

ТЕРНОПІЛЬСЬКИЙ НАЦІОНАЛЬНИЙ ТЕХНІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ ІВАНА ПУЛЮЯ

МЕТОДИ ДОСЛІДЖЕННЯ В СУЧАСНІЙ ЛІНГВІСТИЦІ І
ПЕРЕКЛАДОЗНАВСТВІ



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Методи дослідження в сучасній лінгвістиці і перекладознавстві : методичні вказівки для студентів факультету іноземних мов освітньої програми “Англійсько-український переклад” / уклад. : І. Р. Плавуцька, Н. І. Пасічник, А. В. Косенко, І. В. Беженар, Г. І. Шайнер, Г.С. Кузан. Тернопіль : ТНТУ ім. І. Пулюя, 2024. 122 с.

Видання містить теми лекцій та практичних занять з курсу “Методи дослідження в сучасній лінгвістиці і перекладознавстві”, ключові терміни та поняття, питання для самоконтролю, перелік тем індивідуальних завдань, вибрані тексти з класичної лінгвістики та перекладознавства, пам’ятка для написання дослідницької роботи з лінгвістики та перекладознавства та глосарій термінів. Методичні рекомендації призначені для аудиторної, індивідуальної та самостійної роботи студентів факультету іноземних мов освітньої програми “Англійсько-український переклад”, а також для студентів технічних спеціальностей.

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ПЕРЕДМОВА

Запропоноване видання призначене для студентів факультету іноземних мов освітньої програми “Англійсько-український переклад”, а також для студентів технічних спеціальностей, які вивчають комп’ютерні науки та інформаційні технології.

Головна мета видання полягає у розвитку і вдосконаленні дослідницьких навичок перекладача як основи майбутньої професійної діяльності. Після вивчення навчальної дисципліни студенти знатимуть та вмітимуть застосовувати під час написання випускної кваліфікаційної роботи методологію і методи дослідження актуальних напрямів сучасної лінгвістики та перекладознавства: семасіології, ономасіології, психолінгвістики та етнопсихолінгвістики, когнітології, функціональної лінгвістики, теорії тексту, комунікативної лінгвістики, соціолінгвістики.

До складу видання входить перелік тем лекційних, семінарських та індивідуальних завдань, запитання для самоконтролю, адаптовані тексти з класичної лінгвістики та перекладознавства, пам’ятка для написання дослідницької роботи з лінгвістики та перекладознавства, глосарій термінів, рекомендована література.

Підібраний текстовий матеріал є необхідною складовою процесу фахової підготовки майбутніх спеціалістів, який сприяє освоєнню термінологічної лексики та готовності до написання випускної кваліфікаційної роботи.

Глосарій термінів в кінці посібника полегшить самостійну роботу студентів із навчальним матеріалом.

ТЕМА 1. НАУКОВЕ ДОСЛІДЖЕННЯ ЯК СКЛАДОВА ОСВІТНЬОГО ПРОЦЕСУ. СТРУКТУРНІ МЕТОДИ ЛІНГВІСТИЧНОГО АНАЛІЗУ

Ключові терміни та поняття

- Метод опозицій
- Дистрибутивний метод
- Валентнісний аналіз
- Аналіз за безпосередніми складниками
- Трансформаційний аналіз

Теми лекційних занять

1. Основні структурні та якісні характеристики наукового дослідження.
2. Структурні методи лінгвістичного аналізу.
3. Вибір методу дослідження. Метод опозицій. Дистрибутивний метод. Валентнісний аналіз.
4. Аналіз за безпосередніми складниками. Трансформаційний аналіз.

Теми практичних занять

1. Роль наукового дослідження в сучасному освітньому процесі
2. Структуралізм як науковий напрям. Структурні методи лінгвістичного аналізу.
3. Метод опозицій. Дистрибутивний метод. Валентнісний аналіз. Аналіз за безпосередніми складниками. Трансформаційний аналіз.

Питання для самоконтролю

- *Яка роль структуралізму в сучасній лінгвістиці та перекладознавстві?*
- *Назвіть основні структурні методи лінгвістичного аналізу. Який із них є найбільш продуктивним у науковому дослідженні?*
- *Як вибір методу дослідження впливає на достовірність отриманих результатів?*
- *Наведіть приклади застосування методу опозицій, дистрибутивного методу, валентнісного аналізу, аналізу за безпосередніми складниками, трансформаційного аналізу.*

ТЕМА 2. ДІАХРОНІЧНІ І СИНХРОНІЧНІ АСПЕКТИ У МОВОЗНАВСТВІ ТА ПЕРЕКЛАДОЗНАВСТВІ

Ключові терміни та поняття

- Методи зіставного вивчення мов
- Порівняльно-історичний метод
- Зіставний метод

Теми практичних занять

1. Діахронія і синхронія в мовознавстві та перекладознавстві. Головні виклики.
2. Порівняльно-історичне мовознавство. Основні прийоми та представники.
3. Зіставний метод. Поняття синхронії у мовознавстві та перекладознавстві.

Питання для самоконтролю

- *Поясніть чому в порівняльно-історичному мовознавстві вивчаються не окремі мовні факти чи явища, а їхні системи: у фонології — система фонем, у морфології — системи граматичних форм, їхніх парадигм, у лексиці — означення взаємозв'язаних понять тощо.*
- *Яку роль відіграє реконструктуризація фактів на основі систем відповідностей між спорідненими мовами?*
- *Назвіть головних представників порівняльно-історичного мовознавства. У чому полягала мета їхніх наукових праць?*

- *Які перспективи розвитку методів зіставного та порівняльно-історичного вивчення мов?*
- *Використовуючи компаративний аналіз, здійсніть перекладацький аналіз фрагментів статті з розділу «ЗІ СКАРБНИЦІ СВІТОВОЇ ЛІНГВІСТИКИ ТА ПЕРЕКЛАДОЗНАВСТВА» (на вибір).*

ТЕМА 3. СЕМАНТИКА ЯК КЛЮЧОВИЙ НАПРЯМОК ЛІНГВІСТИЧНИЙ ТА ПЕРЕКЛАДОЗНАВЧИХ ДОСЛІДЖЕНЬ

Ключові терміни та поняття

- Методи семантичного аналізу
- Компонентний аналіз
- Семантико-синтаксичний аналіз
- Контекстуальний аналіз

Теми практичних занять

1. Семантика і семасіологія.
2. Сема як одиниця значення.
3. Семантика у програмуванні – виклики сьогодення.
4. Компонентний та контекстуальний аналіз у мовознавстві та перекладознавстві.
5. Особливості семантико-синтаксичного аналізу.

Питання для самоконтролю

- *Коли зародилася семантика?*
- *Назвіть видатних вітчизняних та іноземних семасіологів.*
- *Проаналізуйте основні рівні мовної структури. Яку роль у ній відіграє семантика?*
- *Що таке прагматика?*

- *Який зв'язок між прагматикою та синтаксисом?*
- *Проаналізуйте одну із праць В. Левицького. Напишіть тези на обрану тему та виокремте ключові слова.*

ТЕМА 4. МЕТОДОЛОГІЧНА ОСНОВА МОВОЗНАВЧИХ ДОСЛІДЖЕНЬ

Ключові терміни та поняття

- Метод
- Методологія
- Технологія лінгвістичного дослідження
- Етапи наукового дослідження
- Лінгвістика та її об'єкт
- Наукові парадигми в мовознавстві

Теми практичних занять

1. Філософсько-методологічне підґрунтя лінгвістичних досліджень.
2. Видантні українські вчені-мовознавці та їх роль на становлення та розвиток світової лінгвістики.
3. Загальні методологічні принципи сучасного мовознавства.

Питання для самоконтролю

- *У чому полягає різниця між поняттями метод і методика наукового дослідження?*
- *Назвіть основні напрями лінгвістики та провідних учених-лінгвістів.*
- *Які праці становлять філософсько-методологічне підґрунтя лінгвістичних досліджень.*
- *Виокремте загальні методологічні принципи сучасного мовознавства.*

ТЕМА 5. МЕТОДОЛОГІЧНА ОСНОВА ПЕРЕКЛАДОЗНАВЧИХ ДОСЛІДЖЕНЬ

Ключові терміни та поняття

- Перекладознавство
- Технологія перекладознавчого дослідження
- Етапи перекладознавчого дослідження
- Наукові парадигми в перекладознавстві

Теми практичних занять

1. Філософсько-методологічне підґрунтя перекладознавчих досліджень.
2. Загальні методологічні принципи сучасного перекладознавства.

Питання для самоконтролю

- *Яка технологія перекладознавчого дослідження?*
- *Назвіть основні напрями перекладознавства та провідних учених-перекладознавців.*
- *Яку можливість дає використання корпусів текстів?*
- *Які лінгвістичні та перекладознавчі завдання можна вирішувати за допомогою корпусів?*
- *Які перспективи сучасного перекладознавства?*
- *Оцініть роль штучного інтелекту у перекладознавчих розвідках.*

ТЕМИ ІНДИВІДУАЛЬНИХ ЗАВДАНЬ

Написати науково-дослідну роботу на одну з нижче запропонованих тем та скласти відповідний бібліографічний покажчик:

1. Oppositional analysis.
2. Distributional analysis.
3. Immediate constituents analysis.
4. Transformational analysis.
5. Comparative method.
6. Contrastive method.
7. Componential analysis.
8. Semantico-syntactic analysis.
9. Contextual analysis
10. Discourse analysis.
11. Conversation analysis.
12. Conceptual analysis.
13. Frame analysis.
14. Statistical methods.
15. Corpus-based approaches to linguistic analysis
16. Typical structure of a research paper in linguistics.
17. The structure of empirical investigation.
18. Stylistic, formatting and citation conventions in linguistics.
19. Use of examples. Illustrative material. References.
20. Types of academic works.
21. Electronic information resources
22. Finding appropriate academic material.
23. Evaluating academic material.
24. State intellectual property service of Ukraine.

ЗІ СКАРБНИЦІ СВІТОВОЇ ЛІНГВІСТИКИ ТА ПЕРЕКЛАДОЗНАВСТВА

LEONARD BLOOMFIELD «LINGUISTICS AND MATHEMATICS»¹

Marcus Tomalin

1. Introduction

Although Leonard Bloomfield (1887–1949) has long been recognised as one of the leading linguists of the first half of the 20th century, and, although in recent years various aspects of his work have been subjected to renewed scrutiny, there are still several strands of his research that remain largely unexplored. 1 In particular, Bloomfield’s knowledge of developments in specific branches of contemporaneous mathematics, and the consequences this had for his approach to linguistics, are issues that have never really been discussed in sufficient detail. For instance, although Bloomfield’s interest in the work of the Vienna Circle has been considered in the past, there has been no extensive attempt to elucidate the precise nature, and full extent, of his familiarity with symbolic logic, recursive function theory, and the technical machinery of Hilbertian Formalism. In addition, although it is known that Bloomfield produced at least one lengthy unpublished manuscript that was primarily concerned with the foundations of mathematics, the implications this research had for his more mainstream linguistics work have never been adequately considered. Accordingly, in this paper, a preliminary attempt is made to explore Bloomfield’s informed preoccupation with mathematics, and the focus falls upon three related themes. First, the sources of his mathematical knowledge are considered in an attempt to reveal the origins of his familiarity with these topics. Second, the basic outline of his proposal for a linguistics-based solution to the crisis in the foundations of mathematics is reconstructed from existing fragments, and the consequences of this work are assessed.

¹ URL: <http://hplinguistics.pbworks.com/f/Tomalin%20Bloomfield%20maths.pdf>

Finally, the influence of Formalism upon Bloomfield's linguistic research is considered, with particular reference to his complex attitude towards the status of form and meaning in linguistic theory. As will be demonstrated, apart from being of interest in its own right, a more complete appreciation of Bloomfield's mathematical work sheds new light on specific developments in syntactic theory in the 1940s and 1950s.

2. The Foundations Crisis

The story of the foundations crisis that shook mathematics to its core in the early 20th century has been told many times, and there is simply not space here to recount the whole narrative in exhaustive detail. Nevertheless, the main developments must be presented, even if in a cursory fashion, since familiarity with these topics cannot safely be assumed.

In essence, the foundations crisis was precipitated by the discovery of paradoxes. In the late 19th century, Georg Cantor (1845–1918) had developed a branch of mathematics that he referred to as *Mengenlehre*, but which, in the Anglo-American world, would eventually become known as 'set theory'. Although Cantor's work had its origins in his dissatisfaction with contemporaneous approaches to number theory, it was swiftly recognised that most areas of mathematics could be placed upon a set-theoretical foundation. Consequently, the perceived significance of set theory was due in part to the fact that it appeared to provide a unifying framework that would enable the various disparate branches of mathematics to be combined within a common settheoretical exposition. However, at the start of the 20th century, difficulties began to emerge, and the most enduring problems manifested themselves as set-theoretical paradoxes. The logician-philosopher Bertrand Russell (1872–1970) was perturbed by these paradoxes, or 'fallacies' as he called them, and, during the years 1903–1910, frequently working in conjunction with Alfred North Whitehead (1861–1947), he published a series of papers in which he attempted to eliminate the paradoxes of set theory by deriving the whole of mathematics from the parsimonious

axioms of logic — an approach that became known as Logicism. Although much of this work required Russell and Whitehead to synthesise the research of their predecessors and contemporaries — most notably Gottlob Frege (1848–1925) and Giuseppe Peano (1858–1932) — they also made several significant theoretical contributions themselves, and perhaps the most controversial of these was the ‘theory of logical types’. This theory constituted Russell and Whitehead’s response to the fact that the paradoxes of set theory invariably involved self-reference of one kind or another, hence the tendency to refer to them as ‘vicious-circle fallacies’. To take just one example of such a fallacy, Russell asked the seemingly innocuous question ‘is that set of all sets that are not members of themselves a member of itself or not?’, and noted that the answer to this query constituted a paradox since, if the answer was yes, then the answer was no (and vice versa). Accordingly, in an attempt to avoid the paradoxes, the theory of logical types was proposed in order to delimit the extent of permissible self-reference. As Whitehead and Russell later explained, an analysis of the paradoxes to be avoided shows that they all result from a certain kind of vicious circle. The vicious circles in question arise from supposing that a collection of objects may contain members which can only be defined by means of the collection as a whole [...]. The principle which enables us to avoid illegitimate totalities may be stated as follows: “whatever includes all of a collection must not be one of the collection”.

Although it involves an arbitrary and rather elaborate ‘principle’, this theory at least provided a practical way of avoiding paradoxes while developing set-theoretical concepts from the axioms of the logical system.

As indicated above, the basic intention motivating the Logicist movement was to eliminate the paradoxes of set theory by deriving the whole of mathematics from a small set of logical axioms, while prohibiting specific types of self-reference. Consequently, if the logical axioms themselves were valid, and if all theory of logical types, a number of criticisms of the theory emerged. For a general overview of the theory itself and the controversy surrounding it, see Copi.

The Formalism movement was associated primarily with David Hilbert (1862–1943). Hilbert had established his reputation as a leading mathematician in the late 19th century by publishing a series of brilliant papers on a wide range of topics including number theory, analysis, and algebra. Consequently, by the 1890s, he was widely recognised as one of the finest mathematicians of his generation and, as a result, Göttingen University, where he was based, became a place of mathematical pilgrimage. In the context of the foundations crisis, Hilbert’s earlier work is of considerable interest since he was motivated to develop Formalism partly by his dissatisfaction with existing presentations of the rudiments of geometry. A general mistrust concerning existing axiomatic-deductive geometrical systems (especially Euclid’s Elements) had enveloped the international mathematical community during the 19th century, prompted mainly by the proliferation of non-Euclidean geometries, a development that substantially undermined the role of spatial intuition as a means of validating geometrical arguments. By contrast with the classical Euclidean methodology, Hilbert was keen to remove all latent remnants of geometric intuition by exploiting the correspondence between geometry and arithmetic. He published a booklet to this effect in 1899, and, in this work, appropriately entitled *Grundlagen der Geometrie* (The Foundations of Geometry), Hilbert attempted to provide a viable axiomatic basis for geometry. In particular, he argued that geometric relations could be interpreted as arithmetic relations, in which case the validity of axiomatic-deductive geometrical systems could be guaranteed without the need for arguments based upon spatial-intuition, assuming (of course) that arithmetic itself was constructed upon a secure foundation. This kind of relativistic foundational approach was always destined to be unsatisfactory, since it only enabled one branch of mathematics (i.e., geometry) to be as secure as another branch of mathematics (i.e., arithmetic). Given this conspicuous and restrictive dependency, it was perhaps inevitable that Hilbert should begin to explore the axiomatic basis of number theory itself directly, and, accordingly, he set about this task in his 1900 paper “Über den Zahlbegriff” (‘Concerning the Concept of Number’). This research caused him to consider the difficulties associated with mathematical foundations in general, and he

was to focus primarily upon such issues for the rest of his working life. While it is known that Hilbert had been familiar with some of the problems associated with set theory since the late 1890s, it is significant that he seems to have been galvanised into action primarily by the paradoxes that had been collected and discussed by Russell in his *Principles of Mathematics* in 1903. In particular, although he agreed with Russell that the existing paradoxes undermined set theory (at least as it was currently formulated), Hilbert dismissed the assertion that they could be eliminated only by deriving mathematics from a small set of logical axioms. The Logician research programme was misguided, Hilbert maintained, primarily because logic utilises various mathematical concepts that are later to be derived from it, thus inducing a fatal circularity: Arithmetic is often considered to be part of logic, and the traditional fundamental logical notions are usually presupposed when it is a question of establishing a foundation for arithmetic. If we observe attentively, however, we realise that in the traditional exposition of the laws of logic certain fundamental arithmetic notions are already used, for example, the notion of set and, to some extent, also that of number. Thus we already find ourselves turning in a circle, and that is why a partly simultaneous development of the laws of logic and of arithmetic is required if paradoxes are to be avoided.

Hilbert's 1904 paper "Über die Grundlagen der Logik und der Arithmetik" ('Concerning the Foundations of Logic and Arithmetic'), from which this quotation is taken, is often regarded the earliest statement of his Formalist manifesto and, the paper certainly introduced several of the key ideas that were to dominate his mature foundational work.

Nevertheless, during the 1910s, Hilbert was enchanted by certain aspects of *Principia Mathematica*, and started to write more enthusiastically about logic as a result. In particular, he came to admire the powerful symbolic language that Whitehead and Russell had developed in order to facilitate their logical deductions. Despite his augmented appreciation, though, Hilbert continued to maintain that the Logician movement was flawed due to the aforementioned circularity inherent in the strategy it adopted, but, during this period, he felt compelled not only to demonstrate

the weaknesses of the renewed Logicist agenda, but also to invalidate the Intuitionist arguments that were being advanced by Luitzen Brouwer (1881–1966), and which were beginning to permeate the consciousness of the international mathematical community in the 1920s. Prompted, therefore, by these alternative foundational movements, Hilbert began to present, with greater clarity, his own proposal for salvaging classical mathematics from the paradoxes of set theory. As a result, in a series of publications that appeared during the years 1918–1934, and frequently aided by his assistant Paul Bernays (1888–1977), Hilbert developed his *Beweistheorie* (i.e., ‘proof theory’) which was intended explicitly to define his formalist position concerning the question of mathematical foundations. As Hilbert’s theory evolved over the years, many of the technical details altered, but the underlying principles remained fairly constant. Therefore, rather than attempting to provide a superficial overview of the complete life-cycle of the theory, one particular mature expression of it will be considered in some detail here in order to convey Hilbert’s main aims and strategies. The version of the theory discussed will be that presented in the 1927 paper “Die Grundlagen der Mathematik” (‘The Foundations of Mathematics’). The exposition Hilbert offered in this paper is comparatively lucid, and reveals many of the abiding concerns that were later to be distorted and exaggerated in countless more extreme accounts. Consequently, in order to recognise this distinction, throughout this paper, the adjective ‘Hilbertian’ will be used at times in order to distinguish Hilbert’s formalism from all other kinds.

“Die Grundlagen der Mathematik” begins with a clear statement of intent that effectively constitutes a non-technical overview of the method developed in the whole paper: [...] I should like to eliminate once and for all the questions regarding the foundations of mathematics, in the form in which they are now posed, by turning every mathematical proposition into a formula that can be concretely exhibited and strictly derived, thus recasting mathematical definitions and inferences in such a way that they are unshakeable and yet provide an adequate picture of the whole science.

