

**Historical Perspectives of English Studies
in Czech Humanities**

*A Working Programme of English Studies
for Democritus Association
and Linguistic Residualism*

DEMOCRITUS ASSOCIATION

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HISTORICAL PROGRESS OF LINGUISTIC METHODOLOGY

1. The Linguistic Method

The question of the linguistic method still looms in misty obscurity because it is difficult to relate to common philosophic issues. Our linguists define it as a general approach to linguistic reality or as 'a procedure for solving a set of problems' (Čermák 1997: 11). They tend to regard it as a technique of scrutiny that may proceed in two opposite directions, either through analytic deduction or intuitive induction. The former may be illustrated by Peirce's model of scrutiny that starts with preliminary hypotheses and proceeds through trial and error experiments to logical deductions. The latter is assumed to rely on intuitive beliefs and to include a number of non-scientific methods such as 'hermeneutics, phenomenology, dialectics' (Čermák 1997: 12).

The strife between analytic and intuitive methods continues to rage even in the present-day philological studies. Analytic methods were winning in the mid-60's when Noam Chomsky inspired a huge wave of formal approaches to grammar. The late 60's brought a turning-point in the ascent of **generative semantics** which spread analytic procedures into the field of meaning in natural languages. The young vanguard of linguists (Ch. Fillmore, J. McCawley, G. and R. Lakoff, J. Ross) was influenced deeply by Richard Montague's ideas that claimed a far-reaching isomorphism between formal and natural logic. The older generation (N. Chomsky, P. Postal, J. A. Fodor, J. Katz 1964) was content with **interpretive semantics** that counted with an interpretive semantic component but had no generating power. N. Chomsky (1968) acknowledged some of their objections and agreed to revise his original apparatus in terms of semantic deep structures, which formed a parallel level to formal surface structures.

Advances of modern linguistics later began to be considered as revolutionary milestones of all humanities. Their achievements were greeted with unconcealed enthusiasm also by the philosophical movement of **rupturism**. Its chief spokesman Thomas S. Kuhn described the rise of modern linguistics as a transition from the Saussurean structural paradigm to the Chomskyan generative paradigm and its dissolution into Montague's paradigm. His *Structure of Scientific Revolutions* (1970, 1997) explained scientific progress as a series of paradigms separated by revolutionary breakthroughs. These introduced into in cultural development the same element of perpetual discontinuity as Michel Foucault's *ruptures* 'breakdowns, 'breakthroughs'. M. Foucault, T. S. Kuhn, P. K. Feyerabend, I. Lakatos and other rupturist thinkers refuted errors of 'cumulationism' and its illusions of a continuous linear development of science based on gathering isolated pieces of knowledge. Kuhn's paradigms had a synonym Foucault's term *epistémé*

understood as a system of knowledge governing the whole epoch. Foucault (1961, 1987) studied the history of European psychiatry since the period of Enlightenment with the conclusion that each era had its own 'subconscious structure of thought' (*epistémé*) explaining its cultural ideas and customs. Rupturism started germinating in the mid-60s but culminated in the early 70's. It offers a convenient catchword for a wide range of independent tendencies focusing on semantics, sociology and cultural evolution (G. Lenski 1970 and his neo-evolutionism, *New Left*, M. Petrusek et al 2000: 19ff.).

Analytic methods continued to prevail in linguistics until the ascent of the postmodernist movement of the late 70's. The crisis 1975-6 brought a sudden 'rupture' to rupturism, a turning-point that ended the rupturist paradigm and replaced it by that of new conservative intuitivism. French philosophers, resigning from their earlier structuralist positions, called the new paradigm '*la condition postmoderne*' J.-F. Lyotard (1979). One of its most influential offshoots was Jacques Derrida's 'apocalyptic postmodernism' that came under the banners of 'deconstruction of classical metaphysics' (Heidegger's *Abbau*) but hardly amounted to anything more than its practical 'reconstruction'.¹ In the early 80's postmodernism moved to America thanks to Jacques Derrida who stayed and lectured at Yale University. Paul de Man Their ardent discussions on 'deconstructing the edifice of European metaphysics' sowed the postmodernist seed on other American campuses and inspired the academic movement of *New Hermeneutics*. Its chief adherents were Paul de Man, Harold Bloom, Walter J. Bate, Geoffrey Hartman and Swiss professor J. Hillis Miller. Their criticism engrossed into an esoteric art of literary interpretation and infiltrated literary texts with arbitrary subjective ideas paying little heed to the historical environment. Similarly, linguistic hermeneutics brought a lot of interpretive psychologism, which isolated languages from their natural social and historical environment. Postmodernist methodology practically cancelled history, speaking with Jean Baudrillard and Jacques Derrida about 'an apocalyptic end of history' and wrecking in the bog of *ahistoire* and *posthistoire*.

