristic techniques with the computer appears to be veiy promising. Studies of heuristic problem solving have added to our knowledge of human thought processes.

Advertising

Rachman D.J., Menson M. H.
Study Guide. Business Today

Most people do not understand the difference among promotional tool such as advertising, personal selling, publicity, and word-of mouth. Advertising is limited to paid, non-personal communication through various media by organizations and individuals who are in some way identified in theadvertising message. Word-of-mouth is not a form of advertising because it does not go through a medium, it is not paid for. Personal selling is face- to-face communication and does not go through a medium; thus it is not advertising. Note also that advertising may be used by anyone, including nonprofit organizations. Furthermore, advertising is different from propaganda in that the promoter is identified.

People have the false impression that advertising is not very informative. But the number one medium, newspapers, is full of information about products, prices, features and more. Does it surprise you to find you that business spend more on direct mail than on radio and magazines? Direct mail (the use of mailing lists to reach on organization's most likely customers) is also very informative and a tremendous shopping aid for consumers. Each day consumers receive mini-catalogues in their newspapers or in the mail that tell them what is on sale, at what price, for how long, and more.

Thus advertising is informative. The public benefits greatly from advertising expenditures. First we learn about new products, new features, sale items, and more. But we also benefit from radio and TV and subsidized newspapers and magazines. In short, advertising not only informs us about products but pays for us to watch TV and get the news from magazines and newspapers.

Different kinds of advertising are used by various organizations to reach different "publics". Some major classes include:

Retail advertising - advertising to customers by various retail stores such as supermarkets and shoe-stores.

Trade advertising - advertising to wholesalers and retailers by manufactures to encourage them to carry their products.

Industrial advertising - advertising from manufacturers to other manufacturers.A firm selling motors to automobile companies would use industrial advertising.

Institutional advertising - designed to create an attractive image for an organization. "We Care About You At Giant Food " is an example. "Virginia is for lovers" and "I ♥ New York" are two institutional campaigns by government agencies.

What is Marketing?

Shapiro H.T., Dawson G.G.,
Antell G. Applied Economics

What does the term marketing really mean? Many people mistakenly think of it as advertising and selling. Given the number of commercials on television, in magazines and newspapers and all the signs and offers in and around the shops this is not surprising. However, advertising and selling are only two of several marketing functions, and not necessarily the most important ones.

The most basic concept underlying marketing is that of human needs. We have many needs including ones such as affection, knowledge and a sense of belonging as well as the physical need for food, warmth and shelter. A good deal of our lives is devoted to obtaining what will satisfy those needs.

Marketing can thus be defined as any human activity which is directed at satisfying needs and wants by creating and exchanging goods and value with others.

Marketing has become a key factor in the success of western businesses. Today's companies face stiff competition and the companies which can best satisfy customer needs are those which will survive and make the largest profits.

For an exchange to take place, four conditions must exist. First, an exchange requires participation by two or more individuals, groups, or organizations. Second, each party must possess something of value that the other party desires. Third, each must be willing to give up its "something of value" to receive the "something of value" held by the other. Fourth, the parties to exchange must be able to communicate with each other to make their "something of value" available. The "something of value" held by the two parties are most often products and/or financial resources such as money or credit.

Filling Out the Check

Rachman D.J., Menson M. H.
Study Guide. Business Today

There are usually seven items that you will write oh the check: the check number, the date, the payee, the amount in figures, the amount in words, the purpose of the check, and your signature. Complete the following steps in writing your checks:

Step 1. Number your checks in order. These numbers help you to compare your records with the checks that have been paid and returned to you. If the numbers are not already printed on the checks, write them in the space provided. Check numbers are usually printed on both the checks and the check stubs. Check registers have a space for you to write the check numbers.

Step 2. Write the date, which was entered in the register, in the proper space on the check.

Step 3. Write the payee's name on the line following "Pay to the Order of." The payee for Alan's first check is The Complete Ski Shop, as shown in Figure 24-1 on page 342.

Step 4. Write the amount of the check in figures after the printed dollar sign. Write the amount close to the dollar sign so that a dishonest person cannot insert another number between it and the amount. A check on which the amount has been dishonestly increased is called a raised check. Cents are usually written somewhat smaller so that the amount in dollars and the amount in cents can be easily distinguished. Write cents figures close to the dollar figures so that additional numbers cannot be inserted.

Step 5. Write the amount in words on the line below the payee's name. Spell out the amount in dollars. Write the cents in figures as a fraction of a dollar. Begin writing at the far left end of the line so that the amount cannot be changed by adding a word at the beginning of the line. Draw a line from the fraction to the printed word "Dollars" to fill all unused space. If a check must be written for less than a dollar, write the amount as shown in Figure 1.

Most people would rather not write a check for less than $1. However, sometimes it is necessary, and this is how it should be done.