This passage clearly indicates that Hilbert’s proof theory involved two related tasks. First, a procedure was required that enabled ‘every mathematical proposition’

to be converted into a ‘formula’, and it must then be demonstrated that the formulae obtained could be ‘strictly derived’. The first task stipulates that mathematical statements must be formalised (i.e., converted into strings of precisely defined symbols) so that mathematics as a whole can be viewed simply as ‘an inventory of formulae’, and more will be said about the process of formalisation later. The second task involves the derivation of the formulae within a given system. The overriding concern here is with the nature of the proof techniques that are utilised, hence Hilbert’s use of the compound noun *Beweistheorie*. Obviously, since this task involves the manipulation of strings of symbols that represent mathematical propositions, it can be said to be characterised by a certain (not necessarily vicious) circularity: proof-theoretical mathematical techniques are used to determine the viability of (suitably encoded) mathematical propositions. It is this apparent self-reference that caused the second of Hilbert’s tasks to be referred to as metamathematics; that is, mathematics about mathematics.

Having delineated his basic intentions at the start of the paper, Hilbert immediately proceeded to introduce the fundamental machinery he required, and the three main components he presents are a set of logical operators, a general proof schema and a set of axioms. The logical operators are unremarkable and they include symbols for implication, conjunction, disjunction and negation as well as universal and existential operators. The methodology Hilbert proposed for the validation of mathematical theorems enabled proofs to be viewed as sequences of logical inferences which enable formulae to be derived within a given axiomatic system. It is crucial for Hilbert’s project that the procedural definition of a proof is clear and unambiguous, since, as he states later in the paper, it is imperative that ‘a formalised proof, like a numeral, is a concrete and surveyable object’. It is the property of being ‘surveyable’ that is so important: if a proof cannot be checked in an infallible manner, then mathematics cannot be raised upon a secure proof-theoretical foundation.

The axioms, mentioned above, that Hilbert introduces in his paper are subdivided into six main categories:

Group I: Axioms of Implication (e.g., $A \supset (B \supset A)$)

Group II: Axioms of Conjunction and Disjunction (e.g., $(A \wedge B) \vDash A$)

Group III: Axioms of Negation (e.g., $\neg \neg A = A$)

Group IV: The ε -axiom: $A(a) \vDash A(\varepsilon(A))$

Group V: Axioms of Equality (e.g., $a = a$)

Group VI: Axioms of Number (e.g., $a \neq 0$, where $a \neq$ means “the number following a”)

The axioms in groups I–IV are referred to as ‘the logical axioms’, while those in groups V–VI are called ‘mathematical axioms’ since they involve number-theoretic concepts. Once again, this highlights the difference between Formalism and Logicism: Hilbert assumes that certain mathematical objects, such as the numeral ‘1’, are pre-theoretical, existing in the intuition as a thought-object (Gedankending), while Whitehead and Russell seek to derive even such basic objects from the principles of logic. The axiom group that seems least intuitive is Group IV since it contains the ε -axiom, which presupposes the possibility of an infinite search, and, as Hilbert was well aware, intuitions concerning infinity had often caused difficulties for mathematicians in the past. However, this axiom is required in order to enable transfinite arithmetic to be incorporated within the basic proof-theoretical framework.

Armed with his set of operators, his proof schema and his axioms, Hilbert was now able to address the issue of proof construction. The central task was to construct a metamathematical proof that would demonstrate the completeness and consistency of a given axiom set. The requirement of completeness simply demands that all well-formed formulae, derived within a given system, can be shown to be either true or false. As for the requirement of consistency, from a proof-theoretical perspective, a given axiom set is considered to be consistent if no formulae taking the form ‘ $a \neq a$ ’ can ever be derived. In other words, a consistent axiom set will never allow contradictions to be proved. The task of proof theory in part, therefore, is to secure the axiomatic system underlying the whole of mathematics by establishing its consistency. This task, for Hilbert at least, was very different from the task of converting mathematical propositions into formal strings of symbols.

To prove consistency we therefore need only show that $0\pi 0$ cannot be obtained from our axioms by the rules in force as the end formula of a proof, hence that $0\pi 0$ is not a provable formula. And this is a task that fundamentally lies within the province of intuition, just as much as does in contentual number theory the task, say, of proving the irrationality of $\sqrt{2}$ [...]

Statements such as this are not atypical. Hilbert repeatedly emphasised the contentual nature of the metamathematical aspects of proof-theory. In addition to this proper mathematics, there appears a mathematics that is to some extent new, a metamathematics which serves to safeguard it by protecting it from the terror of unnecessary prohibitions as well as from the difficulty of paradoxes. In this metamathematics — in contrast to the purely formal modes of inference in mathematics proper — we apply contentual inference; in particular, to the proof of the consistency of the axioms.

The emphasis here is absolutely clear: although formal (i.e., meaning-less) methods may be used in mathematics proper, such methods cannot be used during the metamathematical stage of analysis, indicating that, for Hilbert at least, proof theory was considerably more than a game involving the manipulation of meaningless symbols. Statements such as the above, with their focus upon the differences between formalisation and metamathematical analysis, should be recalled when the nature of Hilbertian Formalism is considered. A common misconception presents Hilbert as wanting to reduce the whole of mathematics to a contentless exercise in symbol manipulation that is performed in accordance with clearly defined rules. From this perspective, in the Formalist game, it is the relationship between the strings of symbols that is crucial, and the meaning either of the symbols themselves or the strings they form is deemed to be irrelevant. This misconstrual of Hilbert's programme is partly due to the practice of extracting certain of his comments from out of their immediate context. For instance, as mentioned above, part of Hilbert's contribution in his *Grundlagen der Geometrie* was to demonstrate that the meaning of the geometrical objects he considered need not be accommodated in order to analyse them coherently. In other words, statements about lines, points, and planes, could just

as readily be interpreted as statements about arithmetic objects, or, as Hilbert allegedly put it “tables, chairs, and beer-mugs!” (quoted in Grattan-Guinness). However, this conventional misinterpretation of Hilbert’s programme is also the result of his distinction between the formalisation process and the result that meaning-less syntactic manipulations could suffice to resolve a whole range of epistemological problems. Consequently, Carnap’s intention was to provide a coherent logical system that could be used to analyse sentences in a formal language that are used to analyse sentences in a formal language. In other words, just as Hilbert had created metamathematics (mathematics about mathematics), so Carnap was keen to construct a metalanguage that could be used to define and describe any given language. However, It is crucial to note that Carnap consistently views artificial languages as forming a well-defined subset of natural languages, though he makes it clear that his intention is not to describe the syntax of natural language:

In consequence of the idiosyncrasies and logically imperfect structure of the natural world-languages (such as German or Latin), the statement of their formal rules of formation and transformation would be so complicated that it would be hardly feasible in practice [...]. Owing to the deficiencies of the world-languages, the logical structure of a language of this kind will not be developed. Consequently, Carnap’s focus is upon artificial symbolic languages which consist of formulae derived ultimately from primitive symbols by means of rules of inference in the standard Formalist manner. In addition, Carnap explicitly states that the term ‘formal’ implies a separation between the form and meaning of a sentence or symbol: formal languages are defined solely in terms of the syntactic structure of the formulae they produce, and the meanings of the formulae and primitive symbols are not considered. In order to emphasise this point, an example taken from natural language is discussed. Carnap considers the sentence ‘Pirots karulize elatically’ and states that this sentence can be parsed accurately as a Noun+Verb+Adverb sequence even though the words are all unfamiliar, thus demonstrating (or so he maintains) that sentences can be exhaustively analysed solely in terms of their formal syntactic structure even if the meaning of the individual words is not known. This type of

argument, which affirms the separation of meaning and syntax, proved to be influential.

By the time Carnap published *Logische Syntax der Sprache* in 1934, Formalism had already started to suffer set-backs. For instance, in 1931 the young Kurt Gödel published an incompleteness theorem which demonstrated that, if a formal system is strong enough to prove theorems from basic arithmetic, then there will always be theorems that are true, but which cannot be proved within the system. In other words, Gödel demonstrated that the criterion of completeness was a chimera, and this proof appeared to invalidate the Formalist approach to the foundations problem. Nevertheless, despite Gödel's results, a number of mathematicians have continued to work within the general framework of proof theory and, the philosophy behind the theory has exerted a profound influence over many different disciplines, including linguistics.

1. Bloomfield and mathematics

As indicated in Sections 2 and 3, Hilbert's contribution to the debates concerning the foundations of mathematics that raged during the early 1900s were widely interpreted as implying that the paradoxes of set theory could be obviated by means of meaning-less syntactic analysis. It is not surprising, therefore, that this type of Formalism (which was more extreme than Hilbert's own brand, as suggested previously) should provoke the interest of mathematically-inclined linguistics — an observation which naturally points towards Bloomfield, since, without doubt, Bloomfield was one of the most significant linguists to follow the progress of the foundational debates closely during the 1920s and 1930s. The extent of Bloomfield's interest in these issues can be gauged from his own publications, and the precise nature of his interest is revealing. For instance, the first of Bloomfield's papers to reveal his interest in the methodology of mathematics was "A Set of Postulates for the Science of Language", which appeared in 1926. In this short paper, Bloomfield suggested that linguists should start to use the same basic axiomatic-deductive

method which had transformed the study of arithmetic and geometry in the 19th century; in other words, the very axiomatic-deductive method that Hilbert had employed so successfully in his *Grundlagen der Geometrie*. In his paper, Bloomfield uses the term ‘postulates’ instead of axioms, and, at the outset, he explains why a postulational approach to linguistic analysis could benefit linguistics: The method of postulates (that is, assumptions or axioms) and definitions is fully adequate to mathematics; as for other sciences, the more complex their subject-matter, the less amenable they are to this method, since, under it, every description or historical fact becomes the subject of a new postulate [...] Nevertheless, the postulational method can further the study of language, because it forces us to state explicitly whatever we assume, to define our terms, and to decide what things may exist independently and what things are interdependent.

As far as Bloomfield was concerned, then, the axiomatic-deductive method was of value since it could introduce new rigour into linguistics, just as it had been used during the 19th century to render mathematics more exact. The emphasis in the above passage is upon stating assumptions ‘explicitly’, and determining which aspects of a given theory are ‘interdependent’ and which can be treated ‘independently’. In this way, Bloomfield appears to be recommending a reformulation of linguistics that is intended to engender greater precision. In order to clarify how this new rigorisation process for linguistics might be accomplished, Bloomfield explicitly states later in the paper that, by the judicious use of axioms, definitions, and deduction, “certain errors can be avoided or corrected by examining and formulating our (at present tacit) assumptions and defining our (often undefined) terms”.

In other words, by comparison with more fully developed formal sciences (such as mathematics), Bloomfield considered linguistics to be infested with errors that could be avoided if an axiomatic-deductive approach was adopted, and, in accordance with this proposal, he went on to introduce a set of postulates that could provide a secure foundation for the whole of linguistics.

Definition: An act of speech is an utterance.

Assumption: Within certain communities successive utterances are alike or partly alike.

It is significant that, although Bloomfield recommended the use of a basic postulational methodology because it could make linguistics more precise, as these examples indicate, he did not attempt to introduce a formal symbolic language that would enable the axioms of linguistics to be converted into unambiguous sequences of precisely defined symbols, and, indeed, this stage in the process of formalising linguistic theory was not attempted until the 1940s and 1950s.

The text that Bloomfield cites as the main source of his information concerning the axiomatic-deductive method in his 1926 paper is John Young's (1879–1932) *Lectures on the Fundamental Concepts of Algebra and Geometry*. This text was published in 1911, but it was based upon a series of lectures that had been delivered at the University of Illinois in 1909 (a year before Bloomfield joined the faculty as Professor of German). Consequently, given this date, Young was not able to consider the implications of *Principia Mathematica*, since Russell and Whitehead's work would not be published for another two years, but he did provide a thorough introduction to a wide range of topics including Euclidean and non-Euclidean geometry, logic, set theory, number theory and many other subjects. He openly declared that his primary aim was to provide “an elementary account of the logical foundations of algebra and geometry”, a remark that perhaps suggests some kind of sympathy with the Logicist program, and he repeatedly stresses the fact that mathematical propositions are “logically connected”. However, he also admits that, throughout the book, he has adopted a “formal point of view” (Young 1911: v), and certainly his knowledge of Hilbert's proto-formalist work is revealed in Chapters 13 and 14 when he discusses Hilbert's axiomatic approach to geometry in some detail. In this context, it is striking that, by 1911, the task of providing a logical foundation for specific branches of mathematics was already closely associated with the nascent Formalist programme. It should be noted that Young returned to some of the topics he had presented in his 1911 monograph when he came to write *Projective Geometry*

with Oswald Veblen in 1918, and Bloomfield was clearly familiar with this text too since he cites it in a 1935 article.

Given Bloomfield's knowledge of Young's texts, it is reasonable to suppose that, by 1926 at least, he was broadly familiar with the main branches of contemporary mathematics discussed by Young. In addition to this direct mathematical inspiration, though, Bloomfield's interest in axiomatic approaches was also stimulated by the work of the psychologist Albert Paul Weiss (1879–1931). In particular, as is often acknowledged, Weiss seems to have convinced Bloomfield that mathematical procedures could be usefully employed in the mind-based sciences. For instance, in a 1925 paper, Weiss had proposed a set of postulates for psychology, and Bloomfield acknowledged that this attempt at axiomatisation had partly inspired his own proposal for the reform of the methodology of linguistics.¹⁸ Whatever the precise nature of this influence, it is clear that, by 1926, Bloomfield was intrigued by the possibility of using mathematical techniques to facilitate the analysis of cognitive phenomena such as natural language. However, far from being a superficial ephemeral fad, his interest in this topic seems to have increased during the years following 1926. For instance, there are various comments concerning the relationship between language and mathematics in his most famous and influential book, *Language*, which appeared in 1933. To take one example, early on in the text he refers to mathematics as “the ideal use of language”, and later declares (rather provocatively) that one of the tasks confronting the practising linguist is to “reveal the verbal character of mathematics”. Although Bloomfield does not state explicitly in *Language* how such a task could best be accomplished, this remark certainly suggests that, by the early 1930s, Bloomfield had begun to consider the possibility of using techniques from linguistics to analyse mathematics, rather than merely using mathematical procedures to explore fundamental properties of language.

Although, as indicated above, Bloomfield's initial knowledge of contemporary mathematics seems to have been derived primarily from secondary sources such as Young's textbook summaries and Weiss's papers, by the 1930s there is no doubt that he was reading primary source material that considered the implications of Hilbert's

Formalist agenda directly. In particular, his understanding of Formalism was influenced by the work of the Vienna Circle, and the full extent of his familiarity with this work is revealed in his 1936 paper “Language or Ideas?”, since, in this article, Bloomfield explicitly cites five works written by Neurath and six by Carnap, including the latter’s *Logische Syntax der Sprache*. While there are several reasons for exploring the influence of Neurath upon Bloomfield’s thought and work, it is Carnap’s influence that will be assessed later in this paper — in particular Bloomfield’s acquaintance with Carnap’s provocative ideas concerning logical syntax. At this point, though, it is worth recalling that Bloomfield’s bilingualism enabled him to access these publications in the original German; and this is significant since no English translation of Carnap’s *Logische Syntax der Sprache* had appeared by 1936, so the text was only accessible in German when Bloomfield first encountered it. It should be noted, therefore, that Bloomfield acquired a detailed knowledge of Carnap’s work several years before that work began to generate widespread interest in North America.

In summary, then, Bloomfield’s knowledge of the various foundational movements seems to have been derived not only from secondary sources, such as Young’s publications and Weiss’s work, but also from primary sources, such as the work of the Vienna Circle, which developed and extended techniques and philosophical approaches associated with Russell, Hilbert, and other mathematicians actively involved in the foundations debate. Consequently, by the mid 1930s, Bloomfield would have been familiar with the Logician, Formalist, and Intuitionist movements as competing proposed solutions to the foundations crisis. However, as implied in the introduction, Bloomfield himself was directly concerned with the implications of the foundations crisis and, significantly, he came to believe that many of the disagreements could be resolved if the formal symbolic languages used to construct mathematical discourses were viewed from the perspective of linguistic theory. It is now necessary to explore this fascinating but neglected aspect of Bloomfield’s work in greater depth.

2. Linguistic Foundations

In 1935 Bloomfield published an article entitled “Linguistic Aspects of Science”, which appeared, significantly, in the journal *Philosophy of Science*. The purpose of this article was to consider the language of science (i.e., mathematics) from the viewpoint of linguistic theory. At the outset, Bloomfield identifies two stages in the process of scientific activity which he characterises as follows: The linguist naturally divides scientific activity into two phases: the scientist performs “handling” actions (observation, collecting of specimens, experiment) and utters speech (report, classification, hypothesis, prediction). The speech-forms which the scientist utters are peculiar both in their form and in their effect upon hearers.

He later clarifies the nature of this peculiarity by observing that the language of mathematics can only be understood after “severe supplementary training”, and that utterances in such a language have the curious effect of causing the hearers to “respond uniformly and in a predictable way”.

Clearly, therefore, the language of science differs significantly from natural language, and the speech-forms of scientific language appear to constitute “a highly specialized linguistic phenomenon”. It is at this point that Bloomfield’s ambitious agenda starts to reveal itself. The following passage is crucial: To describe and evaluate this phenomenon is first and foremost a problem for linguistics. The linguist may fail to go very far towards the solution of this problem, especially if he lacks competence in the branches of science other than his own. It is with the greatest diffidence that the present writer dares to touch upon it. But it is the linguist and only the linguist who can take the first steps towards its solution; to attack this problem without competence in linguistics is to court disaster. The endless confusion of what is written about the foundations of science or of mathematics is due very largely to the authors’ lack of linguistic information.

The central idea here is transparent: the complex acrimonious arguments that had come to characterise the foundations crisis debates in the 1920s and 1930s could be resolved if the participants were able to view the problem from a linguistic

perspective. Indeed, ‘the linguist and only the linguist’ can intervene in order to resolve the disputes. Obviously, this is a bold and startling claim, hence Bloomfield self-confessed ‘diffidence’, but the proposal is serious nonetheless. It is crucial, though, to attend to Bloomfield’s language here. While he is willing to recognise mathematical discourse as a particular kind of language use, it is not the case that a sharp distinction is being maintained between mathematics and linguistics. Indeed, (as the above passage implies) Bloomfield’s interest in mathematics was always mediated by his abiding preoccupation with linguistics, and this observation is central to the whole of the following discussion. Quite simply, whenever Bloomfield discussed mathematics (particularly the foundations crisis) he was also, of course, discussing linguistics; these interests were inter-connected, if not identical.

Since (infuriatingly) Bloomfield does not cite specific sources in his 1935 discussion, the precise causes of his dissatisfaction with existing proposed solutions to the foundations crisis can only be guessed. It should be recalled, though, that, as mentioned previously, introductory texts such as Young’s *Lectures on the Fundamental Concepts of Algebra and Geometry*, pre-dated the main foundational debates, and consequently it did not contain detailed discussions of the central disagreements, suggesting that Bloomfield acquired his knowledge of these debates from primary sources. As mentioned in Section 4, some foundational issues were addressed in certain works produced by the members of the Vienna Circle, and Bloomfield certainly knew some of these publications. However, questions concerning specifics inevitably remain. Had Bloomfield read the main publications associated with Hilbert or Russell? If so, which publications had he read? Certainly, references in Carnap’s *Logische Syntax der Sprache* (which Bloomfield had read) would have provided him with information concerning Hilbert’s most significant pre-1934 articles, and, by the mid 1930s, Whitehead and Russell’s work, especially *Principia Mathematica*, had already become a standard starting point for most contemporary work in symbolic logic, and was therefore hardly an obscure and unobtainable text.

Whatever the precise sources of his knowledge, though, it is clear that Bloomfield was well-aware of the fact that the paradoxes which had provoked the foundations crisis in the early decades of the 20th century were associated with specific kinds of self-reference. 20 Indeed, it is this aspect of the whole foundations debate that seems to have intrigued Bloomfield most, since, as he was keen to demonstrate, the basic problem of self-reference can be approached from a linguistic perspective. His particular concerns are manifest in the following footnote in which he reflects upon Kurt Grelling's (1886–1942) well-known 'heterological' paradox.

An adjective which describes itself is autological (e.g., short is autological, since the adjective short is actually a short word). An adjective which is not autological is heterological (e.g., long is not a long word). Is the adjective heterological heterological? If it is heterological, it describes itself and is therefore autological. If it autological, it does not describe itself and is therefore hetero- logical.

