



Міністерство освіти і науки України

Мукачівський державний університет

Кафедра англійської філології та методики викладання іноземних мов



ТЕОРІЯ І ПРАКТИКА ПЕРЕКЛАДУ АНГЛІЙСЬКОЇ НАУКОВОЇ ЛІТЕРАТУРИ

методичні вказівки до організації та проведення практичних занять та самостійної роботи

для студентів денної та заочної форм навчання ОС «Магістр»
спеціальності 014 «Середня освіта (Мова і література (англійська))»

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Теорія і практика перекладу англійської наукової літератури: методичні вказівки до організації та проведення практичних занять та самостійної роботи з дисципліни для студентів денної та заочної форм навчання спеціальності 014 «Середня освіта (Мова і література(англійська))» СО «Магістр» . – Мукачєво МДУ, 2020. – 55с. (2.3 др.арк.)

Навчальне видання містить розгорнуту програму дисципліни, методичні вказівки до організації та проведення практичних занять №1-№7, запитання та завдання для самоконтролю до кожного практичного заняття, завдання для СРС, питання, що виносяться на підсумковий контроль (залік) та список рекомендованої літератури. Вказівки стануть у нагоді студентам денної та заочної форми навчання під час вивчення курсу.

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ЗМІСТ

Передмова.....	4
Методичні вказівки до організації та проведення практичних занять.....	6
Практичні заняття №1-7.....	42
Методичні вказівки до організації та проведення СРС.....	43
Перелік питань, що виносяться на поточний та підсумковий контроль.....	52
Список рекомендованої літератури.....	53

Передмова

Дисципліна розглядається як складова змісту навчальної підготовки студентів-магістрів і побудована на відповідних теоретичних, наукових засадах та практичній підготовці.

Зміст курсу (дисципліни) є доступним для студентів-магістрів й розрахований на засвоєння його кожним студентом денної та заочної форми навчання. Основним завданням викладача є формування у студентів теоретичних знань, надання їм практичної спрямованості та формування вміння використовувати їх у практичній діяльності (житті). Загальними завданнями оцінювання є: визначення рівня навчальних досягнень студентів; стимулювання їх мотивації до здобуття знань; визначення рівня здібностей студентів, їх потреби у додатковому навчанні; виставлення відповідної оцінки.

Мета вивчення навчальної дисципліни – є формування у студентів професійних умінь і навичок практичних дій, необхідних спеціалістам для виконання функціональних обов'язків та розвитку професійно-ділових якостей, що передбачені освітньо-кваліфікаційною характеристикою випускника певного освітнього рівня.

Основні завдання практичних занять:

- поглиблення та уточнення знань, здобутих на лекціях і в процесі самостійної роботи;
- формування інтелектуальних навичок і умінь планування, аналізу й узагальнень, опанування навичок організації професійної діяльності;
- накопичення первинного досвіду організації виробництва та технікою управління ним;
- оволодіння початковими навичками керівництва, менеджменту та самоменеджменту підготовка спеціалістів за освітньо-кваліфікаційним рівнем магістра відповідно до програмних результатів навчання, визначених освітньо-професійною програмою підготовки магістрів вищезазначеного фахового спрямування.

В результаті вивчення даного курсу студент повинен:

знати: загальнотеоретичні й методологічні питання перекладу; перекладацькі терміни й поняття; засоби вірного/адекватного перекладу різних мовних одиниць, понять і явищ англійської мови українською;

вміти: пояснювати предметну сферу курсу «Теорія і практика перекладу англійської наукової літератури»; аналізувати типи та способи перекладу; вказати на необхідні лексико-граматичні та інші трансформації; пояснити сферу використання різних типів перекладу; порівняти типи перекладів; виявити спільне та відмінне при використанні

одного й того ж типу перекладу у споріднених та неспоріднених мовах; розкрити основні методи перекладу.

Методичні вказівки до організації та проведення практичних занять укладено з метою допомоги студентам в практичному опануванні дисципліни та формуванні навичок використання отриманих знань у майбутній професійній діяльності та повсякденному житті, активізації самостійної пошукової роботи студентів, мотивації їх до поглибленого вивчення дисципліни.

Загальні компетентності (ЗК):

ЗК1 – Знання та розуміння предметної області та розуміння професійної діяльності.

ЗК4 – Здатність працювати в команді.

ЗК5 – Здатність до пошуку, оброблення та аналізу інформації з різних джерел.

ЗК6 – Здатність застосовувати набуті знання в практичних ситуаціях.

ЗК7 – Здатність вчитися і оволодівати сучасними знаннями.

Фахові компетентності (ФК):

ФК1 – Здатність формувати в учнів предметні компетентності.

ФК2 – Здатність застосовувати сучасні методи й освітні технології навчання.

ФК10 – Здатність інтерпретувати й зіставляти мовні та літературні явища, використовувати різні методи й методики аналізу тексту.

ФК11 – Здатність доцільно використовувати й створювати сучасне навчально-методичне забезпечення (обладнання) для проведення занять.

ФК16 – Здатність розуміти вимоги до діяльності за спеціальністю, зумовлені необхідністю забезпечення сталого розвитку України, її зміцнення як демократичної, соціальної, правової держави.

Результати навчання:

ПРН1- Знає сучасні філологічні й дидактичні засади навчання іноземної мови та зарубіжної літератури.

ПРН3 - Знає мовні норми, соціокультурну ситуацію розвитку іноземної мови, особливості використання мовних одиниць у певному контексті, мовний дискурс художньої літератури й сучасності.

ПРН4 - Знає специфіку перебігу літературного процесу різних країн у культурному контексті, літературні напрями, течії, жанри, стилі, здобутки національних літератур, художні твори класики й сучасності.

ПРН6 - Має творчо-критичне мислення, творчо використовує різні теорії й досвід (вітчизняний, закордонний) у процесі вирішення соціальних і професійних завдань.

Уміння

ПРУ1 - Уміє працювати з теоретичними та науково-методичними джерелами (зокрема цифровими), видобувати, обробляти й систематизувати інформацію, використовувати її в освітньому процесі.

ПРУ2 - Володіє комунікативною мовленнєвою компетентністю з української та англійської мови (лінгвістичний, соціокультурний, прагматичний компоненти відповідно до загальноєвропейських рекомендацій із мовної освіти), здатний удосконалювати й підвищувати власний компетентнісний рівень у вітчизняному та міжнародному контексті.

ПРУ3 - Володіє різними видами аналізу художнього твору, визначає його жанрово-стильову своєрідність, місце в літературному процесі, традиції й новаторство, зв'язок твору із фольклором, міфологією, релігією, філософією, значення для національної та світової культури.

ПРУ4 - Володіє навичками атрибуції, розрізняє літературно-культурні епохи, напрями, течії, жанри, стилі за їхніми сутнісними характеристиками.

ПРУ5 - Порівнює мовні та літературні факти, явища, визначає їхні подібності й відмінності.

ПРУ7 - Володіє основами професійної культури, має здатність створювати й редагувати тексти професійного змісту державною та іноземною мовою.

ПРУ11 - Здатний до рефлексії, має навички оцінювання непередбачуваних проблем у професійній діяльності й обдуманого вибору шляхів їх вирішення.

Методичні вказівки до організації та проведення практичних занять

Структурно методичні рекомендації до організації та проведення практичних занять та СРС побудовано відповідно «Положення про організацію освітнього процесу в МДУ» та методики проведення практичних занять у ЗВО: програма кожного практичного заняття містить певне окреслене коло навчальних завдань, що виконуються у логічно-дидактичній послідовності впродовж часу, передбаченого навчальним планом. Кожне практичне заняття складається з чотирьох частин: вступ викладача; повторення базового теоретичного матеріалу; практична частина як планова; заключне слово викладача. До кожного практичного заняття наведено завдання та питання для самоконтролю, завдання для СРС та перелік літератури.

Завдання практичного заняття:

- підготовка до самостійного виконання практичних завдань;
- підготовка студентів до контрольних робіт;
- набуття вмінь застосування теоретичних знань на практиці;
- підготовка студентів до майбутньої практичної діяльності тощо.

Основною вимогою до проведення практичних занять є забезпечення розуміння студентами теоретичних основ і творчого виконання практичної роботи. Ефективність практичного заняття залежить від самостійності виконання роботи кожним студентом. Тематика і плани проведення практичних занять із переліком рекомендованої літератури заздалегідь доводяться до відома студентів. Перелік тем і зміст практичних занять визначаються робочою навчальною програмою дисципліни. Практичне заняття проводиться, як правило, з групою.

Практичні заняття є найважливішим засобом розвитку у майбутніх фахівців досвіду самостійної діяльності. Це досягається шляхом виконання відповідних умов:

- продумане планування навчального матеріалу: встановлення логічного зв'язку з матеріалами, вивченими раніше, використання знань, отриманих на лекціях на професійній і міжпредметній основі;
- урахування індивідуальних особливостей і готовності в до виконання практичного завдання, звертання уваги на найбільш складні для засвоєння розділи, тощо;
- раціоналізація самостійних занять студентів: правильне визначення витрат часу, оптимізація змісту і внесення до системи завдань оптимального поєднання методів навчання. Формування умінь і навичок відбувається через різні дії та багаторазові повторення - через вправи.

У дидактичному плані всі вправи, що проводяться у ЗВО, які готують фахівців, поділяються на такі види:

- усні вправи. До них відносять всі частини заняття, де мають місце усні виступи студентів.

- письмові вправи.

Практичне заняття включає проведення попереднього контролю знань, вмінь і навичок, постановку загальної проблеми (задачі) викладачем та їх обговорення за участю студентів розв'язування контрольних завдань, їх перевірку, оцінювання.

Організація практичного заняття охоплює три основні етапи:

1. Підготовка до заняття;
2. Проведення заняття;
3. Робота зі студентами після занять.

1. Підготовка до занять передбачає визначення їх тематики, розробку планів занять, визначення мінімуму обов'язкової для вивчення літератури, методичних рекомендацій. Оскільки завданням практичного заняття є перевірка теоретичних знань, то готуючись до нього, студенти повинні вивчити рекомендовану літературу: відповідні розділи підручників, навчальних посібників, конспект лекцій. Знання теоретичних положень, які лежать в основі практичних занять, дозволяють студентам виконувати роботу не механічно, а по суті створювати її, вносити в неї елементи творчості. Тому викладачеві необхідно перед початком практичного заняття перевірити рівень готовності студентів до нього. За декілька днів до проведення практичного заняття, викладач подає до розгляду тему та мету практичної роботи, методичні вказівки щодо її виконання, список рекомендованої літератури.

2. Проведення ПЗ базується на попередньо підготовленому методичному матеріалі - тести для виявлення ступеня оволодіння студентами необхідними теоретичними положеннями; комплекти завдань різної складності для роботи з ними на занятті. Основна мета цих занять полягає в поглибленні, закріпленні і перевірці знань студентів з найбільш важливих і складних тем, вивченні практичного досвіду. Заняття в аудиторії починається коротким (5-7 хв.) вступним словом викладача, у якому підкреслюється значення теми для практики, її особливість у системі курсу. На практичному занятті студенти під керівництвом викладача глибоко і всебічно обговорюють питання теми. Для посилення активності і закріплення знань викладач повинен залучати до участі в обговоренні теоретичних і практичних питань якомога більшу кількість студентів. Це досягається постановкою додаткових питань, спрямованих на розкриття, деталізацію різних аспектів

основного питання, особливо практичного досвіду, складних ситуацій. Після обговорення кожного питання викладачу доцільно дати оцінку виступів, акцентувати увагу на найбільш суттєвих положеннях, проблемах і можливих варіантах їх вирішення. Завдання виконуються письмово в зошиті. Відповіді на питання повинні бути докладними й обґрунтованими та містити всі необхідні висновки. Результати участі кожного студента у практичному занятті, його самостійної роботи і засвоєння навчального матеріалу оцінюються викладачем. У кінці заняття викладач виставляє студентам оцінки за ступінь активності при обговоренні питань, за глибину засвоєння матеріалу, а також за належне виконання індивідуальних завдань і вміння використовувати отриманий матеріал. Оцінки, одержані студентом на практичних заняттях, враховуються при виставленні підсумкової оцінки з даної дисципліни.