Whatever be the original intentions of deconstructing metaphysics the postmodernist criticism threw humanities back into the precipice of sterile essayism immune to centuries of scientific progress. Their weakness consists in collapsing whenever exposed to periodic attacks of irrational fundamentalism although these are fended off easily by exact sciences. What contributes a lot to this pitiable state is the ambivalent nature of the sign-

¹ Manfred Frank maintained that 'pulling down the edifice of Western metaphysics' was but a pretext for its 'reconstruction in a new manner.'

meaning relation that is difficult to compare to the traditional matter-spirit question in philosophy. Its tricky character is revealed by the fallacy of arguments advanced by the French *Tel Quel* School as postulates of their 'semantic materialism'. According to Phillip Sollers and Jean Baudrillard this consisted in insisting upon the material character of the sign combined with the open neglect of the psychological meaning. This misunderstanding made them refuse all attempts at semantic analysis as 'semantic idealism'.

Linguistics cannot exist as a science unless it stands on firm sound foundations of exact methodology.¹ What we need is not a blindfold support of the fallacies of the presently ruling paradigm but a well-founded systematic taxonomy enabling to compare all paradigms and scientific methods in linguistic history. We assume that its shapes should not be reconstructed by philosophical speculation only but ought to be elucidated also by means of historical surveys and statistic tables. The history of linguistic thought displays periodic waves of shifting interest in different aspects of language according as the society pursues different paradigms and systems of cultural values. The following chapters visualise maps of linguistic thought in Ancient Greece, Britain and our country in order to illustrate their periodic upheavals and decays in close relation with the fates of social culture as a whole. Table 1 entered below sheds light on linguistic methods on the background of philosophical as well as aesthetic ideas. Its upper top of the table exhibits usual historical series of cultural and philosophical trends accompanied by corresponding linguistic trends depicted below.

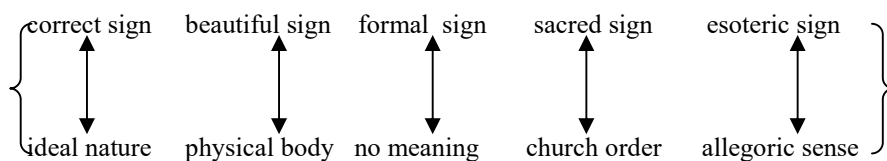
Table 1 exhibits a convenient classification of linguistic methods based on **cultural typology**. Some of its labels in the upper part are used as literary and epistemological trends (classicism, sensualism, hermetism) and cannot be applied as convenient terms for linguistic methods. Other terms are common in linguistic methodology (analogism, fuctionalism, anomalism) but are difficult in relation to general cultural typology. Each method is characterised by an attribute expressing a specific approach to sign theory. **Normativism** (analogism, purism) tends to purify a perfect 'correct sign' denoting ideal and proportionate specimens of nature. **Aestheticism** indulged in Renaissance defences of poetry (P. De Ronsard, J. de Bellay, Ph. Sidney, G. Puttenham) and concentrated on the national mother tongue as the 'beautiful sign' expressing hedonistic pleasures of physical lust. **Formalism** is a philosophy of language common to Pythagoreans and numerous varieties of modern structuralism. Its hopes are fixed upon a 'formal sign' that tends to be considered without reference to meaning and outer reality. **Traditionalism** is a

¹ 'Vědecká metoda je základem vědy a bez ní věda neexistuje.' F. Čermák: *Základy lingvistické metodologie*. Praha 1997, p. 11.

philosophy of religious revivals indulging in the 'sacred sign' (icon, idol, emblem, coats of arms, holy scripture) considered as a token standing for a monk order, an aristocratic house or a church corporation. **Hermetism** is typical of periods of superstition, metaphysics and astrology when people concentrate on the 'esoteric sign' in hopes that it would betray secrets of human fates.