Before continuing with the footnote it is worth pausing to clarify the discussion. As should be apparent, Grelling's 'heterological' paradox is closely related to Russell's paradox (discussed in Section 2 above), the main difference being that, rather than outlining the problem in the context of set theory, Grelling illustrated the complexities of self-reference by constructing an example using natural language, thus enabling the issues involved to be viewed from a different stand-point. No doubt, this emphasis on natural language is what enticed Bloomfield, prompting him to focus upon Grelling's paradox. However, a mere restatement of a known difficulty is one thing, but a specific proposal for its resolution is quite another, yet, as the footnote continues, this is precisely what Bloomfield attempts: The fallacy is due to misuse of linguistic terms: the phrase "an adjective which describes itself" makes no sense in any usable terminology of linguistics; the example of short illustrates a situation which could be described only in a different discourse. E.g.: We may set up, without very rigid boundaries, as to meaning, various classes of adjectives. An adjective which describes a phonetic feature of words is morphonymic (e.g., short, long, monosyllabic). A morphonymic adjective which describes a phonetic features of itself is autological. A morphonymic adjective which is not autological is

heterological. The adjectives autological and heterological designate meanings of adjectives and not phonetic features; hence they are not morphonymic. — Contrast the following sensible discourse: A hakab is a word that ends in a bilabial stop (p, b). A word that is not a hakab is a cowp. The words hakab and cowp are hakabs.

Although this discussion is necessarily sketchy, constituting as it does a brief footnote, the basic outline of Bloomfield's proposal is clear. His basic intention was to avoid the problem of direct self-reference by reanalysing the categorical allocation of the words involved. In this simple example, by introducing the notion of morphonymic adjectives, Bloomfield suggests that linguistic categories can be redefined in order to exclude the type of direct self-reference that engenders paradox, and it is important to note that, for Bloomfield, this was specifically a linguistic solution for a pervasive problem which happens to manifest itself in particular mathematical contexts.

Unfortunately, in his 1935 article, Bloomfield did not return to the question of a linguistic solution to the problems of self-reference that had provoked the foundations crisis. However, he did not leave his ideas in the inchoate state outlined above; on the contrary, he developed them extensively during the following years. In 1937, for instance, Bloomfield submitted a 300 page manuscript to the Committee on Research of the Linguistic Society, and this work apparently contained a more complete presentation of some of the issues addressed in the 1935 article. The proposed monograph was called *The Language of Science* and it constituted an elaborate attempt to analyse large portions of modern mathematics from a linguistic perspective. ²² Faced with this atypical document, and with becoming humility, the linguists on the committee considered themselves to be unequal to the task of assessing the value of the manuscript, so it was passed on to several professional mathematicians, including the prominent formalist Haskell Curry (1900–1982). Since the manuscript contained a few mathematical errors, Curry advised against publication, but, despite his technical reservations, he was impressed by the scope and ambition of Bloomfield's approach, and he offered general advice as to how the manuscript could be improved. On receiving Curry's comments, Bloomfield replied:

the foundations of mathematics. If this conclusion is justified, the following pages should be of wider than linguistic interest.

This is an extraordinary statement. As indicated above, in his 1935 article, Bloomfield had observed that certain problems of self-reference within mathematics could be avoided if a linguistic approach were adopted. In the light of this remark it becomes apparent that the now lost 1937 manuscript constituted an extended attempt actually to provide a linguistic-based solution to the foundations crisis. Although it is no longer possible to reconstruct Bloomfield's argument in exhaustive detail, some kind of revivification can be accomplished.

For instance, a partial chapter list has survived, and, consequently, it is known that the manuscript contained sections dealing with such topics as 'infinite classes', 'recursion', 'logical vocabulary and syntax', and other subjects that were active areas of contemporaneous mathematical research. The reference to a chapter concerning 'infinite classes' is of especial interest since Bloomfield delivered an (unpublished) paper on this topic to the Annual Meeting of the Linguistic Society in 1936, and it was clearly a subject that preoccupied him. Given his familiarity with the foundations debates, this preoccupation is not surprising since, as mentioned in Section 2, many of the paradoxes of mathematics were understood to be associated with the notion of an infinite set, and, therefore, any valid solution to the foundations crisis must either reconsider the implications of such sets, or else must reformulate this aspect of set theory in such a way that such sets were precluded. 24 Indeed, the extant manuscript fragments suggest that, in his 1937 text, Bloomfield focussed primarily upon the task of naming infinite sets. For instance, he considers various methods that can be used to define irrational numbers, and criticises the use of summation series can be obtained one by one, but we have no finite formula for the direct naming or recognition of these members.

To prescribe the naming, in this form, of an irrational number, is to insist that our hearers complete the recitation of an infinite class of speech-forms. This fallacy is still current among mathematicians; we shall return to it in Chapter 22.

Unfortunately, Chapter 22 no longer exists, so Bloomfield's discussion of this perceived fallacy cannot be completely revived. However, his analysis of the use of limits as a means of defining irrational numbers has survived, as has a short section of his discussion of the Φ class. Bloomfield defines the Φ class using linguistic notions associated with naming. He defined three activities:

- (1) Say decimal point ;
- (2) recite any sequence of digits or none;
- (3) name a second sequence of digits, not all zeros, as a circulating sequence²⁵ and concludes by asserting that "any speech-form of the shape (1)–(2)–(3) or of the shape (1)–(3) is a member of the class Φ " (Bloomfield 1937: 338). With this definition in place, Bloomfield proceeds to consider the implications of naming infinite sets:

Given the class Φ , together with a formula for well-ordering it [...] we can define, as functions of Φ , infinite classes of speech-forms of the type N. For instance, we add 1 to the kth digit of the kth R [MT: Rs are defined earlier as 'thing-nouns'], except that when the sum is 10 we replace it by 1. We thus obtain the infinite class of speech-forms N_1 , the non-circulating decimals whose first ten digits are .5471111117. This formula for naming N_1 , is stated in terms of Φ and its well-ordering: a digit of N_1 can be named only if one first names k digits of the kth R. Hence to calculate and recite digits of N_1 to the end of one's patience is not to name a number: it is only the formula N_1 , interpreted as above, which names a number.

Although this remnant of a larger discussion is opaque in places, the basic thrust of the passage is clear: the act of enumerating the members of an infinite class (i.e., an infinite set) is not the same as naming the set itself, and, presumably, in the remaining chapters of the manuscript, Bloomfield sought to demonstrate that the paradoxes of set theory could be obviated if this kind of linguistic distinction were systematically observed.

When the remaining manuscript fragments were collected by Hockett in 1970 for inclusion in *A Leonard Bloomfield Anthology* (which he was then editing), he commented concerning the destruction of the manuscript: I cannot refrain from

expressing my regrets at the loss. Had he lived to rework the topic, benefiting from Professor Curry's suggestions (even if not accepting them all), some of his successors, who have concerned themselves with the inter-relations of language and mathematics, might have been helped to avoid various stupid errors.

Unfortunately, Hockett does not name the linguists who have been guilty of making 'stupid errors', nor does he indicate the particular mistakes that he has in mind. It is likely, though, that this rebarbative comment was directed towards certain prominent syntacticians of the 1940s and 1950s, who were preoccupied with the task of adapting techniques from mathematics and exploiting them for the purposes of linguistic analysis. The partly conjectural discussion of Bloomfield's lost work offered above is necessarily based only on glimpses, but such glimpses hint at the full extent of Bloomfield's ambition, and it is particularly tantalising that several of the techniques, such as recursive function theory, which Bloomfield considered extensively in the lost manuscript, were later incorporated into syntactic theory in the 1950s. These fascinating issues are briefly considered in Section.

5. Form and meaning

In the foregoing sections, Bloomfield's knowledge of contemporaneous mathematics has been discussed, and his own linguistics-based proposals for the solution of the foundations crisis in mathematics have been partially reconstructed. However, the question remains: did these interests have any consequences for Bloomfield's more mainstream linguistics work? A comprehensive answer to this question is beyond the scope of this article, yet a possible connection between his mathematical interests and his linguistic research can be approached via a consideration of the role of meaning in the type of procedural methodologies outlined in a number of his publications. This discussion should be prefixed with the observation that, while the status of form and meaning in Bloomfield's linguistic work has been assessed many times over the years, it has never been extensively considered with reference to Formalism.

As indicated in Section 3, Bloomfield pursued his interest in the relationship between mathematics and linguistics during the 1930s, and he presented an extended consideration of this general topic in a long essay which he contributed to the *International Encyclopedia of Unified Science* in 1939. The encyclopaedia was a forum for assessing the methodology of scientific research, and the intensity of Bloomfield's distaste for semantics has been questioned from time to time.

Many of the contributors were associated with the type of logical empiricism broadly espoused by members of the Vienna Circle. In particular, Carnap was on the board of editors that read and assessed the contributions, which included Bloomfield's article. This short monograph, "Linguistic Aspects of Science", was based on the 1935 article discussed in Section 4, and this revised version of the paper was intended to serve several purposes. For instance, it summarised various ideas and techniques employed in linguistic research in the early decades of the 20th century, and, in this respect, the bulk of the paper can be viewed in part as a brief informal summary of Bloomfield's 1933 book *Language*. However, in addition, Bloomfield reconsiders the nature of the relationship between linguistics and mathematics, or, more precisely, as he puts it himself, "the relation of linguistics to logic and mathematics". Given Bloomfield's knowledge of the foundations debate, this statement should be carefully assessed, since it implies that, for Bloomfield, mathematics and logic were separate fields of research. It is certainly possible that this observation is largely innocuous, yet by stating his interest in this way,

Bloomfield is surely consciously avoiding the extreme Logicist viewpoint (associated with Russell and Whitehead). Whatever the exact purport of Bloomfield's remark, having stated his basic intention in this manner, he goes on to consider various aspects of the broad topic he has broached. For example, he declares that "logic is a branch of science closely related to linguistics, since it observes how people conduct a certain type of discourse" (Bloomfield 1939: 273–274), and this observation leads him to suggest in turn that logical arguments can be analysed specifically as linguistic discourses of a particular kind. Such statements certainly imply a close correspondence between linguistics and logic, and they reinforce that

suggestion (discussed briefly above) that, during the early 1930s, Bloomfield had started to think of mathematics as a highly specialised form of language that could be amenable to linguistic analysis.

Clearly, then, Bloomfield was fascinated by the relationship between logic and natural language, yet the Formalist slant of Bloomfield's understanding of these issues is apparent when he later enthusiastically accepts a more extreme formalist emphasis on meaning-less syntactic manipulations. For example, Bloomfield makes a clear distinction between formal and informal scientific discourse, describing the former as a manner of communication that "uses a rigidly limited vocabulary and syntax and moves from sentence to sentence only within the range of conventional rules", and he later argues that, in considering the 'characters' (i.e., symbols) used in logical and mathematical discourse.

In general, to be sure, the separate characters have been agreed upon as substitutes for specific words or phrases. In many cases, however, we manage best by ignoring the values and confining ourselves to the manipulation of the written symbols; systems of symbolic logic, especially, may be viewed, in a formal way, as systems of marks and conventions for the arrangement of these marks [...] our formal systems serve merely as written or mechanical media- tions between utterances of language.

This passage, which appears to endorse a conspicuously Formalist position, suggests that Bloomfield was persuaded that this general approach to mathematical enquiry was valid. At the very least, the above passage implies that Bloomfield accepted the formalist dictum that 'we manage best' (to use his own words) if we focus on syntactic manipulations and ignore considerations of meaning. The implications of this statement are considerable and have never been adequately discussed. In essence, the comments cited above suggest that Bloomfield's linguistic research was indeed influenced (to some extent) by Formalism during the 1930s, and the effects of this influence are, perhaps, apparent in his work. For instance, to consider one example, it is well-known that Bloomfield repeatedly expressed scepticism concerning the validity of meaning in linguistic theory. A standard

expression of this mistrust, taken from *Language*, runs as follows: “The statement of meaning is [...] the weak point in language-study, and will remain so until human knowledge advances very far beyond its present state”. In the past, attempts to account for this scepticism have focussed upon ideas concerning syntax and semantics within linguistics and the relationship between linguistics and psychology. While there is no doubt that linguistics and psychology were both responsible for determining the direction of Bloomfield’s thought in many ways, it is certainly possible that some of his ideas concerning the role of meaning in linguistic theory were directly influenced by his knowledge of Formalism (and/or vice versa). While it would be needlessly excessive to claim that Bloomfield mistrusted linguistic meaning solely because he had considerable sympathy with Formalism (as initially advocated by Hilbert, and later developed by Carnap and others in the 1930s) it certainly could have been the case that his understanding of the foundational debates within mathematics confirmed his initial misgivings about semantics in linguistic research, causing him to marginalise the role of meaning in his own work, thus unwittingly paving the way for the type of ‘formal’ syntactic theories that began to emerge in the late 1940s and early 1950s. It is worth noting, though, that the full complexity of Bloomfield’s attitude towards the role of meaning in linguistic theory is comparable to Hilbert’s attitude towards the role of meaning in metamathematical analysis. For instance, as mentioned in Section 2, Hilbert had refused to adopt a hard-line Formalist position, arguing instead that considerations of meaning were necessarily involved in the task of metamathematical manipulation, and, in a similar fashion, Bloomfield seems consistently to have resisted an extreme Formalist stance. To take just one example, writing in 1943, he remarked that in language, forms cannot be separated from their meanings. It would be uninteresting and perhaps not very profitable to study the mere sound of a language without any consideration of meaning.

While this is not the place exhaustively to elucidate Bloomfield’s various discussions of the role of meaning in linguistic theory, it is possible to posit a

correspondence between Hilbert's and Bloomfield's thinking in this regard. Clearly, there are associations here that have yet to be fully revealed.

6. Conclusion

The main emphasis in the paper has been upon Bloomfield's interest in mathematics, a topic that has been neglected in the past. As indicated in the foregoing discussion, such a study is of intrinsic significance since it prompts a re-evaluation of the intellectual life and work of one of the leading linguists of the first half of the 20th century. For instance, it is certainly the case that an awareness of Bloomfield's fascination with the foundations crisis, and an appreciation of his active participation in attempts to resolve the crisis, reveals more clearly the full extent of his intellectual range. In addition, with the insights garnered by this reclaimed understanding of his work, Bloomfield's own linguistic research can be reconsidered essentially from a mathematical vantage point, with the result that, certain characteristic features and preoccupations that occur frequently in his writings, and which have been considered many times from various linguistic perspectives, can be reassessed with reference to developments in contemporaneous mathematics. For example, the specific theme considered in this paper, namely Bloomfield's complex attitude towards the role of meaning in linguistic theory, can be re-evaluated with reference to Formalism, indicating that Bloomfield's pronouncements concerning meaning possibly reveal a more profound awareness of contemporaneous scientific culture than has previously been recognised.

As suggested above, such investigations are worthwhile since they cause us to reacquaint ourselves with Bloomfield and his work. However, the consequences of these associations impinge upon syntactic theory in general, and the ramifications are wide-spread. For example, it is well-known that, during the 1940s and 1950s a whole generation of linguists, which included Zellig S. Harris (1909–1992), Charles F. Hockett (1916–2002), F. W. Harwood (dates unknown; cf. Harwood 1955), Yehoshua Bar-Hillel (1915–1975), and Noam Chomsky (b.1928), began to adapt

techniques from logic and mathematics in order to render syntactic theory more rigorous. In the light of the above discussion, it is of particular interest that many of the techniques that were incorporated into syntactic theory by the post-Bloomfieldians and the protogenerativists, were associated with Hilbertian Formalism. While this is not the place for a full discussion of these issues, two examples can be briefly considered. 28 In a 1953 paper, for instance, Bar-Hillel proposed that recursive definitions could be helpfully employed in syntactic theory, since such definitions would enable complex and compound sentences to be parsed in a recursive fashion, and the use of recursive definitions had been popularised by the development of recursive function theory in the 1930s and 1940s, which in turn had developed out of the use of such functions in Hilbertian Formalism. To take just one other example, it is clear that the various kinds of ‘transformation’ rules that were proposed by several linguists (including Harris, Bar-Hillel, Harwood and Chomsky) in the 1950s were associated with and, to some extent derived from, the transformation rules that Carnap had outlined in *Logische Syntax der Sprache*, a text which, as mentioned in Section 3, was directly inspired by Hilbert’s attempts to construct a metalanguage for scientific discourse. Given such mathematico-linguistic associations, which eventually culminated in the construction of Transformational Generative Grammar, it is certainly stimulating to note that Bloomfield was preoccupied primarily with the possible influence of Formalism upon Bloomfield’s intellectual development. Obviously, there is much that could be said concerning the influence of Logicism (and formal logic in general) upon Bloomfield’s work, and, though studies such as Fought (1999) have begun to address some of these issues, there are many aspects of this influence that remain undiscussed with the implications of similar techniques and methodologies over twenty years before they became a central preoccupation for syntacticians. This observation becomes especially pertinent when it is recalled that many researchers working in the 1940s and 1950s stated specifically that they identified a similarity, or at least a sympathy, between the techniques they adapted from certain branches of mathematics, and the kind of

discovery procedures that Bloomfield and his immediate successors had advocated. For example, writing in 1964, Bar-Hillel recalled

I think that the only work by a modern professional linguist I had studied in some depth before these talks [i.e., talks with Harris in the early 1950s] was Bloomfield's little contribution to the Encyclopedia of Unified Science, published in 1939. This booklet showed a surprising convergence between ways of thinking of at least certain circles of American linguists and those of say, Carnap, and I made a mental note to pursue this issues further sometime.

But only in 1951 did I find the time to do so. (Bar-Hillel 1964: 4) Later still, Harris commented upon the associations between the foundational debates and the linguistic methods of Bloomfield (and Sapir) which he had observed in the 1950s:

The expectation of useful mathematical description of the data of language stems from developments in logic and the foundations of mathematics during the first half of the twentieth century. One main source was the growth of syntactic methods to analyse the structure of formulas [...]. In linguistics, the 'distributional' (combinatorial) methods of Edward Sapir and Leonard

Bloomfield were hospitable to this approach. These are just two examples (there are many others) and, removed from the mathematical context of the time, such perceived associations simply appear to be unaccountable curiosities: surely it can be little more than a remarkable coincidence that Bloomfield and his immediate successors proposed procedures for the analysis of language that proved to be compatible with techniques derived by a later generation of linguistics from specific branches of mathematics? However, as the main sections of this paper demonstrate, this perceived compatibility can be viewed as much more than mere coincidence, and though the full consequences of the association between Bloomfield's work and developments in contemporaneous mathematics have yet to be considered in exhaustive detail, it is hoped that this paper at least constitutes an initial exploration of this intriguing connection.

THE ANALYSIS OF A TEXT²

Peter Newmark

READING THE TEXT

You begin the job by reading the original for two purposes: first, to understand what it is about; second, to analyse it from a 'translator's* point of view, which is not the same as a linguist's or a literary critic's. You have to determine its intention and the way it is written for the purpose of selecting a suitable translation method and identifying particular and recurrent problems,

Understanding the text requires both general and close reading. General reading to get the gist; here you may have to read encyclopaedias, textbooks, or specialist papers to understand the subject and the concepts, always bearing in mind that for the translator the function precedes the description - the important thing about the neutrino in context is not that it is a stable elementary particle-preserving the law of conservation of mass and energy, but that now the neutrino has been found to have mass, the Universe is calculated to be twice as large as previously thought, their', chaise * Stuhl, Sessel 7 sedia, silla? siul - they all present somewhat different images, lax bundles of shapes that differ in each culture, united primarily by a similar function, an object for a person to sit on plus a few essential formal features, such as a board with a back and four legs. A knife is for cutting with, but the blade and the handle are important too - they distinguish the knife from the scissors.

Close reading is required, in any challenging text, of the words both out of and in context. In principle, everything has to be looked up that does not make good sense in its context; common words like serpent (F), to ensure they are not being used musically or figuratively (sly, deceitful, unscrupulous) or technically (EEC currency) or colloquially; neologisms - you will likely find many if you are translating a recent

publication (for 'non-equivalent 1 words, see p. 117); acronyms, to find their TL equivalents, which may be non-existent (you should not invent them, even if you note that the SL author has invented them); figures and measures, converting to TL or Systeme International (SI) units where appropriate; names of people and places, almost all words beginning with capital letters - 'encyclopaedia* words are as important as 'dictionary 1 words, the distinction being fuzzy- (Words like 'always*', 'never', 'must 1 have no place in talk about translation - there are 'always' exceptions.) You can compare the translating activity to an iceberg: the tip is the translation - what is visible, what is written on the page - the iceberg, the activity, is all the work you do, often ten times as much again, much of which you do not even use.

THE INTENTION OF THE TEXT

In reading, you search for the intention of the text, you cannot isolate this from understanding it, they go together and the title may be remote from the content as well as the intention. Two texts may describe a battle or a riot or a debate, stating the same facts and figures, but the type of language used and even the grammatical structures (passive voice, impersonal verbs often used to disclaim responsibility) in each case may be evidence of different points of view. The intention of the text represents the SL writer's attitude to the subject matter.