3. Якщо студент пропустив заняття або під час занять не показав відповідних знань, йому призначається індивідуальна співбесіда як одна з форм контролю за засвоєнням навчального курсу. Групові вправи - це специфічний вид практичного навчання при якому студенти закріплюють і поглиблюють теоретичні знання і практичні навички. Особливість організації групових вправ полягає у тому, що вони проводяться на фоні вирішення завдання, яке поєднується загальним задумом. На групових вправах послідовно обробляються певні питання, причому кожна наступна вправа є продовженням і розвитком попередніх. Послідовність проведення групових вправ і розрахунок часу визначається на підставі обговорюваної теми і навчальної мети завдання.

ПРАКТИЧНЕ ЗАНЯТТЯ №1

Тема заняття: **Analysis of selected excerpts.**

Цілі заняття: a complex phenomenon as a basis of producing a written text using another text.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Analysis of economic text translation. Text 1.
2. Step I. Preparation.
3. Step II. Pragmatic analysis.
4. Step III. Lexical analysis (Analysis of vocabulary).
5. Step IV. Morphological analysis.

Література: 1,8, 18, 23, 24, 25, 26, 27.

1. Analysis of economic text translation.

Although the general tendency is to consider translation as something that anybody can do with the help of a dictionary, the fact is that producing a written text using another text as a basis is a much more complex phenomenon. This complexity becomes more evident when the text in question deals with specialized subjects such as economics. When words belonging to the so-called General English appear next to specific terms and within a specific context, they contain nuances that must be accounted for in the final translation. The translator must take into account the contextual clues embedded in the discourse in order to avoid ambiguities in the produced document, as long as this ambiguity did not exist in the original one. Thus, the ability to interpret specific information requires some knowledge about the syntactic and morphological structure of the foreign text. "Discourse markers, lexical coherence or modal verbs signal the relationship between words and contribute to the coherence and cohesion of the text. That is to say, the main task of the translator is to eliminate from the original text all those textual elements which do not belong to the cultural background of the potential reader and to produce an easy-to-understand and politically correct document." When dealing with translation one can face difficulties and he/she should take into account several aspects: to choose the correct equivalent of the word and use it in the given context, to use equivalents that are from the same stylistic register of the original text and last but not least to use an adequate terminology, in this case a terminology proper to economic texts. The economic language has the advantage to imply the language proper to the activity of economic sciences, but also the level of colloquial communication. In the same time, the economic activity presumes the interference of other specialized languages. However, although it is necessary to recognize these guidelines, it is also evident that any

theoretical principle needs to be put into practice in order to prove effective. The best way of doing so is by analyzing texts, which is the following step in this practical lesson. There are five texts that shall be analyzed from at least three points of view: pragmatically, lexically and morphologically.

Text 1. Primera absorbs Nissan's profit by Roland Gribben Nissan Motor Manufacturers will struggle o stay in profit this year following the launch of the new Primera model. Ian Gibson, chief executive, said yesterday the company would be "hard put" to repeat last year's net profit of £10m. Profits will be hit by the first tranche of the £340m costs of the new car. About £250m of the total has been spent on retooling at the Sunderland factory to accommodate the Primer, the fourth model to be produced at the plant. Local management are hailing the car as the "coming of age" for Nissan in Europe because it is the first of the Sunderland-built range designed at the company's engineering base in Canfield, Bedfordshire. It will be officially launched in Britain at the Birmingham motor show on October 16. Nissan is aiming to increase production to 120.000 next year, about half the ultimate total. Overall output this year is expected to show little change on last year's figure of 217.000 because of the model changeover and difficulties in Continental markets. Demands for the Micro during the rest of the year will dictate whether Nissan stays in the black this year. The company plans to export the Sunderland-built Primer to 58 countries, including Japan, and says 44 British-based suppliers have benefited from the development programme.

Step I. Preparation. The first step in performing a translation is to analyze the text comprehensively since this appears to be the only way of ensuring that the source text has been correctly understood.

Step II. Pragmatic analysis. The factors of communicative situation in which the source text is used are of decisive importance for text analysis because they determine its communicative function. This leads to extra textual dimensions that are: intention, receiver, medium, place, time, occasion and function. Thus in all texts the intention is to inform the reader about how Primer will absorb Nissan's profit, about Europe's qualification for a single currency; about Eurotunnel project receiving a second change; the receiver is that reader that might be interested in knowing more about these issues (e.g. the worldwide public). This receiver "completes" the communicative function by receiving the text in a certain function based on the receiver's own expectations and on his/her own knowledge of the situation; the medium here is a newspaper(the Daily Telegraph, the Independent on Sunday, The Times). Other important aspects to be dealt with here are: the motive, the genre, and the subject matter. The motive is that these news reports have been written because something of importance has happened.

Step III. Lexical analysis (Analysis of vocabulary). In the first text, the idiom hard put may put the translator in difficulty as he has to find the correct equivalent taking into account the context. Hard put means undergoing great difficulty so the idiom can be translated *va fi supusa la grele incercari*. The expression to hit profits=to obtain profits is translated here *se very obtained profiteer*. In the text there are also a great number of polysemous words such as: retooling=interchanging, substituting, replacing fitting out a factory with a new set of machinery and tools for making a different product, the word here being translated as *reutilize.*; then there is the noun plant whose main meaning is herb but in this context it refers to the buildings, equipment, and fixtures of an institution. So, a fledging translator would hurriedly translate the word as herb=- plantar committing in this way a translation error and creating an ambiguity. Other words that bring about difficulties in translating the text are the verb to hail and the idiom coming of age. The verb hail =the act of greeting or acclaiming, to salute, to acclaim is translated here as *onoreaza* and the idiom coming of age=to reach maturity as a *adjudge la maturities*. The noun output which means production of a certain amount; final product; what is produced in a given time period is translated here as *productive*. And last but not least, the expression to stay in the black translated as a *remain in bursa Negara*.

Step IV. Morphological analysis. From a morphological point of view, in all texts there is a mixture of tenses (present tense simple/continuous, present perfect simple, past tense simple, future simple), and great number of passive voice constructions rather than active voice construction (Profits will be hit, It will be officially launched, A £4.7 billion agreement was unveiled, global intermediation is broken, people who are registered). Apart from tenses and passive voice constructions, there are two morphological features characteristic to all economic texts, namely noun clusters in which several nouns and adjectives are combined to designate one single concept (for example, British-based suppliers, modest further write-offs, modest equity-capital cushion, medium-term stability, credit-financed economic activity) and long nominal groups (the first of the Sunderland-built range designed at the company's engineering base in Canfield, Bedfordshire, that Europe's economic difficulties may force a postponement of the Euro's planned launch in January 1999; to show their electorates that they can deliver more jobs in the next three years despite the rigid Maastricht conditions; that intricate and interdependent system directing the world's saving into productive capital investment; to start unwinding the massive sovereign credit and guarantees put in place during the crisis, now estimated at \$7 trillion).

Завдання та питання для самоконтролю:

1. What is analysis?
2. What are the differences in different types of texts?
3. What is the first step of analysis?
4. What is the second step of analysis?
5. What is the third step of analysis?

Завдання для СРС:

1. Prepare a report “Types of analysis in theory and practice of translation”.

ПРАКТИЧНЕ ЗАНЯТТЯ №2

Тема заняття: **Lexical and grammatical equivalence.**

Цілі заняття: lexical and grammatical meaning of the words translation.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Lexical and grammatical equivalence.
2. Textual and pragmatic equivalence.

Література: 1,6, 8, 11, 13, 15,18, 20, 21,25, 26, 27.

1. Lexical and grammatical equivalence.

On this level, the most possible semantic similarity between the source and target sentences is found:

Every mother loves her children. – Кожна мама любить своїх дітей.

I will write you every week. – Я буду писати тобі кожної неділі.

As a matter of fact, this is a word for word translation where each word and the whole structure retains its lexical and grammatical meaning, the situation designated by the sentences is identical, and the communicative function of the utterances is the same. Every form of the target sentence is equal, with no variations, to that of the source language sentence.

Therefore, this level might be called the level of formal equivalence.

2. Textual and pragmatic equivalence.

While the original text is determined by the SL grammatical norms, the TT (equivalence) is determined by the grammatical norms of the TL. However, grammatical systems in two languages may also be different. Problems with grammar equivalence may

occur because of the absence of certain grammatical categories or different application of these categories (e.g. limited usage, using lexical means instead, etc) - no direct equivalence or non-equivalence in grammar. Differences may occur with different use and distinctions in: number (Here's the news; information, police, money, Chinese, measles), gender (student, doctor, but actor - actress, host - hostess; author – authoress; interlocutor - interlocutress), person (you, they), tense and aspect (I'm writing, I write, I have been writing, I wrote ...), verbal voice (Peter was asked), etc. The same can be said about textual equivalence and pragmatics.

Textual equivalence is concerned with the organization (structure) of a text - information structure, textual unity (cohesion and coherence). Information structure is connected with functional sentence perspective (theme, rheme; given and new; communicative dynamism) and with word order in both languages. Textual unity manifests itself at different levels. The text is linked by grammatical and lexical means which suggest to the readers interpreting them that they belong together. This is called grammatical and lexical cohesion (based on tense, voice, definiteness ... or repetition, synonymy, antonymy ... respectively) or lexico-grammatical cohesion (negation, modality). Cohesion is a close relationship based on grammar or meaning, between parts of the text (of a sentence or a larger piece of writing, LED). It is the network of relations "which provides links between parts of the text. ... It's a surface relation - it connects together the actual words and expressions." (A. Baker 1982). For example: The 12 year-old British girl who fled her mother's home in Scotland to go to live with her father in Pakistan has been told by a Pakistan court that she must return to the UK. (The Week). Problems with textual equivalence often rest in: gender, person, tense, voice, restrictions of word order, change of meaning according to word order.

Pragmatics is the study of how words and phrases are used with special meanings in particular situations (study of language in use), in other words: the study of the relationships between linguistic forms and the users of those words. It pays attention for example to: explicitness, implicitness (implicative), coherence, presupposition, inference, genre and text-type.

"Explicit" (literal) means something expressed in a way that is very clear and direct, while "implicit" (non-literal) means something suggested or understood without being stated directly. "Implicature refers to what the speaker means or implies rather than what s/he literally says".

Implicatures go beyond the literal and conventional meaning of an utterance and they depend on their interpretation. "Where are you?" (It conveys the meaning: I am curious, I am looking for you, or you are late). Translator's aim is to comprehend the particular implicature and avoid "giving rise to unwanted implicature."