<i>classicism</i>	<i>sensualism</i>	<i>formalism</i>	<i>traditionalism</i>	<i>hermetism</i>
idyll	hedonism	abstract logic	fundamentalism	spiritualism
utopia: an ideal state	empirism epicureism	geometrism formal layout	sacred scripture sacred saints	occult sciences metaphysics

<i>normativism</i>	<i>aestheticism</i>	<i>formalism</i>	<i>traditionalism</i>	<i>hermetism</i>
analogism	geographism	functionalism	psychologism	anomalism



orthography	'aesthography'	applied	exegetics	hermeneutics
orthoepy	aesthetics	linguistics	theology	allegoric
morphology	geolinguistics	technolinguistics	doxology	interpretation

Table 1. *Linguistic methods classified on the background of aesthetic trends*

Such typology of linguistic approaches displays a clear relation to cultural trends but seems to be far-fetched in terms of current linguistics. For linguistic purposes we need more refined and subtle terms expressing linguistic problems more appropriately. More convenient terms (comparativism, geographism, typologism, sociologism) are suggested in the chapter on methods of comparative linguistics. In order to put linguistic term into closer correspondence to current issues of philosophy, we ought to view the basic sign-meaning polarity as a sort of idea-referent polarity and concentrate on the crucial linguistic problem, on the relation between *ethnos* (people, folk, nation) and its (linguistic, literary or religious) culture. It is only in these more general associations that basic theoretical questions can be given satisfactory answers. Their discussion has to be prepared by historical tables demonstrating the regular historical recurrence and periodicity in the cultural growth of linguistic science.

2. Ancient Origins of Philology

The modern concept of descriptive, statistic and exact sciences did not arise on a larger scale until the 19th century. Before human curiosity could grow up into modern rigid knowledge, it had to fumble its way from its humblest origins in magic, lore, witchcraft, occult sciences and theological scholastics. In his *Cours de la philosophie positive* (1830-1842) Auguste Comte described the growth of human knowledge as a progress in three stages, from theology through metaphysics to science. Prehistoric linguistics consisted in witchcraft whispering magic formulas and prehistoric semantics in gnomes interpreting natural phenomena. In early civilised societies this **magic wordlore** turned into theological dogmatics and biblical exegesis. The ancient philosopher Heraclitus served in the temple of Ephesus as a *hierofantés* 'high priest' interpreting Diana's divine will. In temples dedicated to Hermes priests were expected to *hermeneuin* 'to interpret destiny according to dreams'. Visitors spent one night in dreams after having breathed in intoxicating sulphur vapours and oracles interpreted their dreams in a way similar to Freud's psychoanalysis described in his study *Traumdeutung* (1899). The earliest forms of Greek, Vedic and Christian philology clearly consisted in **exegetics** and **hermeneutics** concerned with authorising and interpreting sacred texts. Christian theology studied language as an efficient tool for preaching, gospelling and evangelising the Word of Jesus.

The third stage of linguistics made appearance with the gradual secularisation of theocratic societies when divine myths turned into heroic epic and divine rulers into profane worldly rulers. At this stage biblical exegesis changed into **classic philology** administering literary cults of classic authors and began to provide linguistic services to their literary texts. Peisistratos¹ was a tyrant of Athens who carried out the first secular school reform and employed priests in temples in services of the state. Owing to him the *hierofantés* 'priest' a *scholiastés* 'schoolmaster' paid for interpreting Homer's epic. His task was to record oral epic in a written graphic form and to supply it with *scholia* helping as explanatory commentaries to understand its meaning. The Greek idea of school learning stemmed from *scholé* 'relaxation' in pauses between gymnastic exercises, and similarly *scholia* were commentaries written *in margine*, *lemmata* read in pauses between reciting Homer. Homer was believed to be the author of *Homeric Hymns*, and therefore worshipped both as a divine and a secular authority, but his chants enabled an easy transition from divine to profane studies. A similar reform was carried out in Florence when

¹ 'qui primus Homeri libros, confusos antea, sic disposuisse dicitur, ut nunc habemus', Cicero *De oratore* III, 137.

the town council appointed Antonio Pucci to serve as an official reciter and interpreter of Dante's epic *La Divina Commedia*. Such state-supported interpretation of classic authors transformed earlier scholastics into **philology** functioning as a new sort of **secular exegetics**. It included all sorts of editorial, correcting, commenting and expository activities which were necessary to process literary texts for publishing and public reading.