A piece about floors may be 'pushing 1 floor polishes; about newspapers, a condemnation of the press; about nuclear weapons, an advertisement for them - always there is a point of view, somewhere, a modal component to the proposition, perhaps in a word- 'unfortunately', 'nevertheless', 'hopefully. What is meant by 'That was clever of him 1 ? Is it ironical, openly or implicitly? {In a text showing that BBC Radio 2 is a pale imitation of commercial radio, the irony may only be implicit and obscure to a non-British reader, and the translator may want to make the point more explicitly,} "C'Umenie, noire justice repressive?*", writes a journalist meaning

L Our repressive judicial system is far from lenient, or is it a bluff, mainly nonsense, for amusement? It may be 'iceberg' work to find out, since the tone may come through in a literal translation, but the translator has to be aware of it. Again, in a detailed, confused piece about check-ups on elderly patients who may have to undergo chemotherapy the author's intention is to show that patients must have a thorough physical check-up before they start a course of drugs: if physical problems are cleared up first, there may be no need for psychiatry.

A summary of this nature, which uses only a few key words from the original, appears to be isolated from the language, simply to show what happens in real life, and it is indispensable to the translator. But he still has to 'return' to the text. He still has to translate the text, even if he has to simplify, rearrange, clarify, slim it of its redundancies, pare it down.

THE INTENTION OF THE TRANSLATOR

Usually, the translator's intention is identical with that of the author of the SI - text. But he may be translating an advertisement, a notice, or a set of instructions to show his client how such matters are formulated and written in the source language, rather than how to adapt them in order to persuade or instruct a new TL reader-ship. And again, he may be translating a manual of instructions for a less educated readership, so that the explanation in his translation may be much larger than the 'reproduction'.

TEXT STYLES

Following Nida, we distinguish four types of (literary or non-literary) text:

- (1) Narrative: a dynamic sequence of events, where the emphasis is on the verbs or. For English, 'dummy' or 'empty' verbs plus verb-nouns or phrasal verbs ('He made a sudden appearance', 'He burst in').
- (2) Description, which is static, with emphasis on linking verbs, adjectives, adjectival

nouns.

(3) Discussion, a treatment of ideas, with emphasis on abstract nouns (concepts), verbs of thought, mental activity ('consider', 'argue', etc.), logical argument and connectives,

(4) Dialogue, with emphasis on colloquialisms and phaticisms.

THE READERSHIP

On the basis of the variety of language used in the original, you attempt to characterise the readership of the original and then of the translation, and to decide how much attention you have to pay to the TL readers, (In the case of a poem or any work written primarily as self-expression the amount is, I suggest, very little,) You may try to assess the level of education, the class, age and sex of the readership if these are 'marked'. The average text for translation tends to be for an educated, middle-class readership in an informal, not colloquial style. The most common variety of 'marked' error in register among student translators tends to be Colloquial and 'intimate', e.g. use of phrases such as 'more and more' for 'increasingly' (de plus en plus), 'above air' for 'particularly' (surwut); 'job' for 'work'; 'got well' for 'recovered' and excessively familiar phrasal verbs ('get out of', 'get rid of'). The other common error, use of formal or official register (e.g. 'decease' for 'death*'), also shows signs of translationese. These tokens of language typify the student-translators instead of the readership they are translating for; they may epitomise their degree of knowledge and interest in the subject and the appropriate culture, i.e. how motivated they are.

All this will help you to decide on the degree of formality, generality (or specificity) and emotional tone you must express when you work on the text.

SAUSSURE'S DICHOTOMIES AND SHAPES OF STRUCTURALIST SEMIOTICS³

John E. Joseph

... It has engendered much misunderstanding. Yet it offered a way into Saussure's conception of language for readers who might otherwise have found it impenetrable. Were it not for Sechehaye's and Bally's "betrayal" of Saussure, he might have fallen into total obscurity, rather than becoming the founder of modern linguistics. Note how the idea of meaning-by-difference is put into effect in the CLG. The discussion of signs began by saying more or less what they are not. Despite overlaps, linguistic signs differ from names on crucial points. In addition, difference is inherent in Saussure's characteristic presentation of his concepts as contrasting pairs: langue and parole, signifier and signified, sound-image and concept, synchronic and diachronic, arbitrariness and motivation, mutability and immutability. With each pair, neither term can be fully comprehended without its Other. The most radical reformulations of the Saussurean sign were proposed by Lacan starting in his seminar of 1955 on Poe's "The purloined letter" and Baudelaire's translation of it ("La lettre volée") and continuing into the next decade. Although they lie within the scope of this article, length constraints mean that I must leave them aside, but they are a prime example of a Saussurean dichotomy that inspired a central conception of structuralist psychoanalysis, even if the linguists who were close to Lacan, including Jakobson and Benveniste, did not take up his reformulations. Arbitrariness and motivation Arbitrariness is closely associated with Saussure and the CLG, where it is presented as the first of two primordial characteristics of the linguistic sign and principles of its study.¹¹ Saussure defines it very narrowly, as applying to "the bond between the signifier and the signified": it is strictly internal to the sign. Principle I: The Arbitrary Nature of the Sign The bond

³³ Sign Systems Studies 50(1), 2022, 11–37

between the signifier and the signified is arbitrary. Since I mean by sign the whole that results from the associating of the signifier with the signified, I can simply say: the linguistic sign is arbitrary. I shall not take up here the debates over arbitrariness amongst structuralist linguists starting with Benveniste (1939), since, although they would be relevant to the topic, they were focussed on questions which were ultimately of less interest than the ones discussed in this section.¹² Original: “Premier principe: l’arbitraire du signe. Le lien unissant le signifiant au signifié est arbitraire, ou encore, puisque nous entendons par signe le total résultant de l’association d’un signifiant à un signifié, nous pouvons dire plus simplement: le signe linguistique est arbitraire”.

Saussure’s dichotomies and the shapes of structuralist semiotics. Hence this is not the semiotic promised land which Saussure had seen from the mountain top in Naville (1901), the science that did not include how the signs of language relate to referents, things in the world, which will need the expertise of sociologists and psychologists, expertise he lacks. But his expertise does extend to the relationship between signs, and this is the subject of a later section on “relative motivation”, which is linked to what he calls “associative relations” – we now usually refer to this as the “paradigmatic axis”, following the Copenhagen School. Later the CLG introduces another key dyad of the language system, “syntagmatic and associative relations”, which involve distinct forms of mental activity: Relations and differences between linguistic terms fall into two distinct groups, each of which generates a certain class of values. The opposition between the two classes gives a better understanding of the nature of each class. They correspond to two forms of our mental activity, both indispensable to the life of language. In discourse, on the one hand, words acquire relations based on the linear nature of language because they are chained together. Unfolding in time, as ‘discourse’ or the ‘chain of speaking’, linguistic signs occur in succession, and form ‘syntagms’. “In the syntagm”, says the CLG, “a term acquires its value only because it stands in opposition to everything that precedes or follows it, or to both”. Signs, however, also have associative relations, which are virtual in nature, what he calls ‘in absentia’ relations as against

the ‘in praesentia’ syntagmatic relations. Outside discourse, on the other hand, words acquire relations of a different kind. Those that have something in common are associated in the memory, resulting in groups marked by diverse relations. For instance, the French word enseignement ‘teaching’ will unconsciously call to mind a host of other words (enseigner ‘teach,’ renseigner ‘acquaint,’ etc.; or armement ‘armament,’ changement ‘amendment,’ etc.; or éducation ‘education,’ apprentissage ‘ap-prenticeship,’ etc.). All those words are related in some way. We see that the co-ordinations formed outside discourse differ strikingly from those formed inside discourse. Those formed outside discourse are not supported by linearity. Their seat is in the brain; they are a part of the inner 13 Original: “Les rapports et les différences entre termes linguistiques se déroulent dans deux sphères distinctes dont chacune est génératrice d’un certain ordre de valeurs; l’opposition entre ces deux ordres fait mieux comprendre la nature de chacun d’eux. Ils correspondent à deux formes de notre activité mentale, toutes deux indispensables à la vie de la langue. D’une part, dans le discours, les mots contractent entre eux, en vertu de leur enchaînement, des rapports fondés sur le caractère linéaire de la langue [...]” “Placé dans un syntagme, un terme n’acquiert sa valeur que parce qu’il est opposé à ce qui précède ou ce qui suit, ou à tous les deux”.

.... They are associative relations. The syntagmatic relation is in praesentia. It is based on two or more terms that occur in an effective series. Against this, the associative relation unites terms in absentia in a potential mnemonic series. So the value of a sign is generated by difference in both dimensions: difference from the signs which occur around it in discourse, and from the signs to which it is related associatively. As the preceding quote says, the latter have “their seat [...] in the brain; they are a part of the inner storehouse that makes up the language of each speaker”, although the language is socially shared. Associative relations account for why some signs are “relatively motivated”. The French number 19, ‘dix-neuf’, is not arbitrary in the same way as is the number 20, ‘vingt’, because ‘dix-neuf’ is transparently motivated by its links to ‘dix’ ‘ten’ and ‘neuf’ ‘nine’. ‘Vingt’ has no such link, and so is unmotivated, as are

'dix' and 'neuf' individually. Relative motivation. 'Dix-neuf' is still ultimately an arbitrary sign, since these component parts each have an arbitrary relationship between signifier and signified; its relatively motivated nature mitigates the arbitrariness, without undoing it. Saussure makes the surprising remark that the linguist's work is to limit what is arbitrary in language, because it is about finding hidden relations and motivations. Original: "D'autre part, en dehors du discours, les mots offrant quelque chose de commun s'associent dans la mémoire, et il se forme ainsi des groupes au sein desquels règnent des rapports très divers. Ainsi le mot enseignement fera surgir inconsciemment devant l'esprit une foule d'autres mots (enseigner, renseigner, etc., ou bien armement, changement, etc., ou bien éducation, apprentissage); par un côté ou un autre, tous ont quelque chose de commun entre eux. On voit que ces coordinations sont d'une tout autre espèce que les premières. Elles n'ont pas pour support l'étendue; leur siège est dans le cerveau; elles font partie de ce trésor intérieur qui constitue la langue chez chaque individu. Nous les appellerons rapports associatifs. Le rapport syntagmatique est in praesentia; il repose sur deux ou plusieurs termes également présents dans une série effective. Au contraire le rapport associatif unit des termes in absentia dans une série mnémonique virtuelle".

Saussure's dichotomies and the shapes of structuralist semiotics. Everything that relates to language as a system must, I am convinced, be approached from this viewpoint, which has scarcely received the attention of linguists: the limiting of arbitrariness. This is the best possible basis for approaching the study of language as a system. In fact, the whole system of language is based on the irrational principle of the arbitrariness of the sign, which would lead to the worst sort of complication if applied without restriction. But the mind contrives to introduce a principle of order and regularity into certain parts of the mass of signs, and this is the role of relative motivation. It is not difficult to see how a statement such as this would give rise to much misunderstanding: – the whole system of a language is based on the arbitrariness of the sign, yet – everything that relates to the language as a system is a limitation on arbitrariness. The distribution is such that arbitrariness belongs

to individual signs, and its counter-force to the system linking them. Saussure saw the work of the linguist as being to discover the system, which is to say those aspects which limit arbitrariness within the language being analysed. The importance of relative motivation in his conception of a language is massive. Nevertheless it has been treated as a footnote to the strong statements about arbitrariness being a fundamental fact and the first principle. In the published CLG the section on relative motivation appears much later than the one on the principle of arbitrariness, and it is apparent that over the decades many readers have absorbed that earlier section, with far less attention paid to the later one. Even with regard to the arbitrariness of individual signs, here again enquiry into Saussure's work reveals a very different picture from the man whom Magnus calls "[t]he most celebrated opponent of the sound symbolic hypothesis". From the beginning and from the end of his career we find articles he published in what is now called 'sound symbolism' or 'iconicity' (following Peirce) which is implicitly part of his explanation of why linguistic signifiers have the form which they have. This is most striking in the last paper he published during his lifetime, "Indo-European adjectives of the type caecus 'blind'" . It opens by noting that "[t]he diphthongs ai and au occupy only an ill-defined. Original: "Tout ce qui a trait à la langue en tant que système demande, c'est notre conviction, à être abordé de ce point de vue, qui ne retient guère les linguistes: la limitation de l'arbitraire. C'est la meilleure base possible. En eff et tout le système de la langue repose sur le principe irrationnel de l'arbitraire du signe qui, appliqué sans restriction, aboutirait à la complication suprême; mais l'esprit réussit à introduire un principe d'ordre et de régularité dans certaines parties de la masse des signes, et c'est là le rôle du relativement motivé". The second half of this passage, and the word 'irrationnel', were added by the editors of the CLG. John E. Joseph place within Indo-European morphology or vocabulary". They occur in an extremely limited set of words which, Saussure observes, relate to some sort of infirmity. The examples are mostly drawn from Latin and Greek: 'caecus'/kaikus/ 'blind', 'claudus'/klaudus/ 'lame', 'βλαισός' /blaisos/ 'bent'. He proposes that the diphthongs represent a deviation from the "straight" or the "right". The "straight"

vowel /a/ “deviates” off into the sonant. This, combined with the diphthongs’ rarity and isolation, correlates with meanings which likewise involve marginality or abnormality. He is not claiming that this was a morpheme within the Indo-European language system. He was of course aware that words existed which had the diphthong without the semantic feature, and vice versa. He does not attach a specific label to it, but it has things in common with what Firth (1930) would call a ‘phonestheme’, and Whorf (1956[1937]) a ‘cryptotype’. For Saussure, changes, innovations, are constantly being produced in parole by individual speakers, but only a very few will end up getting the social sanction required for them to become part of the langue. At the level of parole, some individuals sensed the sound symbolism of the /a/ diphthongs, and preferred the alignment of them with the meaning of deviation, enough to have affected how the forms developed. Other speakers did not sense the sound symbolism, but – and this is of central importance – even so, ‘caecus’ and ‘claudus’ functioned perfectly well for them as signifiers, no less so for those who did not sense the iconicity as for those who did. Innovations by individuals in parole supplied the type that “favoured diphthongs with a” for the words in this particular “community of ideas”. The iconicity figured in the conditions that produced the cryptotype, without the iconicity becoming part of the langue. It is here that the dispute arises about sound symbolism: strong advocates, like Magnus, insist that it exists within linguistic signs, hence as part of langue. But Saussure’s modernism draws him to think in terms of reducing things to the minimum level at which they function. The examples of onomatopoeia in the CLG – the sound of the whip in ‘fouet’, or of the trumpet in ‘glas’, famously deconstructed by Derrida 1974), are ones which some people hear, but have never occurred to most speakers of French, who are perfectly able to use the signs regardless. Actually those examples were supplied by Bally: Saussure’s was Latin ‘pluit’ ‘it rains’, where some people hear a Original: “Les diphtongues ai et au n’occupent qu’une place mal définie au sein de la morphologie ou du vocabulaire indo-européen” (see further Joseph forthcoming b). Original: “Autour de ce noyau fourni par le hasard

seront venues se fixer des formations toujours plus nombreuses, où une certaine communauté de l'idée mettrait en faveur les diphtongues par a”.

Saussure's dichotomies and the shapes of structuralist semiotics 25drop of water. But even if we take an extreme case like 'meow', someone who has never seen or heard a cat can still use and understand the signifier /miau/ to signify the sound a cat makes. Plus there is the fact that the Korean equivalent of 'meow' is the phonetically very different '야옹' 'yaong', and across languages we find still wider variation in the signifiers for the sounds made by dogs, like English 'bark' and French 'aboyer' and Estonian 'haukuma'. Saussure goes further, to say that not only are signifiers conventionalized in a way that creates a disconnect from any iconicity that may have shaped them historically, but signifieds too are specific to each language. This goes back to what differentiates a language from a “naming-process”, a nomenclature. The discussion of value includes the example of French 'mouton', where the signified is sheep, whether on the hoof or butchered into meat. English, on the contrary, has two separate signs, 'sheep' for the animal and 'mutton' for its meat. He does not deduce from this that speakers of French and English think differently – again, that would take us beyond the linguistic sign, and into the bailiwick of psychology, where angels and linguists fear to tread, or ought to. Frankly, so should psychologists: yet many of them did not, in Saussure's day, propounding theories about language and racial difference which Saussure was very clear about rejecting. The CLG muddles things a bit by not being precise enough when it says that “the signified 'ox' has as its signifier b-ö-f on one side of the border and o-k-s (Ochs) on the other”. It sounds here as though the signified 'ox' is the same in French and German, and this contradicts what will be said in the section on value. Saussure's view of the language-specific nature of signifieds is connected with, but distinct from, his principle of the arbitrariness of the linguistic sign: distinct because he is very precise that this principle applies to the link between signifier and signified, the conjunction of which defines the linguistic sign. If a language system, in its synchronic state, were controlled even in part by forces outside the sign – signifiers by sounds-in-the-world, signifieds by meanings-in-the-world – then it would be impossible to explain

language change. sounds-in-the-world - signifier — signified - things-in-the-world
Figure 6. The linguistic sign versus external factors. Original: “le signifié ‘bœuf’ a pour signifiant b-ö-f d’un côté de la frontière, et o-k-s (Ochs) de l’autre”.

The disconnect between the sign and things in the world was novel enough to astonish Ogden and Richards (1923) into rejecting it out of hand. However, the arbitrariness of the sign, together with its autonomy vis-à-vis the world outside the sign, is a necessary condition for the constant innovation that we can hear speakers introducing into parole, and for some of them becoming part of the next état de langue, state or phase of the language. Again, those innovations by individuals in their parole can be affected by how they personally perceive the world around them. In the case of poets, innovations may give their parole originality and deep expressive power. Still, the langue does not change, unless and until the language community at large adopts those innovations into the language system. The signifier and signified come into existence jointly. Signifieds are values, and in a sense concepts, but it is also helpful to recognize that they are categories. That too differentiates language from a naming process, because names are proto-typically given to individuals. The signified of ‘tree’ is a category that includes countless individual things, and excludes others – again, for Saussure, what is excluded conceptually determines the signified’s value. To create a category is to create a sign, signifier and signified together. This is where his sheet of paper metaphor becomes useful. The sheet of paper is real. I can crumple it up; I cannot crumple the front of the sheet and not the back. The front and back are conceptual. By the third run of his course in general linguistics in 1910–1911, Saussure’s linguistics of langue was attaining a beautiful, symmetrical elegance, built on that series of dyads, langue and parole, signified and signifier, arbitrary and motivated, and the rest. He intended to move on in the next course to a new task, the linguistics of parole. However, his health deteriorated, with arteriosclerosis so severe that he had to withdraw from teaching. In the brutally cold February of 1913 he caught influenza, which even today can be fatal to people with hardened arteries, and he died at the age of 55. The CLG was published three years later. “Abstract objectivism” When Serge Karcevskij left Geneva to return to Russia

in 1917, he took a copy of the CLG with him, and introduced other Russian linguists to it. Their reaction was split. For some, like Jakobson, it offered a new way forward (although Jakobson would go on to contest key aspects of it, including arbitrariness: see Joseph forthcoming b), but for linguists in the circle of Mikhail Bakhtin, the CLG suffered fatally from what Voloshinov (1929) called “abstract objectivism”, a characteristic of “bourgeois linguistics” generally.