Coherence is also a network of relations which organize and create the text, i. e. when a text is easy to understand because its parts are connected in a clear and reasonable way (LED). It is a network of logical/conceptual relations which underline the surface text. Cohesion is objective, while coherence is subjective. Coherence involves "a deeper, semantic level" which refers to the "continuity of subject matter".

In maintaining the coherence of the TL text and solving the above discussed problems, translators are recommended to:

- Change the word order by "puzzling" with words and clauses until they "fit".
- Use adding, explicitation, principles of analogy, reorganizing the text (sentences and paragraphs) until it sounds natural, i.e. until it fulfils the readers' expectations about the organization of the target language.

Some of the above mentioned problems are illustrated by the following examples:

He s writing his homework – Він пише свою домашню роботу. He writes his homework every day – Він пише його домашню роботу кожного дня.

There were boys playing on the road – На дорозі були хлопці, які гралися.

I like being asked – Я люблю, коли мене питають.

I wish you were – Я б хотів, щоб ти був.

A bomb exploded. Бомба вибухнула.

He left home when he was 16- Він пішов з дому коли йому було 16.

I'm sorry we're not on the phone – Мені шкода, що ми без зв'язку.

He had his hair cut – Йому підстригли волосся.

I am cold/hot – Мені холодно/тепло.

A letter from Peter – Лист від Петра.

Завдання та питання для самоконтролю:

1. What is lexical equivalence?
2. What is grammatical equivalence?
3. What is textual equivalence?
4. What is pragmatic equivalence?

Завдання для СРС:

1. Prepare a report "Lexical and grammatical equivalence".

ПРАКТИЧНЕ ЗАНЯТТЯ №3

Тема заняття: Analysis of legal text translation.

Цілі заняття: legal texts and different types of translation problems.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Lexical equivalence and grammatical equivalence.
2. Textual and pragmatic equivalence.

Література: 7, 8, 9, 14, 18, 23, 25, 26, 27.

1. Lexical equivalence and grammatical equivalence.

Legal texts involve a number of different types of translation problems and require specific methods with which to make a translated text understandable for the reader in the target language, while simultaneously reflecting the original character and unique features of the legal system of the source language country. These requirements force a translator to take great care with the constant connection of the translated text to the source language's culture, by using strategies such as borrowing original terms, naturalizing some specific terms into the target language, using language calques, or introducing descriptive translation, in which some explanations are mandatorily included.

A translator is concerned with transferring the meaning of a language into another language. But in this respect he needs to decode the source language's smallest units and structures; so he should start with the word *ŕ* the smallest unit with individual meaning. The word is *The smallest unit of language that can be used by itself*, or as Baker writes *The written word is any sequence of letters with an orthographic space on either side*.

After decoding the meaning, he searches for an equivalent in the target language. But not always a word has an equivalent in the target language. Sometimes a word is equivalent with a string of words or has no equivalent and the translator needs to search and find an equivalent with at least similar meaning. When talking about the language of the law, searching for equivalents can be even more difficult.

So if we analyze several languages we can conclude that there is no *Done-to-one equivalence*, as Mona Baker calls it, between orthographic words and elements of meaning within languages.

Frențiu Luminița writes about the difficulties in achieving word equivalence,

difficulties which are often generated by the coexistence of three distinct lexical layers:

1 strictly specialized legal terms: there is no precision problem regarding these terms often used in the language of lawyers, only equivalence raises certain issues. Very few monosemantic terms, used in the legal language, have equivalents belonging to the same lexical layer.

For example the word *comodat* (it refers to a type of contract, of Romanian origin, for a loan made for current use - <http://dexonline.ro/definitie/comodat>). Some researchers use the translation *free loan*, while others the word *commodate* from the Latin *commodatum*, referring to a gratuitous loan or free concession of anything moveable or immovable, for a certain time, on condition of restoring again the same individual after a certain time.

The Latin expressions used in legal language raise no concern for the translators as they may be used as they are, without requiring a translation.

2 Technical terms borrowed from other terminologies: they have a general character and for this reason they are accessible to several fields of activity, although their occurrence is rather limited. We can include here for example medical terms used in the legal language:

3 Words belonging to the general vocabulary but used within legal environment. These words have to be translated according to the context, avoiding any ambiguity. Frențiu Luminița offers for the word *act* several contextual equivalents: *act de grație* - *act of grace*, *act de forță majoră* \hat{R} *act of God*, *act de procedure* - *proceedings*, *act fictiv* \hat{R} *fictitious transaction*, *act authentic* \hat{R} *deed*.

The semantic relations also influence the translator's search for equivalents and the translation process. They need to be taken into consideration because they can turn the meaning of a text into a totally different and unwanted direction.

Words are not put together at random in any language. There are rules on how they should be combined to express meaning. The tendency of words to co-occur regularly in a language is referred to as collocation. Often this co-occurrence is related with their propositional meaning. Mona Baker uses the word *cheque* to indicate that it is more likely to occur with *bank, pay and money* than *moon, butter or repair*.

Also words with similar meaning, synonyms, can have quite different sets of collocates. In English for example, people *break rules* but they do not *break regulations*. But it is acceptable to *deliver a verdict or pronounce a verdict*; however it is unlikely to *deliver a sentence*, while *pronounce a sentence* is accepted in language.

The following examples are collocations used in legal English: *absolute right* (a right set out in the European Convention on Human Rights that cannot be interfered with lawfully), *admissibility of records* (in civil cases documents containing information are admissible as evidence of the facts stated in them), *breach of trust* (any improper act or omission, contrary to the duties imposed upon him by the terms of the trust), *case law* (the body of law set out in judicial decisions), *discharge of contract* (the termination of a contractual obligation), *effective date of termination* (the date on which a contract of employment comes to an end), *impossibility of performance* (the impossibility of carrying out a contract), restrictive trade practices (arrangements in industry designed to maintain high prices or earnings or to exclude outsiders from a trade or profession) (taken from Oxford Dictionary of Law).

Collocation patterning differs from one language to another, so when it comes to source language and target language it can generate translation problems. In order to overcome these problems, Baker recommends the translator to detach himself from the source text and *To put the draft translation aside for a few hours. One can then return to the target text with a better chance of responding to its patterning as a target reader eventually would, having not been exposed to and therefore influenced by the source-text patterning in the first place. At any rate, translators are well advised to avoid carrying over source-language collocation patterns which are untypical of the target language, unless there is a very good reason for doing so.*

On the other hand idioms and fixed expressions are frozen patterns of language, with little or no variation in form, and the meaning (in case of idioms) is different from the meaning of each word taken separately.

Contracts also contain a lot of fixed expressions. After reading several contracts I came across the following patterns repeated in the majority of contracts: *concluded by and between, null and void, subject to the terms and conditions specified herein, the contract shall be governed and construed in accordance with the laws of..., the party hereby represents and warrants that, seller and buyer - collectively referred to as Parties, this agreement supersedes and extinguishes all previous agreements, for the purpose of this agreement; the party shall indemnify, defend and hold harmless the other party from and against any and all liabilities; the party shall use its best effort to, the party shall hold such information in confidence, the agreement shall be signed in two identical copies, this agreement will be executed by their duly authorized representatives.*

Grammar contains rules which establish the way words and phrases combine in a language; the way notions like time, gender, etc, can be made explicit. Here we speak about

the structure of words & morphology & and the structure of groups, clauses and sentences & syntax.

Compared with the lexical equivalence analyzed in the previous pages, grammatical equivalence is different due to the following reasons: grammar rules are compulsory and rather stable & they do not change over time as easily as words do; lexical choices are often optional, while grammar rules must be followed accordingly; words are sometimes changed by speakers or context, while grammar rules cannot be manipulated so easy.

As translation is concerned, each translator is free to decide upon many aspects at a lexical level, but not on grammar rules. They must be followed as they are, with the limitations and restrictions they impose.

2. Textual and pragmatic equivalence.

The clause as a message can be analyzed in terms of two types of structures: thematic structure and information structure. The Holidaying approach treats these two types of structures separately, while linguists from the Prague School combine the two structures in two in the same description. In Baker's opinion, translators with different linguistic backgrounds should be informed about both points of view and use only the explanations compatible with the language of interest to them.

Thematic structure consists of two segments: theme & indicates what the clause is about and rheme & indicates what the speaker says about the theme. They can be used to account for the acceptability of a sequence in a given context, and not for the grammaticality, as they are not grammatical notions. They have a low influence on whether a sequence is or not grammatical. Also acceptability and coherence are not ensured by grammaticality in a certain context.

Information structure refers to the already known information & given information & and in the same time to the new information given to the audience. Both information and thematic structure are features of the context rather than of the language system. The audience will decide which part of the message is given and which is new. The normal order in a message is the given information followed by the new information; this normal order is recommended by specialists as it will ease comprehension. Due to this principle, longer and heavier structures are placed towards the end of the clause since new information often needs to be stated more fully than the already known message.

Pragmatic equivalence is concerned with the way utterances are used in communication and interpreted in context, as pragmatics is the study of language in use. And I refer here to the study of meaning not based on the linguistic system, but on the way it is perceived and manipulated by the participants in the communication process.

For a better understanding of a text, two important elements raise difficulties: coherence and implicative.

Coherence (like cohesion) is the range of relations that contribute to the organization of a text, cohesion is related to the surface relations \hat{R} lexical and grammatical dependencies \hat{R} while coherence to the conceptual relations \hat{R} meaning dependencies.

As some scientists write *No text is inherently coherent or incoherent. In the end, it all depends on the receiver, and on his ability to interpret the indications present in the discourse so that, finally, he manages to understand it in a way which seems coherent to him - in a way which corresponds with his idea of what it is that makes a series of actions into an integrated whole.*

The coherence of a text depends on several elements such as: the expectations of the sender and the receiver of the message, their knowledge and life experience, the society they act in. So the same text may be coherent for one reader, while for another may not be coherent.

For this reason, in translation, the producer of a text may not take it for granted that the audience will have the necessary background knowledge to understand and interpret that text. So for the translator the knowledge of its audience, the organization of language in general and the structure of social relations are all important aspects which affect the coherence of a text.

If we take for example several decontextualized clauses, we can suggest that the reader will automatically connect them in his mind, and even so he might not fully understand the real meaning.

Implicatures are aspects of meaning above the literal and conventional meaning of an utterance.

Завдання та питання для самоконтролю:

1. What is analysis of legal text translation ?
2. What is grammatical equivalence in the legal text translation?
3. What is textual equivalence in the legal text translation?
4. What is pragmatic equivalence in the legal text translation?

Завдання для СРС:

1. Prepare a report “Analysis of legal text translation”.

Тема заняття: Analysis of the translation of the text from the field of physics.

Цілі заняття: texts from the field of physics and different types of translation problems

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Lexical equivalence and grammatical equivalence.
2. Textual and pragmatic equivalence.

Література: 1, 7, 8, 13,18, 23, 25, 26, 27.

1.Lexical equivalence and grammatical equivalence.

The following examples show the use of specific terminology or words frequently used in relation with given issue (quarks cluster). E.g. ... three quarks clustered together ... - ... три кварків, згрупованих разом ... E.g.: ...an intrinsic angular momentum, or 'spin'... - ... внутрішній момент імпульсу ... Some words become semantically more limited in TL text as the following example show: E.g.: ...hard... - ... дуже важко ... Considering the fact, that given excerpt is designed to present given topic in the most comprehensible but interesting way, we can find also other lexical units with emotional load (nugatory). Besides, there are added modifying words in TL thus distinguishing the particles (всіх знайомих) in order to make the translation coherent, while in SL, I suppose, the definite article the conveys the similar meaning (from all the particles). E.g.: ...the most nugatory from the particles... - ... без сумніву (вони є) найбезглуздішими з усіх відомих частинок. E.g.: ...en route... - ... що стоїть на своєму шляху ...