If the amount written in figures does not agree with the amount written in Figure 1 in words, the bank may pay the amount written in words. However, the bank is not obligated to pay a check containing errors. If there is a considerable difference between the two amounts, the bank may call you and ask for instructions concerning payment. The bank may also return the check to you and ask you to replace it. There is usually a charge, often as much as $20, when a check is returned for any reason. If a business receives a check from you on which the amounts disagree, the business will probably return it to you and ask for another check.

Step 6. Write the purpose of each check on the line labeled ' 'For" at the bottom of the check. Writing the purpose will later help you remember why you wrote the check. Note that Alan Edwards wrote "ski mask" as the purpose of Check No. 101.

Step 7. Sign your checks with the same signature that you wrote on your signature card. A married woman should use her given name in signing checks. For example, she should sign Racquel Waterman, not Mrs. Jack Waterman. Alan Edwards is the drawer of the check in Figure 24-1 and has signed his name on the proper line.

On checks issued by a business or other organization, the firm's name may appear as a printed signature and is often followed by the word "By." The person who signs the check writes his or her name after "By." This shows that the firm is the drawer and that the check should not be charged to the person who has signed the check. An example of a business signature is shown in Figure 24-4.

Перелік орієнтовних тем для самостійної науково-дослідної роботи студентів

1. Термін та його властивості.
2. Головні соціолінгвістичні тенденції становлення національних терміносистем.
3. Мотивація творення термінологічних одиниць.
4. Внутрішня форма термінологічних одиниць.
5. Інтернаціональне та національне в термінологічному процесі.
6. З історії термінологічного планування.
7. Термінологічне планування в розвинених країнах.
8. Термінологічне планування в країнах третього світу.
9. Термінологічне планування в колишньому Радянському Союзі.
10. Термінологічне планування в Україні.
11. Побудова та стандартизація нових термінів.
12. Переклад власних імен та назв з української на іноземні мови.
13. Труднощі при перекладі науково-технічних термінів.
14. Структурно-семантичні особливості перекладу термінів в англійські мові.
15. Напрямки термінознавства.
16. Проблеми та перспективи розвитку медичної (юридичної, бібліотечної ...) термінології в Україні.
17. Термінологічна стандартизація.
18. Особливості перекладу термінів у художній літературі.
19. Особливості перекладу термінів у публіцистичній літературі.
20. Проблема термінологічних запозичень.

Додатки

Definitions I
Terminology

Terminology

Set of designation belonging tone special language.

Science of terminology

Science studying the structure, formation, development, usage and management of terminologies in various subject fields.

Heribert Picht.

Definitions II
Terminology

Science of terminology

An inter- and transdisciplinary science whose sphere of activities is,
on the one hand,
the investigation into the object, the concept, their representational forms and the relations between them,
and on the other hand,
the investigation into their systematic representation in terminographical products and their application within a wide range of fields of knowledge.

Heribert Picht.

Without TERMINOLOGY
NO professional communication;

Without PROFESSIONAL COMMUNICATION
NO knowledge transfer

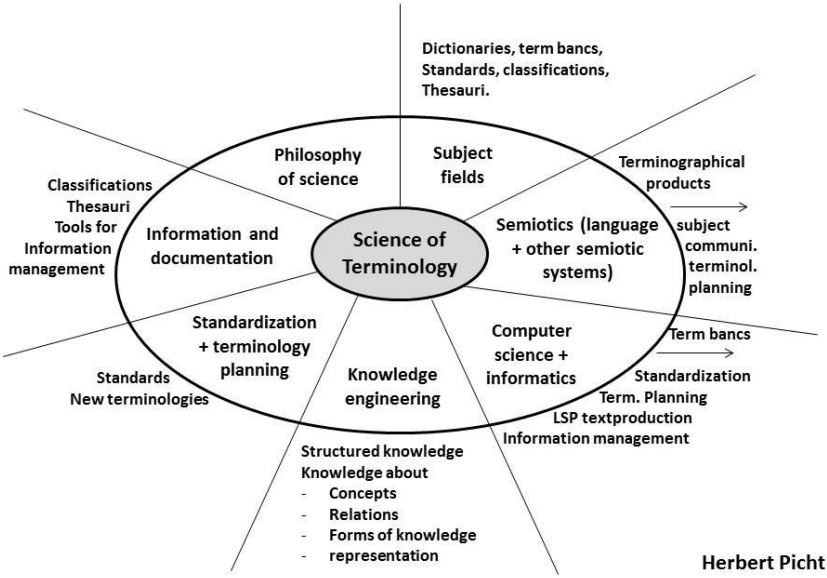
Without KNOWLEDGE TRANSFER
NEITHER

- ***Intellectual nor material development***
- ***Teaching and training nor professional research***

Which – in the long run – leads to
NON-DEVELOPMENT and ISOLATION.

Heribert Picht.

Basic elements of the science of terminology



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