THE TERM ‘BIOSEMIOTIK’ IN THE 19TH CENTURY⁴

Kalevi Kull

The term ‘Biosemiotik’ in the 19th centuryKalevi Kull1Abstract. Tracing the emergence of biosemiotics, attention can be drawn to the very early usage of the term ‘biosemiotics’ (Biosemiotik) in the writings of Austrian chemist Vincenz Kletzinsky (1826–1882) that dates back to the 1850s. In the same decade, Kletzinsky also proved to be among the first to use the terms ‘biochemistry’ and ‘biophysics’. ‘Biosemiotics’ in the 20th centuryThe term ‘biosemiotics’ as the name of a field of study emerged and was taken into use in the 1960s. Friedrich Rothschild, followed by his colleagues in Israel,² both defined and employed the term; in addition, he formulated some “laws of biosemiotics” and described the aims of the field. However, the term ‘biosemiotics’ has been coined on several occasions that appear to be independent of one another. Thus, at a linguistics meeting held in Georgetown University (Washington D.C., USA) in 1965, young linguist Ian Stuart, obviously independently of Rothschild, declared during a discussion: “in what I’ve always called biosemiotics, but which Dr. Sebeok calls zoosemiotics ...” Indeed, in 1963 when the chapter “Biosemiotic interpretations of perceptual-motor processes and their involvement in higher cognitive functions” in Kohen-Raz. The context in which the phrase appears is the following: “But I should like to say that, in line with the work I’ve been doing at the National Institutes of Health in what I’ve always called biosemiotics, but which Dr. Sebeok calls zoosemiotics, it seems very clear that human language seems to operate not so much in what we grandly call communication, but rather in orientation. The organism, as one individual in a behavioral population, seems to be necessarily oriented to a very complex environment. This orientation seems to be handled by the higher cortical functions and is especially available for observation in language. Language can thus be thought of, from one point of view, as a complex orientational mechanism for the

⁴ Sign Systems Studies 50(1), 2022, 173–178

higher functions”. Interestingly, Emmeche and Hoff Meyer introduced the term ‘zoosemiotics’, he did not speak about ‘biosemiotics’ yet and would not be using the term for several years to come. A more widespread use of ‘biosemiotics’ could be observed in the 1970s when Yuri Stepanov included a chapter titled “Biosemiotics” in his Russian-language book on semiotics, and we used the term at the conference “Biology and Linguistics” in Tartu in 1978. When, in our first meeting with Sebeok that happened in 1992, I asked him about the origin of the term ‘biosemiotics’, he pointed to Stepanov’s 1971 book as the earliest printed source in which this word is mentioned. Later I asked about this from Stepanov, who wrote to me in a letter from February 2010: “As for the term biosemiotics, I did not hear it from anyone in 1971, but, more importantly, a small circle of like-minded people already used it in our oral discussions of new books and articles during meetings. The most active biologist in this regard was Thomas Sebeok, who has visited me in Moscow with his wife.”⁵In the 1960s, the word ‘biosemiotics’ undoubtedly had been used but very rarely, yet, remarkably, the 1960s were not the decade of the first emergence of this term. The word ‘Biosemiotik’ had already been in use in the German language at least as early as in the 1850s. The 19th century and ‘semiotics’ as a term. The term ‘Semiotik’ had been in common use in German-language medical literature in the late 18th and the 19th centuries,⁶ denoting the branch of medicine that dealt with pathological signs. In that period, at several European universities (including the University of Tartu, known at the time as Kaiserliche Universität zu Dorpat) courses on semiotics were read to medical students, and textbooks of the subject published, for example Christian Gruner’s *Physiologische und Pathologische Zeichenlehre* (Gruner 1801) and Kurt Sprengel’s *Handbuch der Semiotik* (Sprengel some of Stuart’s later work – Stuart 1985a and 1985b (in which he did not use the term) – in one of their first articles on biosemiotics, which indicates that this was more than just a word.⁴ Sebeok started to use the term ‘biosemiotics’ in the 1970s.

THE HERMENEUTICAL APPROACH IN TRANSLATION STUDIES⁵

Bernd Stefanink

1. Why do we need the hermeneutical approach in translation studies?

Thesis: Because it is the closest thing to an ideal translational practice which focuses on translating meanings, not words.

Characteristics: What fundamentally characterizes hermeneutics is the fact that it integrates subjectivity, corporeality and creativity in its theoretical reflection.

SUBJECTIVITY

Translational hermeneutics has integrated the subjectivity of the translator in its theoretical approach, because it is unavoidable. Recent results in cognitive research have proved this undeniably. For instance, the neurophilosopher Hans Lenk (2014) has shown that, when we perceive an object, our brain decomposes it before it synthesizes it in order to bring it to our understanding. Some areas of our brain register the size of the object, others the colour etc. If I see a golden delicious, which is a very common apple in Europe, I register its form, its colour, eventually its smell, its weight, in different areas of my brain, and my brain associates it with the category apple, and saves it in this category. This is a process of categorization: “Understanding means categorizing” (Lakoff).

But what are these categories in our mind? They are the result of our vécu, which is the result of our recurrent experiences in everyday life. It is like a forest path. Once you have cleared a path through the jungle, next time, you will use the same path, even if it is a little detour, since the path is cleared, and you don't have to fight once again against the thicket of the forest to have your path made. Empirical experiments have shown that this is the way the brain reacts and influences human behaviour.

⁵ <https://www.scielo.br/j/ct/a/Rb99h7bmWw4T76LwBdHhLHw/?lang=en&format=pdf>

In our brain, this path is the neural pathway by which the neurones bring information to the brain. The more you use the same neural pathway the stronger it becomes and transforms itself into an engram, that means a memory trace [Gedächtnisspur]. As connexionism teaches us: it is the frequency of the repetitions that strengthens the pathway. These different pathways form a neural network, based on our personal experiences, through which we perceive the incoming information. So, this neural network biases and influences our perception by associations with our *déjà vécu*. This can be observed in a very simple experiment, related by Fillmore. A teacher relates such an experiment. She came into the classroom with a grapefruit, and started peeling it by detaching fine slices of the peel. When she had finished this operation she asked the students what the fruit she had peeled was. The answer was that it was an orange. This means that the students had interpreted her action through what knowledge they had of handling fruits. For them, obviously, a grapefruit was something that you cut in half with a knife and eat with a spoon. And Fillmore concludes: “The categorizing function of the words had not yet been liberated from the scene of people in their experience eating the fruit”. Even this simple example shows that we are interpreting when we try to understand, and that this interpretation is subjective, in this case linked to cultural habits, Bourdieu’s *habitus*.

This example also supports the hermeneutical idea of the way we are acquiring meaning: by categorizing. We have here one aspect of the hermeneutical circle: in order to understand, we must already have an idea of the new object we are seeing or the new information we are getting, in order to categorize it, categorization being the basis of the understanding process, otherwise, if we have not the slightest clue, we will not be able to understand. This neuronal network which biases our perception is, of course, subjective.

For translators, this means that, when they try to understand the text, they unavoidably project already some fore-understanding on the text. Heidegger calls this fore-understanding a *Vorverständnis*, the cognitivists use the term *script*. Translators unavoidably approach the text with such a fore-understanding in their minds. This fore-understanding is, of course, unavoidably liable to change in the course of

reading. The more the translators progress in the text, the more this preconceived meaning becomes complete, that means in harmony with what the text really means to them.

German translologist Radegundis Stolze introduces the term *Stimmigkeit* to describe this harmony. For the hermeneutic translator, the translation is complete or *stimmig* when the target text corresponds to the mental representation of the meaning in the translator's brain.

This hermeneutical conception is supported by cognitivistic research as, for instance, Fillmore's description of the process of understanding shows: The first part of the text activates an image or scene of some situation in the mind of the interpreter; later parts of the text fill in more and more information about that situation, give it a history, give it a motivation, embed it in other scenes or situations, and so on. In other words what happens when one comprehends a text is that one mentally creates a kind of world; the properties of this world may depend quite a bit on the individual interpreter's private experiences a reality which should account for part of the fact that different people construct different interpretations of the same text. Fillmore's former example, in which he draws the conclusion from the orange/grapefruit experiment, implies that, in his conception, the words which we store in our brain during the process of knowledge acquisition are extracted from the scenic context and stored independently. A conception which will lead over to the MOPs theory, which is so important in our endeavours to understand creativity in the translation process, as shown below.

CREATIVITY

Another aspect of the translator's everyday life, which is often left aside by translation theorists is creativity. Hermeneutics show that creativity is nothing mysterious, but a problem-solving activity to overcome cultural barriers. If a theory excludes this creativity from its considerations because it is not systematizable,

as some theoreticians do, they induce the insecure translator to abandon brilliant metaphorical creative solutions in favour of logically more admissible, but communicatively paler and less expressive solutions, using a “playing-it-safe” strategy to avoid criticism, because they would not know how to meet this criticism. Hermeneutics helps you to dispel this criticism. Hermeneutics thinks that these “playing-it-safe” translations very often betray the original texts because they are missing the “tone”.

Moreover, using the results of recent research in cognitive sciences, hermeneutics encourages your creativity to solve translation problems by making use of what cognitivists call lateral thinking or divergent thinking, which can be trained and helps the translator to find solutions to overcome the problems created by cultural barriers.

THE EPISTEMOLOGICAL VALUE OF METAPHORS

And to this purpose of encouraging creativity, hermeneutics also makes use of what cognitive science has discovered about the epistemological value of metaphors. Sometimes, the meaning that is “between the lines”, as Schleiermacher says, can better be communicated by using metaphors. Hermeneutics legitimizes the use of metaphors.

Hans-Georg Gadamer has discussed how metaphor might be retrieved from the Aristotelian canon and re-examined as a gateway to interpretation that casts light on the act of knowing itself. In his account, two types of meaning allow us to oppose a rhetorical conception of metaphor to another conception that expresses a spontaneous relationship to what we know. Metaphor in this account is not simply a theoretical seeing but introduces “seeing as” into the process of cognition itself. This epistemological value of metaphor is confirmed by cognitive research as we have shown.

Let us see what Lakoff and Johnson (1980) have to offer. The metaphor theory of Lakoff and Johnson can provide the translator with a valuable legitimization basis for his creative problem-solving.

They assume the following:

1. Categorizing is the basis of each understanding process: “In order to understand the world and function in it, we have to categorize”.
2. This categorization takes place on the basis of “recurrent experience” (“recurrent experience leads to the formation of categories”, which leads to the formation of metaphors: “much of our conceptual system is structured by metaphor”, “our conceptual system is inherently metaphorical”).
3. It is essential to categorizations that they emphasize certain aspects of experience to the detriment of others: “A categorization is a natural way of identifying a person or object of experience by highlighting certain properties, downplaying others, and hiding still others”.
4. This allows us to come to a new understanding of our experiences: “Such metaphors are capable of giving us a new understanding of our experience [...] highlighting some things and hiding others”.
5. These metaphors are interlinked: “metaphors allow us to understand one domain of experience in terms of another. This suggests that understanding takes place in terms of entire domains of experience and not in terms of isolated concepts”. “[C]onceptual metaphors are grounded in correlations within our experience”.
6. The metaphor network which structures our understanding of the world is different from culture to culture, because of the different ecosystems: “But the human aspects of reality are different. [...] The conceptual systems of different cultures have depended on the physical environment they have developed”. “Our experiences will (1) differ from culture to culture” (ibid., p. 154), and (2) may depend on our experience in terms of another, that is, our experience may be metaphorical in nature. Don’t we have here the basis for the comprehensibility of associative-creative problem-solving strategies in translation?

Connectionism and metaphor theory confirm each other, inasmuch as our recurrent experiences, which lead to the formation of categories necessary for the process of understanding, are reflected in connectivistically activated (and thus intensified) neuronal pathways (or engrams), which are used in priority by new experiences (in

technical terminology, which leads to further reinforcement. On the linguistic level, these recurrent experiences are reflected as phraseological metaphors. However, our experiences are not stored in isolation, but – as seen from the point of view of connectivity – in dynamically networked paths, which are the “metaphorical entailments” that form the entire conceptual network with which we understand the world. These mutually confirming associative connections at the neural as well as at the conceptual level legitimize associative thinking as a problem-solving strategy. And if we accept Paul Valéry’s conception of a work of art as being left over to the understanding of the recipient when it has left the artist’s hands, then every creative translation – like every new metaphor – is a “highlighting” in the sense of Lakoff and Johnson (1980) of aspects of the original which have hitherto been hidden and which can lead to a new understanding of this original (point 4) from the target-cultural perspective (in the sense of Bachelard, Derrida, Mavrodin and other representatives of Poetics). The material basis of metaphorically networked experiences can be found in the above-described neural pathways or engrams of our brain. We should not forget that, long before the cognitivists draw attention to the epistemological power of metaphor, Percy Bysshe Shelley anticipated this power of metaphor. For him, all language is basically poetry rather than simply a means of communication. Shelley claims that language was originally poetry by virtue of its prophetic power to express a vital relationship to the world, an idea which also underlies Heidegger’s hermeneutic conception of language. When relying on Heidegger’s reading of Kant and the role he attributes to imagination, we can view the figure of the torch-bearer in Shelley’s *Prometheus Unbound* as a metaphor for how the poet passes between the spheres of prophesy and cognition, while translating experiences that otherwise would remain opaque and limited. And when he claims that literary myth is an advanced form of metaphor, Shelley is forecasting another hermeneutic idea which we find in Paul Ricœur’s conception of the role myths should play in understanding the world. The “hermeneutic turn” in Ricœur’s philosophy, in the sixties of the twentieth century is due to his will as a protestant philosopher to explain the evil in the world. This is the origin of his developing a theory of interpretation which is

fundamental for philosophical hermeneutics, and which contributes fundamentally to form the basis of the hermeneutical approach in translational hermeneutics. For Ricœur (2010), metaphor is “the central problem in hermeneutics” and there exists a “vérité métaphorique” [metaphorical truth].

THE CORPOREALITY OF OUR UNDERSTANDING

Another fundamental of hermeneutics that is integrated in its theoretical approach is the corporeality of our understanding. Our empirical research, based on ethnomethodological conversation analysis, reveals an amazing emotional effect exercised by elements of the source text which appeal to the senses of the reader/translator. Understanding the meaning of a text with the senses is something that we commonly admit and expect in poetry. But it is not limited to poetry. We also find it in other text types. It is one of the devices that authors may use to make their texts more convincing, acting on our feelings, on our emotions and on our sensuality. This may sometimes lead to translations that are not always easily accepted by logical intellectual thinking. But hermeneutics integrates this corporeality of understanding in its theoretical approach, and endeavours to give it a scientific basis. Moreover our empirical research reveals that very often translators do not realize what triggered their creative problem-solving. The hermeneutic approach helps them to analyze how much their creative understanding of the text and their creative solutions owe to their somatics, as we hope to have convincingly tried to show in Stefanink and Bălăcescu (2017). Now, let us see in what scientific context the hermeneutical approach developed itself.

THE SCIENTIFIC CONTEXT OF TRANSLATION STUDIES IN THE 1970S,
WHEN TRANSLATIONAL HERMENEUTICS WERE INTRODUCED:
TRANSLATING WORDS VS. TRANSLATING MEANINGS

When reading a text, we do not read words; instead, we try to grasp the meaning of a text. In addition, there is a difference between a normal reader of a text and a translator. The normal reader acquires the meaning intuitively. The translator has to go further and make this intuitive understanding explicit in order to translate it (Heidegger's *Auslegung* [explicitation]). Translational hermeneutics is trying to find a methodology to get at this meaning and to make it explicit. But: Where is the meaning?

THE GRADUAL EVOLUTION FROM AN ATOMISTIC TO A HOLISTIC VIEW OF MEANING IN CONFORMITY WITH THE EVOLUTION OF THE TRANSLATION UNIT

When translation theory started to develop systematically in the second half of the 20th century, the meaning was obviously considered as depending on the translation unit. If we consider the evolution of translation theories in the second half of the past century we clearly see that the meaning is not in the words. On the contrary: we observe a development starting with an atomistic view, (which was trying to find the meaning by dissecting the words into their minimal units of signification), and moving more and more towards a holistic approach. This holistic approach is one of the fundamentals of translational hermeneutics.

THE STRUCTURALIST APPROACH: THE WORD AS TRANSLATION UNIT

The structuralist approach which aimed to develop a model for machine translation tried to seize the meaning of words by decomposing these words in their semantic elements. Kade, the most influent translologist in the 1960s, went so far as to pretend that the process of understanding was not necessary, and should be avoided since it implied the subjectivity of the translator. The act of translation consisted of finding one or more words in the target language which would represent the same semantic features. So Eugene Nida, the famous Bible translator, wrote: "What we do

aim at is a faithful reproduction of the bundles of componential features”. And Georges Mounin, the French linguist, compared translation to chemistry, which broke down organic entities into their elements in order to reconstruct them synthetically by assembling these elements into a new entity. In *Problèmes théoriques de la traduction*, he wrote: “Si de telles ‘particules de sens’ [minimales] existaient, la traduction deviendrait quelque chose d’aussi simple que l’analyse et la synthèse en chimie”.

But the ALPAC (Automatic Language Processing Advisory Committee) which evaluated the results of this research cancelled this program (in 1966), because it was not efficient. There were too many misunderstandings with the results of machine translation. The meaning of the text could not to be grasped this way.

THE PRAGMATIC APPROACH: THE SENTENCE AS TRANSLATION UNIT.

A first step for the translator not to find the meaning in words. After this failure, the translato­logists considered that the problem was one of translation units. The word as translation unit was not enough. The research extended to the sentence as translation unit. And the English linguist John Catford said the translation unit is the sentence, as a self-contained unit conveying the meaning: In total translation, SL and TL texts or items are translation equivalents when they are interchangeable in a given situation. This is why translation equivalence can nearly always be established at sentence-rank – the sentence is the gram­matical unit most directly related to speech function within a situation.

Eleven years later Nida, will distance himself from this word-centered vision of translation: “We are no longer limited to the idea that meaning is centered in words or even in grammatical distinctions. Everything in language, from sound symbolism to complex rhetorical structures, carries meaning”.

The outcome of this was, for instance, the stylistique compare of Vinay and Darbelnet, trying to find sentence structures that might have automatic correspondents in the target language. Another outcome was the speech act theory,

which, for the translator, meant that he did not have to stick to the words of the text, but that he had to translate the intended meaning depending on the special situation, which was a first step to consider that the meaning was not in the words but in something beyond the words.

THE TEXT AS TRANSLATION UNIT

As Linguistics developed into text linguistics, initiated by the German linguist Harald Weinrich, there were many new impacts on translation theory. One very obvious outcome was the skopostheory, which situated the translator as an actor in a social environment (according to the action theory). According to the Lasswell formula, the translator had to take into consideration the “5 Ws”: Who is translating what to whom, in which channel with what effect.

This was one more step away from the word, as a translation unit which was supposed to reveal the meaning that the translator was supposed to translate. Another, more significant step was Algirdas Julien Greimas’ theory of isotopies, which he developed in a book published in 1966 with the title *Sémantique structurale* [Structural Semantics]. His idea was that a word was not isolated in the text, but that it had friends, that are linked between themselves, or, as the German philosopher, Ludwig Wittgenstein puts it: in a text there are words belonging to the same family, they have *Familienähnlichkeiten* [family resemblances].

For Greimas, this meant they had one or more semantic features in common, which for him were the semantic components as minimal units of meaning, the “semes”. Nowadays, we can extend this idea of common minimal units to a more general resemblance, and speak, for instance, of an isotopy of irony in a text, that is based on an assembly words conveying this meaning. Greimas’ theory of Isotopies was an important step on the way to translational hermeneutics. With the isotopy theory, the meaning of a word has to be considered in relationship to the other words which are part of the same isotopy. And the meaning of the text emerges from the network of isotopies which structure the text. Following Schleiermacher’s statement of the

meaning being “between the lines” (we might say that the meaning is “between the isotopies of the text”). And, going one step further, we can say that the meaning is in the “orient of the text”, and that it rises under the eyes of the reader. This is the meaning that the translator has to translate, a meaning that is not linked to special representative words in the text as for instance Gerzymisch claims: We cannot translate the “despair” in [the short story] Lenz by Georg Büchner (unless it appears as a tangible expression), we need for translation a manifestation of the despair as a concrete expression, that we may transport. It is only the expression that we can ‘trans’-port”. In order to grasp this meaning, which is between the isotopies of the text, we have to interpret the tokens which are likely to bear meaning. And this is what translational hermeneutics is about. Let us see now, how the need for hermeneutics developed in the course of history.

HERMENEUTICS: SCIENCE OR ART?

Hermeneutics can be defined as the science or art of interpreting. Translational hermeneutics is intimately linked to philosophical hermeneutics in so far as translation can be seen as actualized hermeneutics and vice-versa. Schleiermacher’s translation of Plato was the godfather of his philosophical hermeneutics. The fundamental problem in philosophical as well as in translational hermeneutics is its legitimation with regard to “objective” criteria as we are familiarized with in natural sciences. So the history of hermeneutics can be seen as a fight for recognition as a science or as rejecting these efforts, and seeing it rather as an art. But things are not clear at all. Even Heidegger avowed hermeneutics to be “rätselhaft” [enigmatic], and some hermeneuts never gave a clear statement about this, often tending to become inclined to change in favour of the category art in the course of their research, like even the emblematic representant of hermeneutics, Friedrich Schleiermacher, who gave more and more importance to Divination towards the end of his life.