2.Textual and pragmatic equivalence .

There are is used in SL to express rheme – position varies in both SL and TL. In the Czech translation, change of sentence construction was necessary in order to express rheme by means of its position at the end of a sentence. The complex sentence has been also split into two sentences in SL text in order to achieve equal comprehensibility of the text. Cohesion is marked by pronouns either in SL and TL texts referring to quarks of up and down type. However, using cohesive device in TL can be misleading, because they are not specifically mentioned in the sentence, and further reading is necessary to assure what particles the author was referring to. Text in SL: There are two different varieties (or 'flavours') of quark needed to make a proton or a neutron, known as the up and down (traditionally summarized by their first letters u and d respectively). Translation in TL: Однак для утворення цих частинок, кварків не вистачає, нам потрібно, щоб вони були двох різних типів (або "запахів"). Існуючі елементи

називаються вгору і вниз (зазвичай написані відповідно до перших літер їх заголовка, u і d). The text under scrutiny can be defined as pure scientific style that hints a slight tendency to have some features in common with popular scientific style. Personification (quarks grip one another so tightly), can be considered as well as kind of figurative linguistic means, which gives more attraction to quarks, supposedly, and helps an author to present the topic in an interesting way or as an expressive linguistic means possessing strong emotional undertone as a part of terminology typical for this kind of new discoveries in this field. Initiative to start a conversation can be signaled by using we in the example. Text in SL: Quarks grip one another so tightly that they are forever imprisoned in groups, such as the threesome that forms the entity that we call proton. Translation in TL: Кварки міцно тримають один одного таким чином, що вони назавжди є у групах, таких як ті, що утворюють протони. The language means used in this excerpt show, that words of common usage can be used in scientific style in a very narrow and specific meaning. Another distinction that can be observed here is different grammatical equivalence in expressing the name of the entity – proton – using we that we call protons) is very common in English scientific style. There is an introductory phrase . ' Це правда, що added by a Ukrainian translator in order to make the translated text equally coherent. Text in SL: Nature seeks the state of lowest energy, which translates in this case to the state of lowest mass. Translation in TL: Це правда, що природа віддає перевагу державам з найменшою енергією, що в цьому випадку також означає найменшу вагу. If we have a look at the sentence preceding this one, we can see that TL text would have not been that easy to read and would not seem natural to a reader: Цей процес називається бета-розбиттям; це відбувається тому, що нейтрон має дещо більшу вагу, ніж протон. (Це правда), природа віддає перевагу державі з найнижчою енергією, маючи на увазі ... A change in sentence construction has been made in translation of the next example, and it corresponds with the SL. It was necessary to enlarge the text with Це повністю (інерція), і це тому ' to add the information why it is hard to detect those particles. We can also observe a significant semantic shift in equivalence in that act within the bulk matter in SL, which describes the process of electric forces within neutrinos itself, and які впливають на нормальне значення in TL, which focuses already on the result of the process. It is an example of modulation as a method of translation when the aspect of particular entity changes during the translation.

Завдання та питання для самоконтролю:

1. What is analysis of the translation of the text from the field of physics?
2. What is grammatical equivalence in the translation of the text from the field of physics?
3. What is textual equivalence in the translation of the text from the field of physics?

4. What is pragmatic equivalence in the translation of the text from the field of physics?

Завдання для СРС: Prepare a report “Analysis of the translation of the text from the field of physics”.

ПРАКТИЧНЕ ЗАНЯТТЯ №5

Тема заняття: Analysis of chemical text translation.

Цілі заняття: chemical text and different types of translation problems.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Lexical equivalence and grammatical equivalence.

2. Textual and Pragmatic Equivalence.

3. Summary of the Analysis.

Література: 4, 6, 8, 10, 18,24, 25, 26, 27.

1. Lexical equivalence and grammatical equivalence.

The text is designed primarily for the students of organic chemistry at technical universities and universities offering chemistry as main studying program. The style of the language is scientific, with a lot of special terminology. However, we can notice the author's choice of presenting information, which is more accessible in order to enable students to understand difficult topics easier. Style of language used in chemistry, as a style of exact science, requires from a translator to have a thorough knowledge in the field, otherwise the translation might be incorrect and misleading. The following example proves the statement: E.g.: numerous sites of unsaturation... - ... кілька кратних посилянь ... Without the knowledge of chemistry, the usual translation could possibly be multiplied bonds. However, from the semantic aspect of the text as a whole, this would be an incorrect translation. Generalized translation can be also found in the text. Phrase unsaturated compounds were fom SL translated into TL only as сполуки in general. The translation is correct, if it is obvious from the text the only the unsaturated compounds are being referred to. Otherwise, this semantic enlargement could lead to more possible interpretations. E.g.: ...unsaturated compounds... - ... сполуки ... English adverbial of manner implies mutual relationship among the bonds. However, a ukrainian translator might have felt that it would have been better to express explicitly the mutual relationship with additional lexical unit in order to convey the essence of the facts which is

obviously important. E.g.: ...they react independently... - ... вони реагують повністю самостійно ...

2. Textual and Pragmatic Equivalence

The texts are not semantically equivalent. The text in SL is aimed on explanation that compounds of particular bonds alternating (so-called conjugated compounds) have distinctive characters. In contrast, the text in TL is aimed primarily on informing a reader how this kind of compounds is called. The distinctive characteristics are mentioned loosely in the continuing text. Another difference has occurred during the translation. It is the introductory phrase In particular, which has been translated as Різна поведінка in TL. It is possible to agree on the fact, that the TL translation follows the main purpose of functionality, i.e. to enable an understanding for a Ukrainian reader so that syntactic structure is changed and semantic equivalence is achieved from the broader aspect by changing lexical units and adding new ones (within the whole paragraph, not strictly within one sentence). Text in SL: In particular, compounds that have alternating single and double bonds –so-called conjugated compounds – have some distinctive characteristics.

Translation in TL: Різні способи поведінки мають, зокрема, багаторазові зв'язки, які чергуються з простими зв'язками і, таким чином, створюють кон'юговані системи. In contrast with previous example, this one demonstrates the situation, when the translation preserved the syntactical, semantic and textual equivalence, mostly because the nature of the sentence enabled it. Text in SL: Conjugated enones (alkene + ketone) are common structural features of many biologically important molecules such as progesterone, the hormone that prepares the uterus for implantation of a fertilized ovum.

Translation in TL: Кон'юговані енонами (алкен + кетон) є загальними структурними типами біологічно важливих молекул, наприклад, прогестерону, гормону, який готує слизову оболонку матки для захоплення заплідненої яйцеклітини.

The last example illustrates a very common feature for translations from English into Czech. Final position of rheme is typical for Ukrainian language in contrast to the English language, where new information can be expressed in more ways; here it occupies initial position in the sentence. To achieve proper translation, rebuilding of a sentence in TL is necessary. Text in SL: The base-induced elimination of HX from an allylic halide is one of such reaction. Translation in TL: Однією з таких реакцій є ліквідація HX із галогеналану під дією основи.

The style of language used in the chemic text consisted of following general features that proves the style can be considered scientific. It is mainly the use of great amount of specialized terminology, logical ordering of sentences, consistency in information flow, the use of iconic

language for the interpretation of information put verbally (illustrations of molecules, bonds among them, various charts, graphs and other types of visual illustrations). The information were presented predominantly in 3rd person, however, first person of plural form (we) occurred frequently as well, which is typical for presenting the results of tests and experiments or explaining how to proceed to make some.

Summary of the Analysis. The aim of the Analysis was to present four different excerpts from various fields of exact sciences, social sciences and law. Their translations from the English language into the Ukrainian language and vice versa were the main concern of particular analyses. Two main aspects were discussed: 1. Aspect of general features of the styles used in individual texts with subsequent comparison of the features on the basis of the knowledge introduced in the theoretical part, and consequently, their confirmation or denial. 2. Aspect of translations of given excerpts (where methods of translation were examined), and the aspect of equivalence were considered and evaluated. Each style discussed in the thesis has demonstrated both common and distinctive features. The difficulty of translation and requirements for a translator with regards to the depth of knowledge in each field of science vary from one style to another. Legal documents stick to the rules of style the most. Exact Sciences, in contrast to administrative style, provide translator with slightly more space for his/her own linguistic intentions. However, it depends on the nature of the text (scientific style vs. popular scientific style) and who is the recipient of the text (students, broad public, or the specialist in the field). Social Sciences (Economics, Humanities) can operate with much more diversified linguistic means as far as the nature of the text enables them to.

Завдання та питання для самоконтролю:

1. What is analysis of chemical text translation?
2. What is grammatical equivalence in the translation of chemical text?
3. What is textual equivalence in the translation of chemical text?
4. What is pragmatic equivalence in the translation of chemical text translation?

Завдання для СРС:

1. Prepare a report “Analysis of chemical text translation”.

ПРАКТИЧНЕ ЗАНЯТТЯ №6

Тема заняття: Scientific and technical translation.

Цілі заняття: the translation features of scientific and technical translation.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. Issues of terminology.
2. Historical and current significance of scientific and technical translation.
3. The status of scientific and technical translation in translation studies.

Література: 1, 8, 12, 16,18, 22,25, 26, 27.

1. **Issues of terminology.**

The translation activity object of a future translator is to understand the idea of an oral or written message as well as its proper rendering by means of the native language. The higher the level of a future translator's training is, the more understandable and comprehensible the message will be. For making an adequate translation it's necessary for the future translator to be familiar with lexical, grammatical and derivation aspects. Moreover, he/she should be competent in presenting scientific information and greatly familiar with the scientific text structure and peculiarities and technique of translation. Thus, the translation features are the same as those of any other complex activity. The goal of mastering the translation technique during studies is not turning a student into a translator but skills practicing of perceiving a foreign technical text and reading the text in the original or minimally consulting a dictionary. Every specialist in translation activity would agree that difficulties while translating a scientific and technical literature are based on its lexical, grammatical and stylistic peculiarities, among which we can cite the ones listed below.

Lexical peculiarities. 1. There's a great deal of syntactic and parenthetical words forming logical links between separate elements in the sentence and inseparable elements of logical development (prepositions and conjunctions upon, besides, except (for), in regard to, in accordance with, in order to, both...and, either...or, provided, providing; adverbs thus, alternatively, also, again) [2, p. 13-14]. 2. Peculiar terminology usage which can be neither replaced nor explained with other words. That's why the technical documentation translator, in most cases, should also have additional special qualifications in a specific technical field. For instance, the term cycle, besides "цикл" and "період" may be generally translated in the following way: такт (the interval between two signals of a clock oscillator – Computers science); період перебування (lock-up cycle – the time of staying in a prison cell – Law); круговий процес (Thermodynamics); вмикати робочий цикл, циркулювати по колу (Engineering); замкнений процес (Mechanical Engineering); періодичний процес

(polytechnical meaning); період пульсації, кругообіг, проходити цикл розвитку (Biology); квант обчислення (slang).