A huge upheaval of philological studies occurred in the Alexandrian library in the early years of Hellenism. Hellenistic rulers supported court academies and encouraged scholars to collect ancient manuscripts. The Alexandrian sovereign Ptolemy I with his son Ptolemy II employed a great number of outstanding philologists, Praxiphanes, Straton, Demetrius, Filetas, Zenodotos, Simmias, Kallimachos, Aratos and Eratosthenes who managed to preserve most of ancient learning in readable literary records. There were several ups and downs in their activities and three remarkable periods of 'Hellenistic humanism'. The third bloom of Alexandrian studies came on the threshold of the second century B.C. when Aristophanes of Byzantium and his pupil Aristarchus of Samothrace became chief custodians of the Alexandrian library. Aristophanes surrounded himself by young scholars engaged in critical editions of ancient texts and introduced a graphic notation of editorial criticism. Their best follower Dionysius Thrax (170-90 B. C.) accomplished a voluminous compendium of grammar *Techné grammatiké* composed of three parts. The most elementary part was **grammar** or 'the art of writing' including orthography, pronunciation and analysing syllables. The second part dealt with **morphology** or 'the theory of parts of speech' (*partes orationes*). The last part concerned **rhetoric** or 'the art of speaking well'.

Alexandrian scholars wrote the first normative grammars fascinated with the ideals of grammatical analogy, regularity, harmony and perfection. Their taste preferred form to substance and lawfulness to accident. Their philosophy of **analogism** grew out of deep interest in *mimesis*, in the imitation of perfection in nature and efforts to apply this also to language. Aristophanes of Byzantium wrote a treatise *Peri analogias* 'On Analogy' in which he proposed to found grammar on principles of symmetry and structural regularity. His school endeavoured to restore correct usage and noble literary standard clear from all regionalisms and vulgarisms. He attacked the decadent Stoic philosopher Chryssipos and his anomalist philosophy of grammar because it spoilt correct usage by irregularity and bad decadent taste (he recommended incest, necrophilia and coprophagy).

Anomalism as a linguistic trend opposed to nominalism originated in the shade of Hellenist courts as a teaching enforced by Stoic philosophers in Athens and Pergamum. Anomalists had an irresistible distrust in 'exceptionless' paradigms and hated structural regularity because their

romantic taste enjoyed anomalies and exceptions. Its founder was the Stoic philosopher Chrysippus who influenced Antigonos z Karystia staying at the court of Pergamum. Antigonos instilled the anomalist doctrine to his pupil Crates of Mallus, a contemporary to Aristarchos. In his treatise *Peri anomalias* 'On Anomaly' Crates refused the normative approach to spoken speech and recommended its unbiased description. Since he showed little respect for the correct literary standard he preferred to enquire into spoken popular dialects (*On the Attic Dialect*). His allegoric interpretations of Homeric epic indulged in subtle interpretation and the esoteric art of hermeneutic semiotics.

The origins of linguistic **semiotics** may be sought in Plato's dialogue *Cratylus* that staged a fictive dialogue between Socrates and Heraclitus' supporter Cratylus. The latter defended **naturalism** as a belief in natural origin of speech through the imitation of nature. Socrates seemed to advocate Plato's **conventionalism**, i.e. his view that words arose as an arbitrary convention of people who agreed to denote certain concepts by specific signs. This opinion was closely related to Plato's belief in eternal ideas as original patterns of all things. His theory regarded signs as imperfect reflections of eternal ideas. His theoretical position appears to be compatible with F. de Saussure's conventionalism and Chomsky's universalism based on the assumption of Cartesian innate ideas.

One century later, Plato's views of language were partly revived by Stoics. Zenon of Citium turned from natural sciences to esoteric astrology and gave a pessimistic account of history as a series of catastrophes and disasters. In his opinion the earth had to be created again after several 'worldwide conflagrations' (*ekpyrosis*). Chrysippus of Cilicia wrote as many as 311 treatises on logic and dealt with its relation to psychological concepts. Their theory of sign distinguished *logos* 'speech, sign, denotation' from *lekton* 'expressed, denoted, meaning' and understood meaning as *ennoia* 'concept'. They believed that there was a principal agreement (*katalepsis*) between 'speech' and 'thought' but did not relate these to real things. Their pioneering considerations proved that semiotics should not be considered as a new invention but every 'dark age' had to invent its own sign theory to satisfy its delight in astrological interpretation. Neither did mediaeval exegetics have to discover semiotics, it was an indispensable part of allegoric prose and biblical interpretation. Scholastic theology drew a clear distinction between *dictum* 'what was said' and *significatio* 'meaning'.