FROM DOMAIN-SPECIFIC ISOLATED AGGREGATES OF INTERPRETATION RULES TO METHODOLOGICAL UNIVERSALITY

The status as a science is linked to the development of a methodology that might be universally applicable. The first to fight for universality was Johann Conrad Dannhauer. Before Dannhauer, text interpreting existed, closely linked to the translation of ancient texts from Latin and Greek which alimented medieval thinking. But these interpretations were strictly domain specific, concerning religion, philosophy, history, law, medicine, etc. Starting from the observation that with the multiplication of writings due, on the one hand, to the invention of printing and, on the other, to the Renaissance idea of disseminating knowledge, which had as a consequence that scientists became more and more involved in reading, Dannhauer saw the necessity of a universal method of interpreting written texts, which he developed as soon as 1630 in a text – *Idea boni interpretis et malitiosi calumniatoris* – where he introduced the neologism *hermeneutica*, probably derived from the title of Aristotel's *Peri Hermeneias*.

His initiative was pursued in the 18th century, when the discussion on universal hermeneutics went into details like discussing the origins of obscurity in difficult passages (Johann Martin Chladenius, 1710-1759) or extending the idea of hermeneutic universality to general semiotics (Georg Friedrich Meyer, 1718- 1777) considering everything in this world as being a sign which pointed towards something behind it that was part of a coherent whole designed as such by the Divine Creator. In the 19th century, hermeneutics were dominated by a philosopher and theologian who is generally considered as the founder of modern hermeneutics: Friedrich Schleiermacher. He actually “reinvented” hermeneutics in its universal character, seemingly not having had any knowledge about his predecessors in universality, as may be deduced from a letter to his friend Ehrenfried von Willich, when he started lecturing about hermeneutics in 1805, saying that he could not find any documents concerning the universal character of hermeneutics, but only isolated aggregates of rules focussed on the different scientific or religious domains. Besides

his insistence on the universal character of hermeneutics, Schleiermacher's merit was to extend the interpretative act to the whole of the text. Before him the interpretation was limited to the obscure passages of the text. Now, in his "hermeneutics of misunderstanding", the whole text becomes liable to be misunderstood, and has to be interpreted, the misinterpretation of difficult passages being prepared by the misunderstanding of anterior passages.

Schleiermacher's philosophical hermeneutics were nourished by his translation of Plato and the problems it brought along, which he discussed in his correspondence with Schlegel, trying to draw theoretical insights from the translation practice, and letting his practical translation work benefit from these insights. Thus, for the translator, Schleiermacher's merit was to make this philosophical insight relevant for translation theory. It is based on what Gadamer, quoting Augustinus, calls the "inner word" [verbum interius], which is a meaning that is in us and that struggles to be expressed. This meaning is always beyond the words with which we try to express it. As a consequence, no expression of this meaning by words can be seen as the ultimate representation of it. There is – as Heidegger will formulate it later – a Sinnüberschuss [surplus of meaning] in every text. This is one of the fundamentals in hermeneutic thinking.

For the translator, this means that there is not such a thing as the perfect translation of the source text. There are only subjective tentative versions corresponding to the mental representations of the meaning in the translator's mind at a certain moment. This mental representation of the meaning is the verbum interius of the translator which struggles to be expressed in words of the target language. Schleiermacher's followers, like Wilhelm Dilthey (1833-1911), endeavoured to overcome this subjective character by developing a methodology for the investigation of meaning that was supposed to guarantee objectivity in human sciences just as analytic thinking did in natural sciences.

CONTEMPORARY ISSUES IN THE HERMENEUTICS DEBATE

Hans-Georg Gadamer (1900-2002), however, completely dispelled the idea of such a methodology. For him, the task of hermeneutics was not to find a methodology, but to discover the truth, be it through language or through works of art. The main obstacle to this discovery are our prejudices. The rationalist philosophies have condemned prejudices, conceiving them as something negative. For Gadamer, however, prejudices are part of the process of understanding as something unavoidable that has to be integrated into the theoretical approach. Prejudices hinder our quest for truth when they are ignored. Thus, for Gadamer, the road to truth goes through dialogue, one of the fundamentals of Gadamer's hermeneutics. In the dialogue with the other, we become conscious of our own prejudices, and we have the possibility to revise them and integrate the truth of the other into our own vision, in a process which Gadamer calls a "fusion of horizons". This reminds us of Berman's or Ricœur's conception of translation as an act of "hospitality" to the foreign otherness. For Gadamer, understanding is a permanent dynamic progress in a dialectic confrontation with the other. For the translator, this "other" is the text. The translator has to enter into a dialogue with the text. Gadamer takes over Wittgenstein's game metaphor and describes the reader as one who has to enter the game in order to understand the meaning, he has to get more and more involved in the course of his reading. Where Schleiermacher said that "the meaning is between the lines", Gadamer says the meaning is "behind the words". To get at it we have to develop empathy (though Gadamer himself never used this term himself). Meaning is not anything static to be seized by mere intellectual analysis.

An example for such a positive integration of prejudice into a positive construction of meaning during a translation process is given in Stefanink and Bălăcescu (2015). All these ideas are made fruitful for translation by Fritz Paepcke, whose conception of translation, taken over from Gadamer, materializes itself in a dynamization of the terminology of translation studies speaking for instance of *Kommunikationsgeschehen* [the happening or process of communication],

Wahrheitsgeschehen [the happening or process of truth], etc, to draw attention to the dynamic character of meaning. Paepcke introduces terms like the *Leibhaftigkeit* [corporeality, sensuous physicality] of the translator in his understanding, insisting on the physical implication of the translator with all his senses, an aspect which Douglas Robinson (1991) will sum up under the term somatics.

With Paepcke, the translator as a human being was brought into the focus of attention, which, in the context of all-dominating linguistic structuralism, was indeed a little revolution in translation studies. Fundamental requirements of the translator's activity, like "intuition" and "creativity", which had been explicitly banned from theoretical thinking because they "did not lend themselves to a systematic approach", were suddenly introduced into theoretical thinking with Paepcke's conception of translation. More so, their status in a translation theory became a touchstone for the validity and quality of a theory and its relevance for practitioners of translation. However, the impossibility of handling intuition and creativity from a systematic point of view gave rise to concerns about the danger of subjectivity in translation and the lack of scientificity which was suspected to go with it. Instead of trying to deny the subjectivity of the translator, the hermeneutic approach deliberately integrated it in its theoretical thinking. But handling intuition and creativity compelled the hermeneutists to look for new scientific criteria in the quality assessment of translation. Radegundis Stolze, Paepcke's disciple in hermeneutics, recurred to linguistics in order to bring some fundamental structure into the disseminated – sometimes not very clearly formulated or even contradictory – ideas which went along with Paepcke's examples of hermeneutic translation. In her different books about hermeneutics and translation, she highlights several concepts of philosophical (mainly Gadamerian) hermeneutics, and explains their relevance for the translator. She insists on the holistic character of the process of understanding in which the meaning "überwältigt" [overwhelms] the translator, bringing him to solve translation problems in an autopoietic half unconscious intuitive formulation impulse in the target language.

This does not hinder her to introduce a didactics of translation based on “fields of attention” which will guide the translator in the execution of his task. But the handling of intuition and creativity, which is the core issue in translational hermeneutics, exacted a view beyond the borders of linguistics into the new fields of cognitivist research.

If, according to Heidegger, “words grow into meaning” [“Den Bedeutungen wachsen Worte zu”], then hermeneutic translation is condemned to creativity. If the meaning is “between the words”, translating consists in a deverbalization process, as proclaimed by the interpretative theory defended by the School of Paris, and a reformulation in the target language, which culminates in more or less creative solutions, trying to “crystallize” (Stefanik and Bălăcescu, 2017) into new words the meaning that had grown between the isotopies of the source text in the process of interpreting, as can be deduced from the observations made about the translation process with the help of an empirical, corpus-centered methodology taken over from American sociologists and introduced into the hermeneutic approach by Stefanik (1995): the ethnomethodological conversation analysis. The introduction of subjectivity, intuition and creativity as fundamentals in hermeneutic translation studies gave rise to concern regarding the scientific character of the hermeneutic approach. For non-hermeneutic “objectivists”, scientificity was linked to the “traceability” of the different steps taken to achieve a result. According to them, this traceability was lacking in the hermeneutic approach.

This position, however, ignores the efforts of recent research towards a *Verwissenschaftlichung* [scientification] of translational hermeneutics. Indeed Popper does not limit the scientific character of a method to the predictability of the results (which would deny scientificity to inventors); no, Popper says that the scientific character of research is guaranteed by a methodology *a posteriori*, if the inventor can trace back and explain the different steps that led to the invention. This is what recent research in translational hermeneutics is striving to do by appealing not only to linguistic analysis, but also to recent research in cognitive studies.

The methodology for this new approach was provided by American researchers in social sciences in the 1970s as described by Garfinkel (1984): ethnomethodological conversation analysis, as used in the domain of ethnoscience. It consisted of studying the naive representations that the common language user vehiculated behind the words s/he used, especially when talking about things of everyday life which triggered her/his imagination, as for instance “the woman and men in white”, which became a field of investigation for ethnomedecine. Stefanink (1995) introduced this methodology into translation studies under the French name of ethnotraductologie [ethnotranslatology]. It consists of two or more translators who “negociate” a translation with the aim of reaching a common version in the target language on which they agree. This methodology provides not only a possibility for studying the process of translating but also exposes the naïve representations the implicated translators have in their minds regarding the process of translation, language and the relationship between culture and language, etc. It is moreover very efficient from a didactical point of view. After having transcribed their dialogue the participants analyze it with the help of their supervisor, an analysis in the course of which they are confronted with their naive ideas about about the process of translation, about language, about the relationship between culture and language, etc. This bringing into consciousness is very efficient and convincing as shown in Bălăcescu/Stefanink 2003 where a group of translators from French into Corsican language who refused any theoretical approach were shown that at the back of problem-solving there was some elements of theory, scattered and disconnected, at random, but responsible of heir decision making.

These new elements in translation theory require new criteria for quality assessment. Where analytic approaches could rely on (seemingly) logic and rational steps leading to (an illusive) “objectivity”, the hermeneutic approach relies on what is called (in the socio-philosophical studies of Jürgen Habermas) konsensuelle Wahrheit [consensual truth]. For the translator this means that he has to provide “intersubjektive Nachvollziehbarkeit” [inter-subjective plausibility/traceability], he

has to convince the “experts”, his peers, in his domain of the validity of his translation, especially where creative solutions have been necessary.

AN EXAMPLE OF A CREATIVE HERMENEUTIC PROBLEM-SOLVING SUSTAINED BY COGNITIVE RESEARCH

German students had to translate from English into German in a context describing the problems of young couples having children and being both working in a job: They had to juggle two careers and a potty-chair. The students translated potty-chair by

1. Windelwechselln (changing the diapers): two careers and changing the diapers
2. Kind (child): two careers and the child

What happened? In the English context of child education, the word potty-chair triggers a very common element, which is lexicalized in idiomatics like potty-chair training. According to the scenes and frames semantics of Charles Fillmore (1976), the linguistic frame potty-chair triggered, in the mind of the translator, the “scene” excrement management. Eleanor Rosch (1973) tells us that, in every category, you have an element that is prototypical for the category, and the figure/ground alignment theory of another cognitivist, Ronald Langacker (1987), tells us that the relationship between this prototypical element, which he calls figure, and the background, which he calls ground, can change and is different from one culture to the other. In England the prototypical emblematic element in this scene is the potty-chair, in Germany it is changing the diaper. According to the cognitivist Roger Schank (1982), both are part of what Schank calls MOPs (Memory Organization Packets).

The memory of the bi-cultural translator had registered the scene excrement management, this scene contains both the elements of potty-chair and diaper changing. The translator, knowing about their difference in the prototypical character in English culture compared to German culture, undertakes the replacements that seem necessary to keep the “Wirkungsgleichheit” [equivalence of effect] in the target culture. The translation by Kind establishes the equivalence on a higher level. Indeed,

Kind can be seen as a short cut for the scenario Kindererziehung [education of children]. The potty-chair is one of the elements in this scenario of Kindererziehung, so it sounds plausible, according to the Thematic Organization Packets [TOP] theory of Roger Schank, that the translator associates this element of the scene with the scenario of Kindererziehung, which includes this scenic element potty-chair, which belongs to the scene excrement management. The memory organization theory would also have made possible a translating by Fläschchen geben [bottle feeding], because this is another element of the scenario child education. The dots “...” In the following schema indicate other alternative scenes belonging to the scenario child education.

As one can see, the relations between the different scenes are of associative nature, and as Fillmore puts it: “scenes and frames are mutually retrievable, meaning that a scene can activate its associated frame and a frame can activate its associated scene”. Let us also remember that Fillmore’s concept of a “scene” as well as that of a linguistic frame is semantically very wide, offering the translator a wide range of potential neural associative chainings as one way to explain his/ her creative problem solutions: I want to say that people, when learning a language, come to associate certain scenes with certain linguistic frames. I intend to use the word scene – a word that I am not quite happy with – in a maximally general sense, to include not only visual scenes, but familiar kinds of interpersonal transactions, standard scenarios, familiar layouts, institutional structures, enactive experiences, body image; and, in general, any kind of coherent segment, large or small, of human beliefs, actions, experiences, or imaginings. I intend to use the word frame for referring to any system of linguistic choices (the easiest cases being collection of words, but also including choices of grammatical rules or grammatical categories) that can get associated with prototypical instances of scenes. [...]

I would like to say that scenes and frames, in the minds of people who have learned the associations between them, activate each other; and that, furthermore, frames are associated with other frames by virtue of shared linguistic material, and that scenes are associated with other scenes by virtue of sameness or similarity of the entities or relations or substances that are in them or their contexts of occurrence. All

these explanations given by cognitive science legitimate the creativity that helps the hermeneutic translator to overcome the cultural barriers. Hermeneutics says: you have to feel the text, with all your senses, you have to let yourself overwhelmed by the meaning which you feel, and then you have to make it understood to others, for which you need the support of linguistic analysis and cognitive science. Linguistic analysis allows you to see what triggered your creative solution from the bottom up elements of the text, cognitive science helps you to understand and make understood to others what associative chaining processes induced this problem solving.

OUTCOMING PERSPECTIVES

Perspectives for the future: a better cooperation between philosophers and translators might be for the benefit of both disciplines. Schleiermacher drew philosophical hermeneutics from his discussion with Schlegel about his translation of Plato. Contemporary translatoologists – as for instance, Paepcke – have been feeding on philosophers like Gadamer, but the interest of hermeneutic philosophers in translation is very limited (as we could notice at the last symposium of philosophers in Florianopolis, *Hermeneia* 2015). Have they forgotten that Schleiermacher's ideas about hermeneutics came from his translation of Plato and his discussions with Schlegel about this translation? Only Paul Ricoeur has been pleading for an application of philosophical hermeneutics to the different scientific domains. But until now this has not been very much materialized.

At the end of her summa, Cercel deplores the lack of recognition that translation hermeneutics is suffering, and invites to further efforts to make it better received. We completely share her criticism, when she writes: “Dazu gehört mehr als plakative Aussagen” [This exacts more than abstract statements], and consider this as an invitation to more empirical orientated research, as exemplified, for instance, in Stefanink and Bălăcescu. We think that the challenge of making translation hermeneutics more convincing could be met, on the one hand, at the empirical level, by multiplying individual examples of studies concerning the translation process

(especially creative problem-solving) with the help of ethnomethodological conversation analysis, which would offer a solid basis to discussions about the contentiously discussed comprehension process – actio vs. passio, the role of intuition, etc. – and would put some flesh on the skeleton of fundamental formulations like Heidegger’s “Den Bedeutungen wachsen Worte zu” [Words grow into the meanings].

On the other hand, an interdisciplinary contact with cognitive sciences would be helpful, since cognitive sciences are confirming the heuristic function of hermeneutics. What else is indeed the cognitivist “bottom up/top down” process if not the Gadamerian *Horizontverschmelzung*, what Schank’s (1982) cognitivist script if not the hermeneutic fore-understanding, Heidegger’s *Vorverständnis*? And Gadamer’s plaidoyer for a positive use of this *Vorurteil* in the comprehension process can be found in Lakoff’s ideas about categorization. As for the incriminated “subjectivity” of the hermeneutic approach, linked to the hermeneutic circle, its unavoidability is convincingly proved by the neurophilosophical research of Hans Lenk’s (2014, p. 78) in *Schemainterpretationismus*.

Methodological basis of translation studies. Writing a Research Paper in Translation Studies.



Questions for discussion:

1. Methodological basis of translation studies
2. Writing a Research Paper in Translation Studies
3. Developing of a Research Methodology

Key words: Translation Studies, methods, methodology, research paper.

Philosophical principles in research

1. Objectivism
2. Constructivism
3. Realism



There are many books on research methodologies in the humanities and social sciences which cover important philosophical questions such as How do we know what we know? or What is the truth? Here we will summarize the main philosophical questions, present the most important concepts and terms, and explain their importance for research in translation studies. Here, we distinguish, in very broad terms, three different ways of seeing the social world – objectivism, constructivism and realism – and three epistemological positions linked to these ontological categories: positivism, interpretivism and realism. These categories are somewhat convenient simplifications; in fact, there are many more than three ontological and epistemological positions, and there are also several versions of each of the positions we present here. Here we have the main principles and ethics in research. Let's distinguish them. They coincide with such notions as objectivism, constructivism, realism.

Positivism vs realism



According to researchers Matthews and Ross, objectivism “asserts that the social phenomena that make up our social world have an existence of their own, apart from and independent of the social actors (humans) who are involved”. This position derives from the approach adopted by natural scientists when they investigate phenomena in nature and assume that the researchers’ relationship to the phenomena they study is one of objective observation. Constructivism, on the other hand, asserts that social phenomena “are only real in the sense that they are constructed ideas which are continually being reviewed by those involved in them [the social actors]”. In other words, the meanings of any social phenomenon are not inherent but are ascribed to it by social actors. Realism presents an intermediate position between objectivism and constructivism: it accepts that social phenomena can have a reality that is separate from the social actors involved in it but also recognizes that there is another dimension that relates to what we know about the social world as social beings. This dimension includes “structures and mechanisms that trigger or affect the social reality that can be observed”.

Interpretivism vs constructivism



True or false?

1. According to empiricism knowledge is derived from experience.

* True

*False

2. Empiricism does not deny the idea that human beings are born with knowledge.

* True

*False

3. Empiricism refers to sensory experience.

* True

*False

As mentioned above, each of the ontological positions described is linked to an epistemological position, that is, it entails some beliefs as to what counts as knowledge and how knowledge can be obtained. The ontological position of objectivism assumes a positivist epistemology, which asserts that social phenomena can be objectively researched, data about the social world can be collected and measured, and the resulting observations must remain independent of the researchers' subjective understandings; that is to say, the researcher remains independent and has no impact on the data. Positivism is often linked with quantitative approaches to research and to empiricism, i.e. the collection of observable evidence.

Interpretivism is linked to the ontological position of **constructivism**; it prioritizes people's subjective understandings and interpretations of social phenomena and is often linked **with qualitative approaches to research**, where the researchers attempt to explore the social world from the point of view of the actors and reflect on their own subjective interpretations. **Realism** is both an ontological and epistemological position. As an epistemological approach it claims that certain social phenomena **exist outside the human mind** and can be objectively investigated using approaches similar to those in the natural sciences. In this respect, realism agrees with positivism. However, it also recognizes the existence of invisible but powerful structures and mechanisms that cannot be directly observable but whose effects are apparent. Realist approaches to research might typically adopt both **quantitative and qualitative tools and methods**.

RESEARCH IN TRANSLATION STUDIES

- PRODUCT-ORIENTED**
- PROCESS-ORIENTED**
- CONTEXT-ORIENTED**
- PARTICIPANT-ORIENTED**



Whether a piece of research is **process-, product- or context-oriented** is not determined by the methodology itself or even the source of data, but the ultimate **aims of the researcher**. Broadly speaking, **research on translated texts** can be carried out with a descriptive/explanatory or an evaluative purpose in mind. These two types of research have generally relied on rather different methodological approaches, even when they occasionally share the use of the same resources, as in the case of corpora. The evaluation of **the translated product** is then dealt with researches where the focus is on **translation quality assessment** and the challenges of conducting research that involves assessment of the quality of the **translated product**. The analysis of texts in the context of production and reception offers evidence of translators' decision making, which allows some insight into the **translation process**. This is particularly true of discourse analytical approaches where the focus is not only on texts as products but on the “process of meaning negotiation”, which involves using language to engage our extralinguistic reality suggests that there is a problem of validity in using corpora to make inferences about the **cognitive process of translation**, because corpora do not provide immediate evidence of underlying cognitive structures.



Product-oriented research

In Translation Studies, product-oriented research analyses the translation product, that is the translation itself.