3. The necessity of macrocontext while rendering the terms. As an example, let's refer to the situation described by V. M. Klimzo. The translator has to translate a document saying about an appraisal procedure of welding and welders (Pressure Welder Qualification). Discussing the translation in a formal way, one can find in a technical dictionary that the term pressure welding is translated as “зварювання тиском”. Thus we are talking about “атестація зварників, що працюють методом зварювання з використанням тиску”. However, in this case, this variant is not correct as the document being translated is related to the pipeline welding pressure method. The right variant of translation hereby is “атестація зварників, що виготовляють конструкції, які працюють під тиском”.

4. Shortenings and abbreviations which are difficult to understand. The researchers point out that there's no single rule on how to make up the shortenings, that's why it's almost impossible to decipher any shortening or abbreviation without the context. For example, the abbreviation MCC can be understood as Master Control Console (головний пульт управління), Mission Control Center (центр керування польотами) or Motor Control Center (станція управління двигунами) [1].

5. Discrepancy of service jobs, especially governing structural units as well as positions of influence and academic degrees. It's often difficult to translate them in both native language and English, even if the name is given in a complete way: OPS (operations) – “Виробничий відділ”, “Відділ експлуатації”; Reg (regulatory) in some cases it may be translated as “Служба узгодження (та/чи отримання дозволу та/чи ліцензування і сертифікації) з наглядовими органами”; professor – “лектор”, as well as “професор-асистент” (with Master's or Bachelor's degree); associate professor – might be translated as “доцент”, and “ад'юнкт-професор” (generally having a Master's degree); Operations Manager – “начальник виробничого відділу” and “виконавець виробничого відділу”; Human Resource Manager – “начальник відділу кадрів” or just “інспектор відділу кадрів”.

6. Existence of realias which are used in scientific and technical literature as names of firms and establishments, models of an equipment, establishment location, etc. As a rule, realias are not translated but they are either written in the same way as in the source language or transliterated. Geographical and well-known proper names are translated in transcription of the native language [2, p. 14-15].

7. It's often necessary to translate documents of great volumes. Thanks to this reason and because of informative terms existence and specific vocabulary, technical documentation translation should be further edited.

8. Experience of reading the graphic language of schemes is highly obligatory for a scientific and technical literature translator. For instance, in drawings one can find some symbols of the following type: ID or 25 ID, which is the equivalent of dBH25 in Ukrainian

drawing meaning “внутрішній діаметр, 25 мм”; LG – the length might be marked as 0.25 Dia x 1LG, that is, “Шпилька діаметром 0,25 дюйми, довжиною 1 дюйм” [1, p. 46]. 9. There’s one more important peculiarity of the scientific and technical translation which concerns measuring units inversion since the measures of weight, length, height and volume greatly differ in many countries as well as in different foreign sources. For example, Production (‘000 m³ /d) should be understood as “Видобування (тис. м³ на добу)”. As for the phrase Total cost of the production is estimated to be US \$4B+ can be translated as “Повна вартість проекту оцінюється сумою, що перевищує 4 млрд. долл. США”. Here it’s necessary to remember that “мільярд” for the English people is milliard and billion for Americans. [1, p. 47]. Grammatical peculiarities. The grammar of the scientific and technical style is characterized by frequent usage of participle and gerund; simple sentences as well as expanded and complex ones. The general form of the sentences in scientific and technical literature is complex and compound. Consequently, there are a lot of propositions and conjunctions used along with impersonal verbs in the function of the object and adverbial modifier. Scientific and technical literature stylistic peculiarities are related to presenting information in the first-person plural form and also concern clearness of expression as well as the absence of emotional, expressive and figurative phrases [2, p. 13-15]. One might encounter the above described difficulties in any type of the scientific and technical translation independently on the area of specialization: adequate translation (equal by sense and style of presenting the information including deep perception of the translation object as well as the source text creative interpretation rendering all the lexical and grammatical features); initial level translation (word-for-word translation with correct sense rendering but lexical and syntactical aspects are not really taken into consideration); literal translation (word-for-word translation where each source language lexical unit is translated correctly, but logical and syntactical links are missing which causes some sense distortion or breaking rules of the language used for translation). It goes without saying that the translator is competent when he or she is able to make an adequate translation. So this is the type of translation future translators should be trained for.

2. Historical and current significance of scientific and technical translation.

Since the invention of writing, translation has always been a key factor in fostering scientific progress across barriers of language and culture. This, in turn, has a profound impact on the shaping and development of human societies. Concerning the importance of translation for the proliferation of scientific knowledge, some scholars, like the Italian Renaissance philosopher Giordano Bruno, went so far as to state that “[f]rom translation, all science has its offspring” (Salama-Carr et al. 1995:101). And indeed, the travel of the “torch of knowledge” (ibid.:102)

between major cultural and intellectual centres – from Asia to Greece, from Greece to the Middle East and from there on to Europe, the Americas and finally the entire world – has always been accompanied by “waves of translation activity” (Jumpelt 1961:184; Pinchuck 1977:17) as a prerequisite for the export and import of scientific ideas. Störig (3 2007:150) even claims that the whole intellectual history of mankind could be structured in terms of these translation waves. In the following sections, I will briefly elaborate on this “wave metaphor” since it provides a useful background for illustrating the historical significance of scientific and technical translation. According to Störig (*ibid.*), there are three prerequisites for a wave of translation activity to occur: (1) there must be a disparity in the intellectual standard of two cultures or language communities; (2) the societal and intellectual development in the culture/language community possessing a lower intellectual standard must have reached a point where a natural demand arises for the reception of external knowledge; (3) the two cultures/communities must come into contact with each other; this contact then provides a vital spark igniting a large-scale exchange of knowledge. One of the most famous and most frequently cited examples of such translation waves and the accompanying proliferation of knowledge between different cultures is probably the import of the scientific and philosophical works of Ancient Greece into the Muslim-Arab Empire and its re-export from the Muslim-Arab world to medieval Europe (Salama-Carr et al. 1995). Major philosophical and scientific works of Ancient Greece that, around the 9th century, were made available to the Muslim-Arab culture by the Baghdad school of translators of the “House of Wisdom” (either by way of direct translation of the Greek original texts or via already existing Syriac versions of the texts) included, for example, Plato’s dialogues and *The Republic*, Aristotle’s *Organon*, the complete medical works of Hippocrates and Galen, Euclid’s *Elements* and Ptolemy’s *Almagest* (*ibid.*:113, see also Salama-Carr 2006:120). The work of the translators of the Baghdad school was crucial in the development and consolidation of Arabic as a scientific language and in establishing a new system of thought that would become the foundation of Arabic-Islamic culture (Salama-Carr et al. 1995:113-114). The intellectual stimuli induced by this inflow of knowledge were among the most important factors for the intellectual superiority that the Muslim-Arab culture gained over medieval Europe before another wave of translation activity would restore the balance between the cultures again, eventually tipping it in favour of Europe (Störig 3 2007:150). This considerable intellectual imbalance between the Muslim-Arab culture and the European culture and the pressure felt by European scholars to redress the balance between the two cultures would correspond to the first two requirements of a wave of translation activity as identified by Störig. The spark that would eventually ignite this translation activity (i.e. the contact between the two cultures) came in the form of the reconquest of the

Spanish city of Toledo by Christian forces in 1085, which ended the Moorish rule over the city and constituted the first step of the Reconquista that ended with the fall of Granada in 1492. A prominent figure in the “reimport” of the Ancient Greek knowledge into Europe was Gerard of Cremona (1114-1187), who profited from the access that European scholars had now regained to the wealth of Arabic-Islamic (and Ancient Greek) knowledge stored in Toledo and who dedicated his life to translating the Arabic versions of the Ancient Greek works into Latin (Störig 3 2007:150). After coming into contact with the works of their cultural ancestors by way of “relais translation”, European scholars eventually returned to the original Greek versions of the texts and translated these into Latin as well. This process culminated in the work of William of Moerbeke (1215-1286), who, partly upon request from his famous friend Thomas Aquinas, translated the original Greek texts of Hippocrates and Galen, Archimedes, Heron and Aristotle into Latin (ibid.:151). After this wave of translation activity, the torch of knowledge had passed on again from the Orient to the Occident. This brief historical excursus was intended to illustrate the historical significance of translation in the proliferation of scientific knowledge and the ensuing transformation of whole cultures. To put the significance of scientific and technical translation again into perspective, Byrne (2012:3) points out how impoverished and underdeveloped science would be if every scientific breakthrough through the ages had happened in cultural isolation, without propagating this new knowledge across linguistic and cultural barriers so that it could in turn stimulate new research, inventions and discoveries. It is probably this effect of “cross-fertilization” (Salama-Carr et al. 1995:101) that Fischbach (1992) had in mind when he called translators “the great pollinators of science”. Today, the world is shaped even more drastically by science and technology. The “third industrial revolution”, which is associated with the invention of the transistor in 1948 and the ensuing widespread application of microelectronics, has, in recent decades, led to a flood of technical innovations (Schmitt 1999:12). The accompanying increase in the exchange of information, the intensified transfer of knowledge due to the increasingly international character of science and technology, the globalization and diversification of commercial activities and the ever greater sophistication of industrial products has led to an unprecedented demand for scientific and technical translation (Krein-Kühle 2003:13). Particularly in the context of technical translation, this trend is furthered by increasing legal requirements regarding the availability of multiple language versions of technical documentation accompanying a specific product (Schmitt 1999:12). In the European context, for example, Annex I section 1.7.4 of the Directive 2006/42/EC regulating the health and safety requirement relating to the use of machinery (“Machinery Directive”) contains the requirement that “[a]ll machinery must be accompanied by instructions in the official

Community language or languages of the Member State in which it is placed on the market and/or put into service.” Similar pieces of European legislation which fuel the demand for scientific and technical translation are, for example, Directive 2001/95/EC relating to general product safety or Directive 90/385/EEC relating to medical devices (Byrne 2012:7).

3.The status of scientific and technical translation in translation studies.

As researchers working in the field of scientific and technical translation often point out, this huge significance of STT both at a societal level and at the level of individual translation practice stands in sharp contrast to the scarcity of translational research carried out in this field (e.g. Krein-Kühle 2003:14; Byrne 2006:1; Salama-Carr 2009:43; SalamaCarr 2013:20). Traditionally, STT has been considered as easier or as more straightforward than literary translation³ See, for example, Wilss (1991:3), Schmitt (2 1994:252), Horn-Helf (1999:101-102). due to the “perceived universality of the language of science and/or of scientific thought” (Olohan 2 2009:247) and due to the apparent absence of linguistic or conceptual creativity in this field of translation. Scientific and technical translation, together with specialized translation in general, has therefore often been reduced to a simple, almost automatic transcoding process. Some scholars, such as Mounin (1967:158), went so far as to claim that scientific translation could eventually be completely automated (see also Arntz 2001:172). This derogatory view of STT and specialized translation in general has a long tradition that can be traced back to Friedrich Schleiermacher, who claimed that in the field of commerce (as a subfield of specialized translation), translation is “little more than a mechanical task which can be performed by anyone who has moderate knowledge of the two languages” (Schleiermacher 1813/3 2012:45). What is also interesting is Schleiermacher’s justification for his disparaging view of commercial translation since he claims that “[b]usiness dealings generally involve readily apparent, or at least fairly well defined objects; all negotiations are, as it were, arithmetical or geometrical in nature, and numbers and measurements come to one’s aid at every step” (ibid.). What is striking with regard to this quote is that, if we disregard his remark on “negotiations”, Schleiermacher’s description seems to be readily applicable to technology and science, the former dealing with well-defined objects and the latter trying to uncover and to describe regularities in the world, often by resorting to measurements or arithmetical or geometrical operations. Therefore, it seems that Schleiermacher’s criticism of commercial translation can also be interpreted as a criticism of STT. Another philosopher, José Ortega y Gasset, also considers specialized translation and, in this case, particularly scientific translation to be easier or more straightforward than literary translation. According to Ortega y Gasset (1937/2000:50-51), authors of scientific texts translate

their thoughts into a pseudolanguage of technical terms, i.e. a terminology, which guarantees a language-independent, almost universal scientific discourse: [This terminology] is a Volapuk, an Esperanto established by a deliberate convention between those who cultivate that discipline. That is why [scientific] books are easier to translate from one language to another. Actually, in every country these are written almost entirely in the same language. (ibid.:51) Although Ortega y Gasset seems to entertain a rather idealized notion of terminology and the power of cross-linguistic standardization here (see especially the discussion in 5.2.1 on conceptual variation in science and technology), he certainly has a point in that scientific discourse indeed seems to be based on tightly prestructured frames of reference and – due to the international character of science and technology (Jumpelt 1961:45) – may be subject to less language and culture-specific influences than other forms of discourse. Whether this should lead us to conclude that scientific and technical texts are in any way easier to translate than, for example, literary or general language texts is another question that will be discussed in the next section. What seems clear, however, is that the views held by these prominent thinkers are to some extent exemplary for the general attitude towards specialized (and often also scientific and technical) translation and it should therefore not come as a surprise that this field “remains relatively uncharted territory within the discipline [of translation studies] and is deemed a less prestigious test case for translation models” (Salama-Carr 2009:43). Over the past few years, the situation has changed slightly and STT has become more visible in translation studies, for example in the form of a proper entry in the second edition of the Routledge Encyclopedia of Translation Studies (Olohan 2009) or in the form of a Special Issue “Science in Translation” of *The Translator* (Olohan/Salama-Carr 2011). But as Salama-Carr (2013:20) points out, it seems that this field of translation “is still to acquire its lettres de noblesse and to be given its share in anthologies of translation studies”

Завдання та питання для самоконтролю:

1. What is the issues of terminology?
2. What is historical and current significance of scientific and technical translation?
3. What is the status of scientific and technical translation in translation studies ?

Завдання для СРС:

1. Prepare a report “Scientific and technical translation”.

ПРАКТИЧНЕ ЗАНЯТТЯ №7

Тема заняття: Distinctive features of scientific and technical translation.

Цілі заняття: the subject-matter knowledge in scientific and technical translation.

Головна проблема заняття: specialized texts for translation.

Обладнання: ІСТ.

План заняття

1. The role of subject-matter knowledge in scientific and technical translation.
2. Stability of meaning in scientific and technical translation.
3. Invariance of meaning in scientific and technical translation.
4. Communicative function of scientific and technical translation.
5. The relevance of linguistic to scientific and technical translation.
6. Scientific and technical translation as a prototype category.
 - 6.1. A three-dimensional qualification of scientific and technical texts.
 - 6.2. Scientific and technical translation and linguistic under determinacy.
7. Summary.

Література: 1, 2, 5, 8, 16, 18, 20,25, 26, 27.

1. The role of subject-matter knowledge in scientific and technical translation.

A good reference point for the discussion of distinctive features of scientific and technical translation is the “stratificational” model proposed by Snell-Hornby (e.g. 2 1994:17; 2 1995:32), in which the author attempts to provide an integrated account of the traditional areas of translation (literary translation, general language translation and special language translation) based on a prototypical approach. The model is quite ambitious and, as such, naturally not without its shortcomings but it convincingly illustrates some general distinctive features of STT and its relation to other fields of translation. The model adopts a top-down approach, starting from a macroscopic perspective on the previously mentioned three traditional areas of translation (level A in the model) and then moving down to the microscopic level via a prototypology of basic translationally relevant genres (level B), the non-linguistic disciplines linked to the various areas of translation and text types (level C), essential aspects of the translation process itself (level D) 4 At level D, (i) refers to the source text, (ii) indicates the relevant quality criteria for translation and (iii) focuses on the function of the translation from a recipient perspective.), the translationally relevant areas of linguistics (level E) and, finally, the relevant phonological aspects of translation (level F). 16 Figure 1: Snell-Hornby’s stratificational model of translation studies⁵ In the following sections, we will consider in more detail the relevant levels and sub-levels of this model

Starting from the top of this model, STT is considered as a specific form of special language translation or specialized translation (this is in line with the distinction between STT and specialized translation made above). At the level of non-linguistic disciplines with relevance to translation (level C), we find the first distinctive feature of STT, namely that it relies on the study of special subjects underlying the various texts to translate. This has important consequences for the translator and the translation process. For example, Rickheit/Strohner (1993:214-215) point out from a cognitive perspective that readers or hearers of narrative texts, compared to those of expository texts (e.g. scientific and technical texts), generally possess more world knowledge which they can bring to bear in text understanding. Narrative texts usually refer to situations, actional contexts and actions that are more or less well-known by the text recipients, the new elements being primarily the relations between the events described in the text. Expository texts, on the other hand, usually do not only refer to new relations between individual events but to new events altogether (for example in the form of new scientific findings in cutting-edge research). Also, Jahr (2009:82) points out that scientific and technical knowledge is quite strongly organized in a vertical hierarchy that often encompasses more and much deeper reaching levels than in other disciplines. In order to understand a highly specialized scientific/ technical text, readers normally have to acquire first the basic knowledge at the top of such a hierarchy (since the more specific topic they want to understand is related to this basic knowledge in systematic ways) and then work their way downwards to increasingly more specific levels of knowledge. On the other hand, in literary and general language translation, the knowledge required to understand a given text is normally structured more horizontally and can thus be more readily associated with our general knowledge of the world (see Rickheit/Strohner's claim above). For STT, however, the vertical organization of scientific and technical knowledge translates into the widely accepted but still not trivial fact that translators cannot just rely on their general world knowledge but often need to acquire a considerable amount of subject-matter knowledge if they are to produce high quality translations. As Faber/Ureña GómezMoreno (2012:83) put it, “[o]nly a fragment of the conceptual system is mentioned in the text, but the translator must rebuild an important part, if not all, in order to obtain a comprehension of the content [to be conveyed]”. Due to the vertical organization of such conceptual systems in science/technology, STT generally seems to exhibit a greater “conceptual distance” between the translator and the text than literary or general language translation.

2.Stability of meaning in scientific and technical translation.

Level D, focusing on the translation process, illustrates some further interesting differences between STT and other areas of translation. Under point (i), which focuses on the understanding of the source text, Snell-Hornby notes an increasingly narrow scope of hermeneutic interpretation from literary to scientific and technical translation. This observation corresponds to the naively evident fact that scientific and technical texts refer to well-defined concepts or objects or to an already prestructured part of reality in which the relations holding between the objects or concepts govern the relations within the text (see Jahr 1996:56). In much the same context, Nussbaumer (1991:168) speaks of an *ordo naturalis* underlying scientific and technical texts and argues that the authors of such texts can therefore delegate the responsibility for the coherence of the text, at least in part, to this prestructured reality. Also, Hoffmann (1988:558) claims that the communicative intention of the author is subordinate to the inner logic of the subject matter of the text and that, therefore, the organization of this subject matter is reflected in the organization of the text. The notion of a prestructured reality that could serve as a fully stable frame of reference in scientific and technical texts will be scrutinized from a philosophical point of view in the next chapter and will be discussed in the context of STT in chapter 5. For the present discussion, I take it to be pre-theoretically evident that the frames of reference in scientific and technical discourse are much more tightly structured than in other forms of discourse and that this structure, regardless (for now) of its ontological and epistemological status, influences and delimits to a considerable extent the scope of interpretation and consequently the scope of action of authors and translators of scientific and technical texts. This narrow scope of interpretation can be linked to the high stability of (monolingual) meaning that is generally attributed to STT. On the other hand, specifically in literary translation and to a lesser extent in general language translation, the conceptual systems underlying a text are often of an *ad hoc* nature (for example in fictional novels) and therefore less stable, bearing the idiosyncratic imprint of the author. Also, as a specific rhetorical means, such texts may exhibit instances of “intentional polysemy” (see Prunč 2007:128), whereas such polysemy is an unwanted phenomenon in scientific and technical discourse and STT, both of which strive for clarity, efficiency, formalization, standardization, non-contradiction, completeness, objectivity and non-redundancy (Beier 1980:83).

2.4.3 Invariance of meaning in scientific and technical translation

Since there is often no tightly structured *ordo naturalis* to which literary or (to a lesser extent) general language texts refer, the admissible scope of interpretation will sometimes be much wider than that in STT.

3. Invariance of meaning in scientific and technical translation.

This leads to point (ii) of this level, which is concerned with various quality criteria for translation. Snell-Hornby claims in this context that equivalence criteria can only be posited “for certain types of special language translation” and that “the notion of invariance can only apply in cases of conceptual identity” (2 1995:34).^{7 6} Of course, this is an idealized conception of scientific and technical discourse and translation that may not exist in reality in this pure form (see, for example, Salama-Carr (2013) on the notions of norms and power in the context of scientific and technical discourse/translation). However, it cannot be denied that there are converging efforts to these ends (by the various scientific communities) and that scientific and technical discourse exhibits these features to a much higher degree than other forms of discourse. The complex ⁷ Snell-Hornby’s model is somewhat misleading here. Conceptual identity is situated at level D (i), which is exclusively concerned with the source text. However, conceptual identity refers to a bipolar relation between 19 concepts of equivalence and invariance will be discussed, in more detail, in the context of theoretical approaches to STT in 2.5. Since the ideas of invariance and conceptual identity are linked with some profound epistemological issues, such as the nature of concept formation and the influence of linguistic systems on human conceptual systems, they will be taken up again in the cognitive linguistic discussion of scientific and technical translation in chapter 5. By then, we will have laid out the philosophical and linguistic basis of this thesis (chapters 3 and 4) and can tackle these issues in a more informed way. What I want to focus on at this point, again at a rather pre-theoretical level, is the consequences for STT that arise from the assumption of tightly structured conceptual systems underlying scientific and technical texts, as already discussed in the previous section. These consequences are already hinted at in Snell-Hornby’s notions of invariance and conceptual identity. It was claimed that scientific and technical discourse offers only a very narrow scope of interpretation, which can be equated with a high stability of meaning in this form of discourse. Assuming that the relevant conceptual systems in source and target languages are to a large extent congruent (see Scarpa 2002:146; Brekke 2004:620) ⁸, invariance of meaning is generally deemed to be achievable in STT. Accordingly, STT is considered to be governed by “absolute priority of information content over form and the accuracy of its transmission” (Jumpelt 1961:VII). Regarding the actual translation process, the primary requirement is generally considered to be invariance at the denotational/ content level (Schreiber 1993:72; Fluck ⁵ 1996:136; Brekke 2004:634), at the level of textexternal reference⁹ source text and target text and would just have to be situated at level D (ii) dealing with translation quality criteria. (Horn-Helf 1999:250-251) or at the level of (intended) sense (KreinKühle 2013:5). Jumpelt (1961:186) points out that the strictness of these requirements for ⁸ This does not mean

that we should expect full identity of such conceptual systems in SL and TL. Schmitt (2 1994:256-259), for example, points out the differences in English and German steel classifications, with differences also pertaining between seemingly identical terms such as carbon steel and Kohlenstoffstahl. In her contrastive analysis of English and German coal gasification systems, Krein-Kühle (1995) also uncovers various differences between the SL and TL conceptual systems. Besides cases of full conceptual identity or equivalence, we should therefore also expect to find many cases of what General Terminology Theory calls “partial overlapping” of terms (Arntz et al. 6 2009:153). The issue of conceptual asymmetry in STT will be discussed in more detail in chapter 5. 9 Horn-Helf (1999:109-110) ranks the level of text external reference higher than the denotational level since, according to her, scientific and technical texts are often defective (see also Krein-Kühle 2003:23). Striving for denotational invariance in these cases would entail the transfer of these defects to the target text. 20 scientific and technical translation clearly differentiates it from other areas of translation and warrants its independent and large-scale investigation

4.Communicative function of scientific and technical translation.