While texts can be a source of data in a variety of research projects, linguistic evidence is used differently in each of them. **Baxter** (2010) draws a useful distinction between analyzing text as a means to an end and analyzing it as an end in itself. Language – in the form of **interviews, focus group discussions or questionnaires**, for example – **is one of the many sources of evidence used by researchers** in a wide range of disciplines, **such as sociology, psychology, education, cultural studies and media studies, to mention just a few**. As Baxter explains, non-linguists often view “**discourse as data**” (i.e. as a means to an end) under the assumption that it provides “a transparent medium to external reality, or as a direct index of subjects’ feelings and meanings”. From the perspective of CDA, on the other hand, language is never seen as a neutral conduit of information about the **real world it encodes: any account of experience is a form of interpretation**. Wood and Kroger (2000:8) make a similar distinction between ‘**talk as resource**’ and ‘**talk as topic**’: The emphasis on discourse as action and as constitutive of phenomena entails a shift from the usual focus of interest in the phenomena to which the discourse refers to a focus on the discourse itself. A shift from using features of talk **to explain behaviour** (talk as

resource) to a focus on the features of **talk as the behaviour to be explained** (talk as topic).



Process-oriented research

Translation process research seeks to understand translator or interpreter behavior, competence, expertise, the cognitive processes that orient these, and the relations between cognition and the translated or interpreted product.



CDA is not in itself a methodology but an umbrella term used to refer to a series of theories and practices that share certain principles in terms of their approach to language study, a ‘school’. In fact, discourse analysis (DA) – the broader approach to the study of discourse of which CDA is a variety – is used within a range of disciplines outside linguistics. We do this by focusing, in turn, on the terms ‘discourse’, ‘critical’ and ‘analysis’. In linguistics, in its most basic and traditional sense, ‘discourse’ refers to language ‘above the sentence’. This means that words, clauses, phrases, or sentences are never considered in isolation, unless they constitute texts in themselves. DA (including CDA) differs from other branches of linguistics in that it focuses on whole texts. Text is understood very broadly as “every type of communicative utterance”, and can include anything from a one-word warning sign, a shopping list, a newspaper article, to the transcript of a conversation or a television programme, to give just a few examples. The relationship between language and context can be observed from the two vantage points of text and context. We can examine how the context has influenced the choices made in a given text, for

example, compares two interpreter-mediated events involving the same participants and the same case, one conducted by telephone and the other on-site, in order to investigate how social interaction is influenced by those two distinct settings. Alternatively, taking the text as a point of departure, we can use DA or CDA to find out what the text tells us about the context

Participant-oriented research

PARTICIPANTS NEEDED



A corpus is “a large collection of authentic texts that have been gathered in electronic form according to a specific set of criteria” (Bowker and Pearson 2002:9). Corpora have been put to many different uses in fields as varied as natural language processing, CDA and applied linguistics, and could therefore be considered simply as a resource in linguistics. The initial focus of CL was to describe language performance as opposed to language competence by providing quantitative information on the distribution of linguistic features in particular genres or for different functions. In other words, CL was used to answer variations of one overarching question: “How do people really use language?”. In translation studies, this focus is evident in the first wave of studies that used corpora and aimed to describe

how translations differed from non-translated texts; these were largely **limited to the** study of recurrent features of translations. Research along these lines has been particularly fruitful.

One of the key differences between CL and DA is their individual potential to provide answers that can be generalized beyond the texts under study. In CDA, texts are chosen because of their intrinsic significance or because they are considered to be typical of a certain discourse. The claim that a text is ‘significant’ or ‘typical’ needs to be carefully justified but, ultimately, it is always subjective. Subjectivity, not only in the selection but also in the interpretation of texts, underlies three perceived problems in CDA: the risk of a circular argument, the impossibility of replicating the results, and the assumption of privileged knowledge on the part of the researcher. In sum, a combination of CL and DA offers a more powerful means of establishing a connection between everyday routine and cultural transmission than either of those methodologies on their own. In-depth qualitative analysis can form the basis for hypotheses that are tested afterwards through corpus analysis, or the mechanisms behind general patterns discovered using CL can be explained by detailed studies of certain texts, taking into account the context of production and reception. Nevertheless, it is important to bear in mind that the use of corpora for DA has its limitations: the corpus analysis tools currently available are best suited for the investigation of features below sentence level, and they present the analyst with fragments of language which are removed from the environment in which they were designed to be displayed. Mason warns against generalizing from concordance-based analyses that consider isolated sentences and ignore “the rhetorical purposes which give rise to them”. In addition, as we will see below, using a corpus does not guarantee generalizability in any case.

Translation process research seeks to understand translator or interpreter behaviour, competence, expertise, the cognitive processes that orient these, and the relations between cognition and the translated or interpreted product. Furthermore, since translation is not divorced from social context, process research seeks to understand the effect of the context on the process. Individuals, with their specific traits and

ways of processing, are also a central focus. Hence, while translation process research is frequently understood to mean investigating the mental operations involved in translating, in fact it encompasses a much broader object of interest.

The methods of **questionnaire surveys, interviews and focus groups** are staples of sociological research and therefore, we argue, are crucial for the development of a truly encompassing **sociology of translation**. **However, these methods are also not restricted to sociology and, in translation studies**, they have also been extensively used in applied research without resorting to social theories in order to explain the results. The methods described here are oriented towards participants in two different but complementary senses. First, they can be used to study **the participants** (more commonly called ‘agents’) involved in the **process of translation: translators, trainers, students, commissioners and so on**. Second, the research requires the participation of human beings in the research process. A note on terminology is called for here. Our use of the term ‘participant’ is in line with new developments in research **involving human** beings which attempt to recontextualize the research by presenting it as a collaborative process between the researcher and the people who are invited to participate in it. **The aim** is to recognize the contribution made by those whose views we request and to highlight the fact that, for the research to be valid, they need to be fully **informed stakeholders** whose consent is free and revocable.

Context-oriented research falls within what Marco (2009) calls the **culturalist and sociological models**. The first is described as aiming to uncover “**the complex social, political, cultural and ideological forces which shape translation practices**”. The second has similar aims, the main difference between them being the disciplines they draw on – **cultural studies in the first case and sociology in the second** – and the fact that methods employed in cultural studies are more eclectic. Two important characteristics of cultural studies research are its engaged, political nature and its rejection of the ideal that scientific research leads to the creation of objective knowledge of social reality. However, in terms of context-oriented research, the impact of sociology has been felt not so much in terms of research methodology **but in the conceptual frameworks** and explanatory procedures

borrowed from that discipline. **Pierre Bourdieu, Bruno Latour and Niklas Luhman** are probably the most influential examples of recent applications of sociological approaches in translation studies. Although the disciplines that have traditionally informed context-oriented research in translation studies are cultural studies and sociology, there is work in a much wider range of disciplines, including **political science, anthropology and psychology, that is relevant to the study of contextual factors in translation.**

Context-oriented research



The approach to take to one's research should be determined by **the research question(s)** and how best it/they might be addressed. The quantitative approach is associated with the positivist epistemological position we mentioned earlier while a qualitative approach is generally associated with the interpretivist position.

2. Writing a Research Paper in Translation Studies



- Choosing Your Topic
 - Narrowing Your Topic
- Writing a Thesis Statement
- Creating an Outline



A research paper is a type of academic writing that provides an in-depth analysis, evaluation, or interpretation of a single topic, based on empirical evidence. Research papers are similar to analytical essays, except that research papers emphasize the use of statistical data and preexisting research, along with a strict code for citations.

Research papers are a bedrock of modern science and the most effective way to share information across a wide network. However, most people are familiar with research papers from school; college courses often use them to test a student's knowledge of a particular area or their research skills in general. Considering their gravity, research papers favor formal, even bland language that strips the writing of any bias. Researchers state their findings plainly and with corresponding evidence so that other researchers can consequently use the paper in their own research. Keep in mind that writing a research paper is different from writing a research proposal. Essentially, research proposals are to acquire the funding needed to get the data to write a research paper.

Choosing your topic

- **Breadth.** You may need to start broad and let your research take you narrower.
- **Originality.** Choose a topic that will allow you to contribute to the field, rather than just regurgitate facts.
- **Sources.** On the other hand, also choose a topic that has scholarly grounding.



Narrowing your topic

- **Focus on a specific TYPE or CLASS**
- **Focus on a particular PLACE or REGION**
- **Focus on a certain TIME PERIOD**
- **Focus on a certain ASPECT**
 - Social, legal, medical, ethical, biological, psychological, economic, political, philosophical, etc.
- **Focus on a specific POPULATION**
 - Gender, age, occupation, ethnicity, nationality, educational attainment, species, etc.
- **Focus on a RELATIONSHIP with two or more topics**
- **COMBINE** different kinds of focuses



Tips: Use journalistic questions: who?, what?, when?, where?, why?
Review recent literature (journals, trade papers, etc.)
Recall questions asked in class.
Apply your paper to your career goals.
Talk to your professor.



Research statement

- The thesis statement is like an outline in miniature. It is a “roadmap” for the rest of the paper.
- A typical thesis statement gives brief mention to each of the paper’s main points, and it also states the overall argument the writer wishes to make.
- It directly answers the question asked of you.
- It makes a claim that others might dispute.
- It is usually a single sentence near the end of the first paragraph that presents your argument to the reader.



Identifying a Strong Research Statement

- Do I answer the question?
- Have I taken a position that others might challenge or oppose?
- Does my thesis pass the “So what?” test?
- Does my essay support my thesis specifically and without wandering?
- Does my thesis pass the “how and why?” test?



Research terminology

Along with the terms used above, many other terms are used in research in a way that assumes general agreement about the meaning assigned to those terms. However, even seasoned researchers can use research terminology inconsistently, and this can lead to much confusion and frustration on the part of the reader and, especially, the novice researcher. Terms such as model, framework, theory, typology, concept, method and methodology often go unexplained or are used synonymously, resulting in a lack of comprehension.



The Writing Process

1. Outline
2. Draft
3. Revise
4. Edit



A research proposal deals with problem or topic that is to be investigated. It has a variety of formats which vary in their length. Writing a research proposal or synopsis includes as introductory section : problem hypothesis objectives, assumptions, methods of the study tools, justification and implications of the study. A research report deals with results of completed research work. After completing a research work, it is generally produced in the written form and is called research report or thesis.



Benefits of an outline

- Aids in the process of writing
- Helps you organize your ideas
- Presents your material in a logical form
- Shows the relationships among ideas in your writing
- Constructs an ordered overview of your writing
- Defines boundaries and groups
- Prevents you from “straying” from the topic





Creating of outline

- **Research:** Perform initial research to learn about your chosen topic.
- **Brainstorm:** List all the ideas that you want to include in your paper.
- **Organize:** Group related ideas together.
- **Order:** Arrange material in subsections from general to specific or from abstract to concrete.
- **Label:** Create main and sub headings.

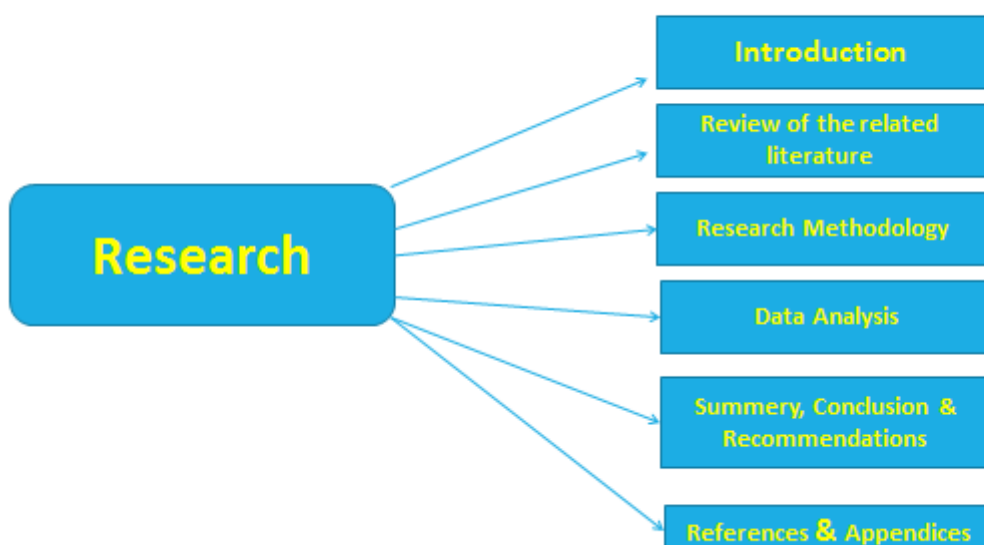
Outline Tips

- **Begin early!** A strong, detailed outline is a crucial step of the writing process.
- **Refer to your outline often.** A strong outline provides a consistent backbone during the writing process.
- **Be as specific as possible.** This will be your guide throughout the entire writing process.



- **Avoid having too many subheadings.** This may indicate that you can further narrow the topic of your paper.
- **Don't be afraid to change your outline.** Further research may provide additional information or counterpoints.
- **Allow yourself enough time to make changes.** Attempting a complete overhaul of your paper the night before it's due is both frustrating and often futile.

A research includes the following chapters



Introduction

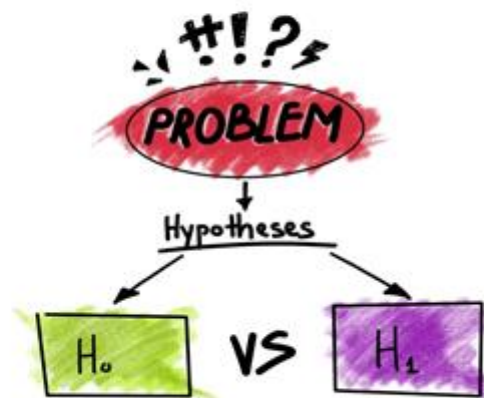
- ❖ The main purpose of this chapter is to indicate the need and scope of the study.
- ❖ It is reported in the past tense form of work completed.
- ❖ The problem objectives, hypothesis/ research questions, significance of the study, limitations of the study are reported precisely.



Before we as researchers select methodologies, we must first identify at least a tentative research question, and possibly several sub-questions, which are often refined as the research develops. The sub-questions allow the researcher to unpack the main research question into more specific, highly focused questions. According to Matthews and Ross, hypotheses are specific types of research questions that are not phrased as questions but as statements about relationships; they define a hypothesis as “ a testable assertion about a relationship or relationships between two or more concepts” (2010:58, emphasis in original). A research question, then, can sometimes be rephrased as a hypothesis. If we take the descriptive research question mentioned above (What micro-strategies do translators employ when they apply the MiniMax macro-strategy?), we might express the following hypothesis in relation to this question: When translators employ the MiniMax strategy, they make use of micro-strategies that are different from those they use when they are not employing the MiniMax strategy (but see comments about the null hypothesis below). In other words, the researcher is asserting that there is a relationship between the use of the

MiniMax strategy and the type of micro-strategies employed. Note that the hypothesis is not just an expression of the research question in the form of a statement. We have had to refine it somewhat in order to express it as a hypothesis, and it probably still needs further refinement. It can be illuminating to ask oneself what one's hypotheses are, once the research question(s) has/have been formulated. In doing so, we are asking what we expect to find and the research project should aim to find evidence which either supports our hypotheses or contradicts them. Note that even if our hypothesis is not supported (or fully supported), this is still a valuable research outcome.

Research questions and hypotheses



Review of the Relevant literature

- ❖ This chapter is essential in most of the research studies.
- ❖ It presents the comprehensive development of the problem background.
- ❖ It indicates what has already been studied by others, which has a bearing upon the present study.



It was mentioned above that one way of identifying interesting research questions is performing a thorough literature review. The literature review gives researchers an opportunity to explain their motivation and potential contribution. According to Fink (2005:3), the literature review is “a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners”.



3. Developing of a Research Methodology

- ❖ This chapter indicates the line of approach of the study.
- ❖ The first aspects deals with the method, population and sample of the study and second part provides the tools and techniques employed in the research.
- ❖ It also presents the procedure of the study.
- ❖ The whole plan of the study is discussed in detail under this chapter.



What is Research Methodology? Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability. Your research methodology discusses and explains the data collection and analysis methods you used in your research. A key part of your thesis, dissertation, or research paper, the methodology chapter explains what you did and how you did it, allowing readers to evaluate the reliability and validity of your research and your dissertation topic.

True or false?

1. Research method and research methodology are synonyms.

* True

*False

2. Research method is the logic of how a scholar arrives at a valid and reliable knowledge

* True

*False

3. Research methodology is the justification for using a particular research method.


* True

*False

4. The research methodology is the practical positioning of the research, while the research method is the idea of the research itself.

* True

*False



To find answers to research questions, we need to collect appropriate data for analysis. Data can be spoken or written, non-verbal, structured in different ways, produced by individuals or groups, be factual or representing opinions, and it can include the researcher's own reflections. There are two general types of data –

quantitative and qualitative and both are equally important. You use both types to demonstrate effectiveness, importance or value.

True or false?

1. Element №1 of the study is a background or setting.

* True

*False

2. You should not explain the reason why you use a particular methodology in your paper.

* True

*False

3. The third element includes the material and samples.

* True

*False

4. Statistical model is not an essential part of the methodology block.

* True

*False

Data Analysis

- ❖ In this chapter analysis and results are reported.
- ❖ The analysis of data are presented in tabular form and in figures or pictorial presentation.
- ❖ The results are interpreted at length.
- ❖ This chapter provides the original work or contribution by the researcher.
- ❖ The communicative accuracy is required in this chapter.



Conclusions and Suggestions

- ❖ This is the most important chapter of the research.
- ❖ It requires the creative and reflective aspect of the researcher.
- ❖ The results are discussed to make them more meaningful comparison of the results with the evidence.
- ❖ The findings of the study are summarized and suggestions for further studies are also given.



In this chapter, the researcher presents the conclusion and suggestion following the finding of the study. The first section is the conclusions of the research finding and the second is the suggestion dealing with the objectives of teaching and learning process. The conclusion offers you the opportunity to elaborate on the impact and significance of your findings. This is particularly important if your study approached examining the research problem from an unusual or innovative perspective. Introducing possible new or expanded ways of thinking about the research problem.

At the end of a scholarly article, you will find a list of the works cited by the author(s). This list is called a reference list, works cited or bibliography. In scholarly articles, this list will generally be quite long and include articles, books, and other sources. References are the source materials; therefore, each reference should be listed only once in your references section. Citations are meant to identify the source of the information you use in your paper. You can cite a reference multiple times.

References

- ❖ References are listed on separate page
- ❖ Only citations that appear in the text should appear on the reference page
- ❖ Everything cited in the text should appear on the reference page.



Questionnaire

1. What is your research study all about?
2. Why did you choose this study?
3. What is the scope of your study?
4. What sources did you use for data collection?
5. What is the structure of your research?
6. Who will be most interested in your research?

<https://docs.google.com/forms/d/1xOL3XWSxEQdEUhajMDWeK7HGHdDXruXqvOjJXaZodpo/edit>



*(Пам'ятка підготовлена за книгою Gabriela Saldanha and Sharon O'Brien
"Research Methodologies in Translation Studies", Routledge, 2013, 292 p.)*

ГЛОСАРІЙ ТЕРМІНІВ

Автопереклад – 1) переклад з однієї національної мови іншою (скажімо, франко-голландські та голландсько-французькі самопереклади бельгійських письменників ХХ ст., таких як Камілл Мелой або Марнікс Гійсен); 2) переклад з «регіональних» мов на мови з більшою кількістю мовців (прикладом чого можуть служити твори спершу створені автором-шотландцем гаельською мовою, а пізніше перекладені ним же шотландським варіантом англійської мови, як це притаманно творчості Ш. МакЛіна); 3) переклад з діалектів на загальнонаціональну літературну мову (скажімо, самопереклади італійських «діалектних» поетів літературною італійською мовою, прикладом чого може бути поезія Джана Маріо Віальти).

Адаптація – це такий перекладацький прийом, за якого зміст оригінального тексту відтворюється в перекладі в іншій формі, спрощено або ускладнено, залежно від соціальної та вікової категорії реципієнтів. Адаптація забезпечує основне відтворення інформації першотвору і зберігає належний обсяг перекладу.

Адекватний переклад – це повноцінний правильний переклад оригінального тексту, за якого його зміст, форма, стилістичні особливості й авторська спрямованість / підтекст відтворюються без спотворення і суттєвих змін. Адекватний переклад завжди є літературним, тобто орієнтованим на літературні норми мови перекладу.

Аналітичні методи редагування полягають у тому, що над математичними та логічними компонентами повідомлення (цифровими даними, поняттями, умовисновками, доведеннями) виконують обчислення (відповідно математичні або логічні) й порівнюють їх із даними, прямо чи опосередковано зафіксованими в цьому повідомленні або опублікованими в довідниках.

Антонімічний переклад – це комплексна лексико-граматична трансформація, у якій одночасно здійснюються модифікації лексичної та синтаксичної структур. На практиці антонімічний переклад, як правило, пов'язується з заміною однієї з лексем оригіналу на її міжмовний антонім. При цьому дуже часто стверджувальна конструкція у реченні вихідного тексту замінюється на заперечну в перекладі і навпаки.

Атенційні помилки виникають унаслідок порушення у повідомленні контактної функції мови й переключення реципієнтами уваги на інші об'єкти. Ці помилки пов'язані з волею реципієнта щодо сприйняття: автор намагається змусити реципієнтів сприймати повідомлення, а реципієнти або не почали його сприймати, або, розпочавши, припинили внаслідок переключення уваги. Наявність таких помилок особливо небезпечна для тих повідомлень, що розраховані на випадкове сприйняття (рекламні, агітаційні та пропагандистські).

Буквалізм – перекладацька помилка, яка є результатом відповідності формальних чи семантичних компонентів двох мов.

Види еквівалентності – розрізняють такі п'ять видів еквівалентності: денотативну, конотативну, текстуально-нормативну, прагматичну, формальну.

Відображувальні помилки полягають у тому, що у реципієнта при сприйманні знака виникає інший образ, ніж в автора повідомлення.

Генералізація – заміна перекладного слова, яке має вузьке, конкретне значення, іншомовним еквівалентом, який має ширше, узагальнююче значення. Протилежне: конкретизація.

Гіперонімічна заміна – перекладацька заміна гіпоніма гіперонімом (генералізація).

Гіпонімічна заміна – перекладацька заміна гіпероніма гіпонімом (конкретизація).

Грамматична трансформація (або граматична заміна) – це перекладацький прийом, за якого граматична одиниця оригіналу передається в перекладі

граматичною одиницею мови перекладу з іншим категоріальним значенням.

Декомпресія (додавання) – представляє розширення тексту оригіналу, пов'язане з необхідністю повноти передачі його змісту, а також відмінностями граматичного устрою. Протилежне: компресія.

У **дискурс-аналізі** можуть використовуватися такі традиційні підходи: конверсаційний аналіз та наративний аналіз для визначення зв'язку «мікроподії» з більш об'ємними дискурсами і продемонструвати, як наративи конструюють соціальний досвід; етнографічні методи для з'ясування взаємодії дискурсів в конкретних практиках; контент-аналіз як інтерпретативна форма дослідження для виявлення зв'язку змісту тексту з ширшими дискурсними контекстами.

Дистрибутивний аналіз – методика дослідження мови на основі оточення (дистрибуції, розподілу) окремих одиниць у тексті. Це своєрідний дешифрувальний підхід, що ґрунтується на основі вивчення сполучуваності мовної одиниці з іншими одиницями, які називаються оточенням, або контекстом, цих одиниць.

Едитологія – наука, яка вивчає теорію редагування (від лат. „*redactus*” – *приведений до порядку*) повідомлень.

Еквівалентний переклад – переклад, який здійснюється на рівні, необхідному і достатньому для передачі незмінного плану змісту.

Еквівалентні відповідності – варіант перекладу, коли значення слів повністю однакове у двох мовах.

Еквівалентність перекладу – збалансоване співвідношення двох найважливіших характеристик тексту оригіналу і тексту перекладу: повноти і точності змісту, що передається; збереження відносної рівності змістової, смислової, семантичної, стилістичної та функціональнокомунікативної інформації оригіналу та перекладу. Традиційно в перекладознавстві розрізняють повну еквівалентність (одиниця мови оригіналу повністю тотожна певній одиниці мови

перекладу за семантичним обсягом, стилістичною належністю, сполучуваністю та ін.), часткову еквівалентність (коли певна вихідної мови не є тотожною певній одиниці цільової мови за семантичним обсягом і/або стилістичною приналежністю, сполучуваністю та ін.). Всі інші лексичні відповідності будуть варіантними; тобто, одному слову іноземної мови будуть відповідати декілька значень рідної мови, чи навпаки.

Значеннєві помилки полягають у у неправильному слововживанні, автори замість потрібних вживають слова з іншими значеннями. Особливо часто вони трапляються при аудіовізуальній передачі інформації.

Канцеляризми – це слова чи словосполучення, які належать до офіційного або бізнесового функціональних стилів, але вжиті в художніх творах.

Когнітивні методи редагування належать до числа тих, які передбачають контроль значення компонентів повідомлення (слів, словосполучень, речень тощо).

Кодувальні помилки полягають у тому, що в кодї знака (слова) є відхилення від норми. Тому кодувальними помилками є, наприклад, більша частина похибок.

Компаративні методи редагування. Суть компаративних методів контролю полягає в тому, що з різних місць (точок) повідомлення вибирають ті компоненти, які описують один і той самий об'єкт чи в якомусь іншому плані є однотипними, а далі, порівнявши їх, з'ясовують, чи тотожні ці компоненти, чи ні.

Компресія (стиснення) – будь-яке скорочення кількості членів речення або пропуск цих елементів у перекладі. Причини використання компресії: специфічні особливості граматичної структури мови, стилістичні або прагматичні фактори. Протилежне: декомпресія.

Конкретизація – перекладацький прийом, зміст якого полягає в тому, що перекладна одиниця за своїм значенням більш конкретна, ніж вихідна. Протилежне: генералізація.

Копіювальні помилки (спотворення) виникають внаслідок переписування, копіювання оригіналу або перекладу (наприклад, авторський оригінал передруковують у ЗМІ після редагування, проект видання передають каналами зв'язку із ЗМІ у друкарню тощо). Для пошуку й видалення з повідомлення спотворень у видавничій справі проводять коректуру. Джерелами виникнення спотворень можуть бути інструментальні (технічні, програмні, інформаційні) засоби або персонал.

Коректурними знаками (знаками виправлення) називають спеціально утворену для видавничої справи і прийняту на державному рівні (наприклад, у вигляді стандарту) множину знаків, які використовують для фіксації місця розташування помилок у повідомленні та задання методу їх виправлення. Коректурні знаки ділять на знак і для текстової й для ілюстраційної частин оригіналу.

Лексичні трансформації – це передача значення лексичних одиниць оригіналу в даному контексті лексемами мови перекладу, що не є їхніми словниковими відповідниками, які змінивши свою внутрішню форму, передають сенс, актуалізований одиницями оригіналу. Загалом можна виокремити п'ять видів лексичних трансформацій: *конкретизація, генералізація, зміщення, додавання та вилучення*.

Лінгвістичний метод – це засіб та спосіб, за допомогою якого лінгвісти отримують знання про мову, пізнають її.

Метод дослідження – це той «інструмент», який використовується лінгвістом для отримання фактичного матеріалу у ході наукового дослідження, який допомагає лінгвісту вирішити поставлені наукові завдання.

Метод контекстуального аналізу є сукупністю процедур, спрямованою на встановлення статусу тексту відносно інших текстів, його значимості в соціокультурному контексті, а також на реконструкцію авторського (комунікативного) задуму, мотивів і цілей, загального змісту, рецептивної спрямованості тексту тощо. Деякі дослідники вважають цей метод

різновидом загального описового методу, хоч останній застосовується, звичайно, щодо менш складних мовних одиниць.

Аспект (підхід) лінгвістичного дослідження визначає точку зору, ракурс розгляду певного мовного чи мовленнєвого об'єкта. У мовознавстві відомі системний, структурний, семіотичний, комунікативно-функціональний, когнітивний підходи тощо.

В основі **системного підходу** лежить розгляд мови як складного об'єкту – цілісної сукупності елементів з урахуванням відношень і зв'язків між ними. При цьому вивчаються способи об'єднання елементів у єдине ціле, функції системи, що визначаються її елементами, її походження, межі та відношення з іншими системами.

Структурний підхід, який був закладений Ф. Соссюром, передбачає синхронне дослідження, яке містить два виміри, що відображають структурні відношення – горизонтальний (синтагматичний) та вертикальний (парадигматичний).

Семіотичний підхід передбачає вивчення знакових якостей мовних одиниць з урахуванням таких аспектів, як семантичний (значення), прагматичний (особливості вживання), синтактичний (відношення одиниць в рамках системи мови).

Комунікативно-функціональний підхід пов'язаний із дослідженням функціональних особливостей та реалізацій функцій одиниць мови у різноманітних ситуаціях спілкування.

Когнітивна лінгвістика (від англ. cognition «знання, пізнання», «пізнавальна здатність») – мовознавчий напрям, який розглядає функціонування мови як різновид когнітивної, тобто пізнавальної, діяльності, а когнітивні механізми та структури людської свідомості досліджує через мовні явища.

Когнітивний підхід покликаний з'ясувати роль мови у процесі сприйняття та пізнання людиною позамовного світу, категоризації та класифікації уявлень про навколишнє оточення. Вибір певного методу значною мірою

прогнозований метою дослідження, який і формує певну методологію і аспект дослідження.

Концепт – багатовимірне утворення, що характеризується такими диференційними ознаками: зв'язок з мовою, мисленням, пам'яттю та психікою, абстрагування, етнокультурне забарвлення, момент переживання, специфікація, узагальнення, автореферентність, безтілесність, відкритість, вічність, динамічний характер, гнучкість, множинність складників, потенційна суб'єктивність, тривалість і складність формування, стереотипність і константність, кодованість у чуттєво-образних уявленнях і виконує пізнавальну функцію, функції збереження знань про світ, структурування знання, орієнтування у світі.

Концептуальний аналіз найменувань може приймати різну форму: можна вивчити концепти та судження, що стоять за звичайною конкретною лексикою; можна здійснити концептуальний аналіз ключових слів епохи; можна, скориставшись методикою фреймової семантики, спробувати вивчити, які структури знань стоять за тими чи іншими класами слів.

Локальні помилки виникають внаслідок відхилення місця, вказаного у повідомленні, від місця у світі, описуваному в матеріалі (реальному, псевдореальному чи ірреальному).

Методи редагування – це послідовність процедур, які дають змогу відшукувати в окремих компонентах повідомлення відхилення від норм та виправляти їх. Різні дослідники виділяють різну кількість методів редагування, деталізуючи їх та розщеплюючи їх на окремі операції.

Модальні помилки. Генеруючи текст, автори в переважній більшості випадків знають, у якому відношенні до дійсності перебуває їх повідомлення. Проте іноді, визначаючи таке відношення, і самі автори можуть помилятися, наприклад, коли видають наукову гіпотезу за фактичний стан речей.

Модуляція, (логічний/смісловий) розвиток – це лексико-семантична трансформація логічного розвитку значень, яка полягає у заміні одного

складника причинно-наслідкових відносин іншим, логічно з ним пов'язаним при збереженні інваріанта. Наприклад: *He always made you say everything twice* – *Він завжди перепитував*.

Невідповідність – уривки вихідного чи перекладного тексту, які містять непередану або доповнену інформацію.

Норма – це параметр, список, шаблон, структура (модель) чи положення, які в оптимальних повідомленнях служать для вираження компонентів їх структури.

Нормативні помилки виникають тоді, коли в повідомленні є відхилення від конкретних норм, встановлених суспільством (конкретною державою).

Норми еквівалентності перекладу – вимоги, що висуваються до відтворення змісту, форми, стилістики й внутрішнього підтексту оригіналу при його перекладі. Основні вимоги до перекладу художньої літератури:

1. **Точність**. Перекладач зобов'язаний донести до читача повністю всі думки, висловлені автором. При цьому повинні бути збережені не тільки основні положення, але також нюанси і відтінки вислову. Піклуючись про повноту передачі вислову, перекладач разом з тим не повинен нічого додавати від себе, не повинен доповнювати і пояснювати автора.
2. **Стислість**. Перекладач не повинен бути багатослівним, думки повинні бути викладені в максимально стислій і лаконічній формі.
3. **Ясність**. Слід уникати складних і двозначних оборотів, що ускладнюють сприйняття. Думка має бути викладена простою і зрозумілою мовою.
4. **Літературність**. Переклад повинен повністю відповідати загальноприйнятим нормам літературної мови.

Об'єднання речень – це перекладацький прийом, за якого синтаксична структура оригіналу перетворюється з двох чи більше простих речень в одне складне. Протилежна трансформація: членування речень.

Одиниці перекладу – одиниця мови, яка потребує самостійного перекладацького рішення.

Описовий метод містить такі послідовні етапи: 1) виділення одиниць аналізу – фонем, морфем, лексем, конструкцій тощо (первинна сегментація); 2) членування виділених одиниць (вторинна сегментація): поділ речення на словосполучення, словосполучення на словоформи, словоформи на морфеми, морфеми на фонеми, фонеми на диференційні ознаки; 3) класифікація й інтерпретація виділених одиниць. Описовий метод використовує прийоми зовнішньої та внутрішньої інтерпретації.

Основний парадокс теорії редагування – принципова неможливість отримати абсолютно безпомилковий текст і неможливість створити модель редагування, яка усувала б із тексту абсолютно усі помилки.

Параметричні методи редагування. Суть параметричних методів полягає в тому, що компонент повідомлення порівнюють з відповідною нормою, сформованою в нормативній базі у вигляді параметра, і на підставі критерію відповідності вирішують, чи є в компоненті помилки, чи ні.

Пароніми – слова, близькі за звучанням, але різні за значенням.

Переклад – 1) діяльність, що полягає у варіативному перевираженні, перекодуванні тексту, породженого однією мовою, у текст іншою мовою, що здійснює перекладач, який творчо підбирає варіант залежно від варіативних ресурсів мови, виду перекладу, завдань перекладу, типу тексту й під впливом особистої індивідуальності; 2) процес діяльності перекладача по забезпеченню комунікації між носіями різних мов та обміну інформації між ними; 3) результат перекладацької творчості, тобто текст у його усній чи письмовій формі; 4) умовна назва перекладознавчих дисциплін.

Перекладацькі трансформації – це міжмовні перетворення з метою досягнення перекладацької еквівалентності. Це навмисні відступи від структурного та семантичного паралелізму між текстом оригінал і текстом переклад на користь їх рівноцінності. Трансформація – основа більшості прийомів перекладу. Полягає в зміні формальних (лексичні або граматичні трансформації) або семантичних (семантичні трансформації)

компонентів вихідного тексту при збереженні інформації, призначеної для передачі тексту.

Перекладність – принципова можливість досягнення еквівалентності стосовно всього тексту або будь-якої його частини.

Положеннєві методи редагування контролюють на відповідність компонентів повідомлення певним нормам (лінгвістичним, соціальним, психолінгвістичним, інформаційним і іншим).

Помилка – об'єктивне відхилення від норми, яке є різницею між неправильним компонентом повідомлення та його нормативним (правильним) поданням.

Прагматична адаптація – різновид перекладацької діяльності, спрямований на відтворення оригінального тексту з урахуванням рівня підготовки й сприйняття реципієнтів, їх соціальної і вікової категорії.

Прийоми зовнішньої інтерпретації бувають двох видів: а) за зв'язком з позамовними явищами (соціологічні, логіко-психологічні, артикуляційно-акустичні); б) за зв'язком з іншими мовними одиницями (прийоми міжрівневої інтерпретації).

Редагування – 1) вид професійної діяльності (в сфері друкування, книговидавництва, телебачення, радіомовлення); 2) складова частина процесу видавництва, яка включає творчу роботу редактора над рукописом твору з метою покращення його в ідеологічному, науковому, літературному плані та підготовки до випуску в світ; 3) приведення змісту і форми будь-якого документу у відповідність із загальноприйнятими чи умовно встановленими вимогами і нормами.

Рівні еквівалентності перекладу – виділяються п'ять так званих рівнів еквівалентності, з яких два перших (рівень слів, словосполучень і рівень речення) співвідносяться з прямими міжмовними трансформаціями, а решта припускають достатньо вільну інтерпретацію змісту перекладацького тексту на основі ширшого контексту.

Семантичний буквализм – помилка перекладача в результаті передачі семантичних компонентів слова, словосполучення без урахування інших факторів.

Семантично адекватний переклад – переклад, який передає денотативне значення вихідного вислову та відповідає нормам мови перекладу.

Семіотичні помилки поділяють на кодувальні, відображувальні та значеннєві.

Ситуативні помилки виникають внаслідок відхилення ситуації, вказаної у повідомленні, від ситуації у світі, описуваної у тексті (реальному, псевдореальному чи ірреальному). Ситуативні помилки можуть виникати також унаслідок відхилення ситуації, на яку під час сприйняття повідомлення реципієнтами розраховував автор, від ситуації, яка виникла у час його сприйняття насправді.

Спискові методи редагування. Для контролю повідомлень списковим методом редактор у своїй нормативній базі повинен мати всі необхідні списки (книги чи адреси Інтернет-серверів із такими списками).

Спосіб перекладу визначається як об'єктивно існуюча закономірність переходу від однієї мови до іншої.

Сприйняттєві помилки виникають лише у момент первинного сприймання повідомлення і спричинені певною двозначністю у тексті. У процесі остаточного сприймання вони, як правило, зникають.

Стилістична модифікація – заміна в процесі перекладу елементів висловлювання, що належать до одного функціонального стилю, елементами іншого стилю.

Структурні методи редагування полягають у тому, що структуру компонента повідомлення порівнюють із масивом структур, які є в нормативній базі, й на основі прийнятого критерію відповідності виявляють, чи тотожна ця структура якійсь структурі нормативної бази, чи ні.

Тезаурусні помилки виникають у реципієнтів тоді, коли у повідомленні вживають знаки (слова), які відсутні в їх тезаурусі або не мають жодних зв'язків з іншими словами тезауруса. Такі помилки можна назвати ще

релятивними (вони є помилками лише стосовно якоїсь певної групи реципієнтів).

Темпоральні помилки виникають внаслідок відхилення часу, вказаного у повідомленні, від часу в світі, описуваному в тексті (реальному, псевдореальному чи ірреальному).

Теорія відповідностей – теорія, яка ґрунтується на твердженні, що перекладний текст завжди містить певну кількість інформації, яка відсутня у початковому тексті.

Техніка перекладу – сукупність професійних прийомів, які використовуються у процесі перекладацької діяльності.

Транслятема – одиниця перекладу. У реалістичній драмі чи комедії транслятема включатиме в себе обмін репліками між персонажами, у ліричному вірші вона дорівнюватиме порівнянню чи метафорі, а в тексті повісті чи оповідання розтягнеться від речення до абзацу. Транслятема щоразу виступає як певний «атом змісту», який не можна поділити без руйнування цього змісту.

Фактичні помилки, до яких належать такі твердження, модальністю яких є реальність, проте ці висловлювання – хибні (наприклад, різниця у способі позначення міри вимірювань у нашій країні та в англomовних країнах).

Функціональна заміна (або пошук функціонального відповідника) полягає в тому, що певна ситуація, описана засобами мови джерела, передається у мові перекладу видозміненими або іншими лексичними одиницями-відповідниками, що складаються у словосполучення (синтагми, інформативні блоки, цілі речення та надфразові одиниці) згідно з нормами та правилами граматики, прийнятими в мові перекладу.

Художній переклад – різновид літературної творчості, внаслідок якої твір, існуючи в одній мові, «оживає» в іншій. Зважаючи на те, наскільки точно Х.п. відтворює оригінал, його називають «вільним», «переспівом», «наслідуванням». Крім глибокого знання мови оригіналу, перекладач мусить бути обізнаним з його контекстом. Х.п. був відомий в Україні

здавен. Особливо помітний слід у створенні антології світової літератури українською мовою залишили І. Франко, Леся Українка, М. Зеров, М. Рильський, М. Бажан, Борис Тен, М. Лукаш, Г. Кочур та ін.

Членування речень – це перекладацький прийом, коли синтаксична структура речення мови оригіналу у процесі перекладу перетворюється на дві або більше предикативні структури кінцевого тексту. Внаслідок такої трансформації передаємо просте речення мови оригіналу складним у мові перекладу або перетворюємо просте чи складне речення на два чи більше окремих. Протилежна трансформація: об'єднання речень.

Шаблонні методи редагування. Цей метод контролю полягає в тому, що на компонент повідомлення накладають шаблон, який є в нормативній базі, й на підставі прийнятого критерію відповідності виявляють, чи тотожний компонент повідомлення цьому шаблону, чи ні. У наш час діють два типи шаблонів: прийняті державою у вигляді стандартів і рекомендовані науковою та довідковою літературою.

Штамп – мовний зворот, що багаторазово повторюється без творчого осмислення і з певної причини втратив для мовця текстове інформаційне навантаження. В основі таких висловів часто лежить якийсь образ, але цей образ унаслідок частого вживання втратив свою оригінальність.

Якість перекладу – показник оцінки здійсненого перекладу, який визначається точністю, якістю та літературністю перекладеного тексту.

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