At level D (iii), which is concerned with the communicative function of translation, SnellHornby unsurprisingly claims that the prototypical function of scientific and technical translation is the informative one. In the context of the classification of scientific and technical texts in 2.7, I will discuss Göpferich’s (1995) finer subclassification of this informative function of scientific and technical discourse. What I want to point out here is that the informative function (in its different manifestations) is so closely linked to scientific and technical discourse that the variance of this skopos seems to be a very peripheral phenomenon in STT, where functional invariance seems to be the norm. If this is the case, we may have a reason for bringing the often-chided concept of equivalence back into the picture, which, in functionalist theories of translation, is understood as “adequacy to a Skopos that requires that the target text serve the same communicative function or functions as the source text, thus preserving ‘invariance of function between source and target text‘ [...]” . This may also allow us to again factor in, to a higher degree, the retrospective ST-TT relation of the translational “‘double-binding’ relationship”, which, in recent teleological accounts of translation, has often been neglected in favour of an almost exclusively prospective perspective on the function of the translation in the target-language culture. The line of reasoning for bringing the ST-TT relation back into focus in STT is as follows: (a) if a scientific/technical source text refers to a tightly structured frame of reference, allows only a narrow scope of interpretation and thus exhibits a high stability at the level of textual meaning and, (b), if we assume that the respective

conceptual systems in the source and target language cultures are largely congruent (thus allowing, at least in principle, invariance of meaning in translation) and finally, (c), if we further assume that invariance of function (i.e. to inform, in the target text, about the same subject matter as presented in the source text) is the prototypical case in STT, then the source text becomes very much alive again as an important factor. After all, it is the information presented in and the frame of reference underlying this text that will, to a considerable extent, guide the translator's composition of the target text.¹⁰ However, see the discussion of socioculturally induced shifts of meaning in STT in 2.6. I am not referring here to the linguistic make-up of the ST – which may have to be considerably reshaped if the TT is to function as a high quality translation – but rather to its content, i.e. its reference to a tightly (and interlingually more or less congruently) structured conceptual configuration. This case for keeping the equivalence concept and the ST-TT relation in the picture should neither be interpreted as an attempt to “re-entrance” the source text, nor as an ideologically-guided “re-turn” toward the normative equivalence paradigm of the 1980s, in which the various linguistic levels of the source text seemed to determine quite strictly what a proper translation had to look like. Rather, it is fuelled by practical reflections on the relevant factors of STT, among which are the content of the source text and the effort to render this content as accurately as possible in the target language.

5.The relevance of linguistic to scientific and technical translation

The last level in Snell-Hornby's model to be commented on here is level E, referring to translationally relevant areas of linguistics. I think it is of general importance to highlight the very fact that different areas of translation and translation studies can still profit from sound linguistic frameworks; an idea that, in the wake of Bassnett and Lefevere's criticism of linguistic approaches to translation from a cultural studies perspective, has become less and less popular in the discipline. However, as Saldanha rightly points out: [...] much of that criticism assumes a view of linguistics that has long ceased to be representative of current trends in the field and, in particular, of the linguistic theories that have informed the great majority of the discussions of translation at least since the late 1980s and 1990s [...]. While acknowledging that different areas of linguistics can provide valuable input to various areas of translation, it is not clear from Snell-Hornby's model whether she only considers text linguistics and work on terminology and languages for special purposes relevant to special language translation since, apart from text linguistics, the arrows for the other areas of linguistics do not extend to this area of translation in her figure. Also, the comments Snell-Hornby makes on her model in various publications do not give any further indication as to which areas of linguistics she actually considers relevant to scientific and technical translation. If she intended to restrict the areas of linguistics relevant to

specialized translation to text linguistics, LSP and terminology, this would of course run counter to the approach adopted in the present thesis. After all, it is one of the central aims of this thesis to show the considerable potential that the framework of cognitive linguistics offers, at a macroscopic level, for the general field of scientific and technical translation and, at a more microscopic level, for the investigation of linguistic phenomena such as explicitation and implicitation in STT. This call for a linguistic framework is of course not intended to mean that linguistics can provide an exhaustive explanatory tool for all aspects of translation. Functionalism, the theory of translational action and the cultural, social and cognitive turns in translation studies have demonstrated the multilayered nature of translation (which is by no means restricted to the relation between ST and TT) and the multiple perspectives from which it can be studied. At the same time, however, it cannot be ignored that a major part of translation does indeed involve an operation on language and that many interesting translational phenomena (explicitation and implicitation among them) exhibit a linguistic dimension. To make sound statements about these important but by no means exclusive aspects of translation, a grounding in an equally sound linguistic framework is desirable.

6. Scientific and technical translation as a prototype category.

6.1. A three-dimensional qualification of scientific and technical texts.

The classification is intended to provide structure to the field of STT to be investigated in this study and to yield various points of contact with cognitive linguistics and explicitation/implicitation as the other two important areas of investigation of the thesis. As a specific form of human interaction, scientific and technical discourse is an inherently multifaceted and multidimensional field that lends itself to classification from various perspectives. In the systemic linguistic phase of early LSP research, for example, we find the well-known horizontal classification of languages for special purposes according to the underlying domains or subject matters, yielding categories such as the language of science/academia, the language of technology and the language of institutions. Vertical classifications, on the other hand, differentiate between different levels of abstraction within a single domain/subject matter, as for example in Hoffmann's typology of language of theoretical science, language of experimental science, language of applied science and technology, language of production and language of consumption. Recent classifications focus more on the use-related character of LSP texts and propose various LSP genres, such as monographs, scientific articles, textbooks, or popularizing newspaper articles. In a more multidimensional approach which bears some resemblance to the classification proposed below, Vargas develops a pragmatic text

typology which is structured along a situational dimension – based on the Hallidayan register model – and along a functional/genre-oriented dimension, based on Göpferich’s pragmatic classification of LSP texts in science and technology.

6.2. Scientific and technical translation and linguistic underdeterminacy.

To focus on an aspect which has already been highlighted in the introductory chapter of this thesis and which demonstrates considerable relevance to both scientific and technical translation in general and to the various epistemic aims of the present thesis. This aspect goes by the name of linguistic underdeterminacy and is the theoretical label for the trivial but nevertheless important fact that, in human communication, we generally understand more than the actual words uttered or written. Put another way, we need to bring additional knowledge to underdetermined or impoverished linguistic structures if we want to give them a coherent interpretation. As Carston rightly points out, the idea of linguistic underdeterminacy is widely accepted and not seriously disputed by anyone but perhaps the “most rabid ‘language is all’ social semiotician[s]”. A metaphor which is often applied in this context is the iceberg metaphor according to which textual surface structures are only the tip of the iceberg in meaning construction, the larger part of this iceberg being hidden under the surface. A second popular metaphor is the rhetorical figure of synecdoche in its pars pro toto version, expressing the fact that the textual surface structures represents merely a part of a larger whole, this whole being the actual sense or meaning of the text. For the time being, the notion of linguistic underdeterminacy will be discussed from a general and not from a specific theoretical perspective and the focus will be on some of its consequences for STT. As a recurring theme of the thesis, the concept will then be taken up again in the context of cognitive linguistics and explicitation and implicitation, thereby being continuously theoretically enriched. At the most general level, linguistic underdeterminacy entails that translators of scientific and technical discourse need to acquire a reasonable amount of – strongly vertically organized – domain knowledge in order to arrive at a coherent interpretation of the source text based on which they create a target text. The issue at stake is described very clearly in this quote from Faber Benítez, in which we encounter one of the metaphors illustrated previously:

The information in scientific and technical texts is encoded in terms or specialized knowledge units, which can be regarded as access points to more complex knowledge structures. As such, they only mark the tip of the iceberg. Beneath the waters stretch the tentacles of a many-splendored conceptual domain, which represents the implicit knowledge underlying the information in the text. The notion of linguistic underdeterminacy can be incorporated in a straightforward way into the classification of scientific and technical texts proposed above.

Symmetrical communicative situations in expert-to-expert discourse will probably be characterized by a very high degree of linguistic underdeterminacy (for example in the form of ellipses or lexical or syntactic compression) since the discourse participants share a large amount of relevant knowledge that does not have to be explicitly verbalized in communication, thus underlying the information in the text in implicit form. This follows from Grice's cooperative principle and especially from his maxim of relation, according to which one should not make one's contribution more informative than required. In other words, then, the hidden part of the communicative iceberg tends to be quite large in expert-to-expert communication. On the other hand, in expert-to-semi-expert and expert-layperson discourse, the degree of linguistic underdeterminacy and hence the invisible part of the iceberg generally decreases since there is a decreasing amount of relevant shared knowledge between the discourse participants and, accordingly, more and more information has to be linguistically encoded to ensure the understanding of the text.

7.Summary.

After clarifying some issues of terminology and tracing the historical and current significance of scientific and technical translation, the relatively low status of STT in translation studies was illustrated. Based on Snell-Hornby's stratificational model, we then discussed various distinctive features of STT, such as its strong dependence on subjectmatter knowledge, the relevance of notions such as stability and invariance of meaning and the primary communicative function of STT. In this context, we also elaborated on the general relevance of linguistic frameworks to the field of STT. Then, the position of STT between the two poles of source and target text orientation was discussed prior to sketching a prototypical account of STT which attempts to combine the best features of both source and target-text oriented approaches and provides the flexibility to emphasize various dimensions of STT according to specific epistemic aims. To provide more structure to the field of STT to be discussed and analyzed in this thesis, a classification of scientific and technical texts was proposed along the three dimensions of text function, subject-matter competence and degree of technicality. In the following chapters, this classification will serve as a central reference point for the discussion of knowledge requirements and communicative configurations in STT. The chapter concluded with a discussion of STT and linguistic underdeterminacy. It was shown that the underdeterminacy concept could be linked to the classification proposed previously and that the degree of linguistic underdeterminacy may correlate with the degree of technicality and the communicative configuration underlying a text. The next chapter will move to a higher level of abstraction and

discuss a philosophical grounding for scientific and technical translation and cognitive linguistics, at the same time providing a bridge between the two fields.

Завдання та питання для самоконтролю:

1. What is the role of subject-matter knowledge in scientific and technical translation?
2. What is stability of meaning in scientific and technical translation?
3. What is invariance of meaning in scientific and technical translation?
4. What is communicative function of scientific and technical translation?
5. What is the relevance of linguistic to scientific and technical translation?
6. What is scientific and technical translation as a prototype category?
7. What is a three-dimensional qualification of scientific and technical texts?
8. What is scientific and technical translation and linguistic under determinacy?

Завдання для СРС:

1. Prepare a report "Distinctive features of scientific and technical translation".

Методичні вказівки до організації та проведення СРС

Самостійна робота студента згідно «Положення про організацію освітнього процесу в МДУ» є основним засобом оволодіння навчальним матеріалом у час, вільний від обов'язкових навчальних занять. Методичні матеріали для самостійної роботи студентів передбачають можливість проведення самоконтролю з боку студента. Для самостійної роботи студенту також рекомендується відповідна наукова та фахова література. Самостійна робота студента над засвоєнням навчального матеріалу з дисципліни може виконуватися у читальному залі бібліотеки Університету, навчальних лабораторіях, комп'ютерних класах, а також в домашніх умовах. Навчальний матеріал навчальної дисципліни, передбачений робочою програмою для засвоєння студентом в процесі самостійної роботи, вноситься на підсумковий контроль поряд з навчальним матеріалом, який опрацьовувався при проведенні навчальних занять.

Форми контролю: опрацювання лекційного матеріалу, нових літературних джерел з метою поглиблення розглянутих проблем, закріплення та поглиблення одержаних на лекціях знань; переказ лекційного матеріалу експрес-контроль тестування, заслуховування повідомлень студента з довідковою інформацією .

Тема 1. Professional ethics, etiquette, and protocol.

- A video-presentation.
- A report.
- A test.

Тема 2. Code of professional conduct.

- A video-interview.
- A presentation.
- An article.
- A test.

Тема 3. Protocol ceremonies.

1.Negotiations and signing a contract.

2.Reception and presentation.

- A presentation.
- A video-project.
- A summary.
- A video-interview.
- A test.

Tema 4. Ukrainian-English Transliteration Chart.

- A presentation.
- A video-interview.
- A test.

Приклади тестів для самостійної роботи

<p>1. Choose the correct Ukrainian equivalent of the following: <i>legislation</i>.</p> <p>A) Юристи</p> <p>B) Адвокатура</p> <p>C) Законні права</p> <p>D) Законодавство</p>	<p>19. Choose the correct English equivalent of the following: Асоціація держав Тихоокеанського регіону.</p> <p>A) Association of Pacific Region Nations</p> <p>B) Association of Pacific Region States</p> <p>C) Association of Pacific Nations</p> <p>D) Pacific States Association</p>
<p>2. Choose the correct Ukrainian equivalent of the following: <i>Integrated Military Structure</i>.</p> <p>A) обов'язкова військова служба</p> <p>B) єдиний військовий обов'язок</p> <p>C) об'єднана військова структура</p> <p>D) об'єднане командування військових сил</p>	<p>20. Choose the correct English equivalent of the following: <i>наслідки минулого</i>.</p> <p>A) The past</p> <p>B) Legalization of the past</p> <p>C) Legacy of the past</p> <p>D) Relic of the past</p>
<p>3. Choose the correct English equivalent of the following: <i>матеріально-технічне забезпечення</i>.</p> <p>A) Storage</p> <p>B) Supplies</p>	<p>21. Choose the correct English equivalent of the following: <i>обумовлювати</i>.</p> <p>A) To share</p> <p>B) To follow suit</p> <p>C) To institutionalise</p>

<p>C) Logistics</p> <p>D) Deposit</p>	<p>D) To stipulate</p>
<p>4. Complete the following sentence: <i>These changes will help to ... by 30% next year.</i></p> <p>A) Trigger</p> <p>B) Forecast</p> <p>C) Boost</p> <p>D) Deliver</p>	<p>22. Choose the correct English equivalent of the following: накопичувати.</p> <p>A) To pile up</p> <p>B) To pile out</p> <p>C) To pile over</p> <p>D) To pile off</p>
<p>5. Choose the correct English equivalent of the following: ракети дії середнього радіусу.</p> <p>A) Intermediate-ranged installations</p> <p>B) Middle-range installations</p> <p>C) Middle-range boosters</p> <p>D) Medium-range missiles</p>	<p>23. Choose the correct English equivalent of the following: зрічення.</p> <p>A) Accession</p> <p>B) Surrender</p> <p>C) Pledge</p> <p>D) Renunciation</p>
<p>6. Choose the correct Ukrainian equivalent of the following: <i>to deny smth.</i></p> <p>A) визнавати щось</p> <p>B) заперечувати щось</p> <p>C) протистояти чомусь</p>	<p>24. Choose the correct English equivalent of the following: той що має законну силу.</p> <p>A) Formal</p> <p>B) Provisional</p> <p>C) Authentic</p>

D) приймати щось	D) Legislative
<p>7. Complete the following sentence: <i>He was elected Club President by a ... decision; nobody was surprised by this unanimity.</i></p> <p>A) Gelding</p> <p>B) Vital</p> <p>C) Cautious</p> <p>D) Unanimous</p>	<p>25. Choose the correct Ukrainian equivalent of the following: <i>to renounce.</i></p> <p>A) відмовлятися, відрікатися</p> <p>B) здатися</p> <p>C) обумовлювати, передбачати</p> <p>D) передавати, поступатися (територію і т.д.)</p>
<p>8. Choose the correct Ukrainian equivalent of the following: <i>offence.</i></p> <p>A) пошкодження чогось</p> <p>B) порушення чогось</p> <p>C) погроза</p> <p>D) звинувачення</p>	<p>26. Choose the correct Ukrainian equivalent of the following: <i>justification.</i></p> <p>A) Виправдання</p> <p>B) Зізнання</p> <p>C) Юрисдикція</p> <p>D) Судова інстанція</p>
<p>9. Complete the following sentence: <i>Who do you think will be his main... in the presidential election?</i></p> <p>A) Comer-stone</p> <p>B) Leader</p> <p>C) Rival</p>	<p>27. Choose the correct English equivalent of the following: здійснювати нагляд на чимось.</p> <p>A) To oversee over smth</p> <p>B) To oversee smth</p> <p>C) To oversee at smth</p>

D) Unanimity	D) To oversee on smth
<p>10. Choose the correct Ukrainian equivalent of the following: <i>to reinforce</i>.</p> <p>A) розпастися</p> <p>B) підсилити</p> <p>C) тримати в заручниках</p> <p>D) нападати</p>	<p>28. Complete the following sentence: <i>You must... great caution when operating the machine.</i></p> <p>A) Conduct</p> <p>B) Perfect</p> <p>C) Count</p> <p>D) Exercise</p>
<p>11. Complete the following sentence: <i>To murder a ruler, a politician, or other important person is to ...</i></p> <p>A) To reinforce</p> <p>B) To offend</p> <p>C) To assassinate</p> <p>D) To kidnap</p>	<p>29. Choose the correct Ukrainian equivalent of the following: <i>to imply</i>.</p> <p>A) поступатися</p> <p>B) обумовлювати, передбачати</p> <p>C) мати на увазі, означати</p> <p>D) вдохновляти, одухотворювати</p>
<p>12. Choose the correct English equivalent of the following: <i>поводження з кимось</i>.</p> <p>A) Treatment on smb</p> <p>B) Treatment for smb</p> <p>C) Treatment to smth</p>	<p>30. Complete the following sentence: <i>He confidently ... a big increase in prices, and he turned out to be</i></p> <p>A) Forecast</p> <p>B) Restore</p>

<p>D) Treatment of smb</p>	<p>C) Boost</p> <p>D) Tolerate</p>
<p>13. Choose the correct English equivalent of the following: передавати, поступатись (територію, права і т.д.).</p> <p>A) To cede</p> <p>B) To surrender</p> <p>C) To affirm</p> <p>D) To accede</p>	<p>31. Choose the correct English equivalent of the following: Вступити в союз.</p> <p>A) To join in an alliance</p> <p>B) To join in a union</p> <p>C) To join an alliance</p> <p>D) To participate to a union</p>
<p>14. Choose the correct Ukrainian equivalent of the following: to deter.</p> <p>A) підсилювати</p> <p>B) налякати</p> <p>C) утримати</p> <p>D) повідомити</p>	<p>32. Choose the correct English equivalent of the following: розташовувати війська на чийсь території.</p> <p>A) To isolate forces at smb's territory</p> <p>B) To station military forces to smb's territory</p> <p>C) To put military service on smb's territory</p> <p>D) To station forces on smb's territory</p>
<p>15. Choose the correct English equivalent of the following: кінцевий термін.</p> <p>A) Last period</p> <p>B) Deadline</p>	<p>33. Choose the correct English equivalent of the following: Договір про скорочення звичайних військових сил та озброєння в Європі.</p> <p>A) The Conventional Arms Reduction in</p>

<p>C) Final</p> <p>D) Deadlock</p>	<p>Europe Treaty</p> <p>B) The Conventional Forces in Europe Treaty</p> <p>C) The European Conventional Arms Reduction Treaty</p> <p>D) The Conventional Forces Reduction in Europe Treaty</p>
<p>16. Choose the correct English equivalent of the following: <i>штраф</i>.</p> <p>A) Fine</p> <p>B) Penny</p> <p>C) Recruitment</p> <p>D) Punishment</p>	<p>34. Choose the correct English equivalent of the following: <i>взбухова хвиля</i>.</p> <p>A) Explosion</p> <p>B) Blast wave</p> <p>C) Blast</p> <p>D) Explosive wave</p>
<p>17. Complete the following sentence: <i>The army was called to... law and order.</i></p> <p>A) Boost</p> <p>B) Restore</p> <p>C) Isolate</p> <p>D) Tolerate</p>	<p>35. Choose the correct Ukrainian equivalent of the following: <i>The Western European Union</i>.</p> <p>A) Союз Західної Європи</p> <p>B) Західноєвропейський союз</p> <p>C) Об'єднання країн Східної Європи</p> <p>D) Східноєвропейський Союз</p>
<p>18. Choose the correct English equivalent of the following: <i>Договір про</i></p>	<p>36. Choose the correct English equivalent of the following: <i>підсилити</i>.</p>

<p>скорочення стратегічного озброєння для нападу.</p> <p>A) Strategic Arms Reduction Treaty</p> <p>B) The Treaty for Reducing Strategic Forces</p> <p>C) Strategic Forces Reduction Treaty</p> <p>D) Strategic Armed Forces Reducing Treaty</p>	<p>A) To affirm</p> <p>B) To notify</p> <p>C) To undertake</p> <p>D) To enhance</p>
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Перелік питань, що виносяться на поточний та підсумковий контроль

1. Nature of the styles in English language.
2. Classification of functional styles.
3. Nature of scientific and technical style.
4. General features of scientific and technical style.
5. Scientific and technical terminology.
6. Nature of the language of official documents.
7. Style of official documents and its features.
8. Legal terminology.
9. Translating scientific and technical texts.
10. Contemporary translation theories.
11. Basic principles of translating.
12. Types of translation.
13. Equivalence in translation and its typologies.
14. How to translate scientific and technical texts.
15. Aspects of scientific and technical translation.
16. Machine translation of scientific and technical texts.
17. Explication and implication as areas of inquiry of translation studies.
18. Theoretical and empirical imbalance between explication and implication.
19. Explication and translational universality.
20. Major strands in research on explication.
21. Examining the explication concept.
22. Conceptual issues.
23. S-explication vs. T-explication.
24. Distinction between explication and adjacent concept.
25. Explication vs. expansion.
26. Explication vs. addition.
27. The expansion-explication-addition continuum.
28. Examining the implication concept.
29. Distinction between implication and adjacent concepts.
30. Implication vs. reduction.
31. Implication vs. omission.
32. The reduction-implication-omission continuum.

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