The history of linguistic studies is expounded falsely as a cumulative process of a linear growth of knowledge and a series of unique individual inventions (B. Fajkus 1997: 29). Rupturist philosophers, however, claim that it consisted of coherent paradigms and *ruptures* repeated in periodic cycles. Its fates may be regarded as a story of perpetual oscillation between three

extremes: firstly, analogism enjoying normative morphology, secondly, anomalism indulging in hermeneutic semiotics, and thirdly, comparativism giving preference to interlingual comparison and historical grammar. Table 2 attempts to give a broader generalisation of the former two paradigms as they reappear at different stages of history. If we plot their historical occurrence on chronological diagrams, we may observe regular periodic patterns. There are regular ups and downs in economic and social growth, which are manifested in literature as periods of classicist and romantic taste. In linguistics these changes in taste lead to periodic revivals of analogism and anomalism.

ANALOGISM	ANOMALISM
<p>analogy: harmony, regularity, perfection proportion: proportionate measure <i>langue:</i> abstract language system centralism: received literary standard graphocentrism: stress on spelling, script and orthography stress on written standard normativism: ideal perfect norm naturalism: words arisen in imitation of natural sounds determinism: language as a product of natural cultural development physicalism: objective reference content: plain meaning denoting physical contents reflection: concepts and signs are reflections of outer referents</p>	<p>anomaly: exceptions, aberrations distorsion: distorted forms <i>parole:</i> individual spoken speech regionalism: regional dialects phonocentrism: stress on phonetic aspects, prosody and pronunciation stress on spoken speech eccentricism: romantic extremes conventionalism: words arisen as conventional signs. arbitrarism: language as a code and an intentional product allegorism: allegoric interpretation icon: symbolic icons standing for spiritual traditions expression: sign as an expression of subjective feelings</p>

Table 2. *The opposition of analogism and anomalism in linguistics*

The analogist paradigm was dominant in the classic age of Greece as well as in the Renaissance and Enlightenment. Its tenets may be extended to a general paradigm of **normative linguistics**, which pursues the study of language with the aim to distil the pure gold of the correct literary standard. This purism is justified by needs of school education and professional training. Normative studies do not aim at a deeper understanding of linguistic reality but aspire to receive a perfect literary standard worth mastering by the official state bureaucracy and common people. They regard linguistics as a sort of practical

skill, art or handicraft (*techné*). They confuse grammar for *techné grammaticé* 'the art of writing' and rhetoric for *ars dictandi* 'the art of speaking'. When dealing with phonetics they tended to reduce it to **orthoepy** 'the art of correct pronunciation'. Instead of distinguishing clearly grammar and graphemics, they conceive both as **orthography**, 'the art of correct writing'.

The normative concept of language played a decisive role also in the age of Renaissance humanism. Th. Wilson's *Arte of Rhetorique* (1553) may illustrate its general tendency to treat humanities as arts (as a sequel to mediaeval *artes liberales*) but also a new quality was added. Italian and French humanists revised ancient wordlore and wordcraft as **philology** (from *filos* 'dear', *logos* 'speech'), a field of humanities driven by enthusiastic antiquarianism and love for ancient learning. Its original meaning (*philologia* 'love for speech and literature') implied all sorts of antiquarian activities concerned with collecting, reading, commenting, correcting and editing ancient manuscripts. The humanist Guillaume Budé (1467-1540) formulated its principles in his treatise *De philologia* and demanded its introduction to higher schools. His generation started humanism as a return to reading in Classic Greek and writing in Classic Latin but after a few decades their disciples turned back to modern mother tongues. They defended national languages and claimed them to be good enough to convey the gentle charms of national poetry.

3. The Origins of English Philology

When W. Caxton printed the first English book in 1474, Late Middle English as a literary standard of the (Northern) land-owning aristocracy was tottering to its end and new social forces began to challenge it with the aim to replace it by the *koiné* spoken by middle classes. Their chief spokesmen were London merchants who took over the leading economic role and soon managed to establish their popular pronunciation as a received standard of New English. The English Reformation welcomed their efforts with a huge flourish of popular literature and a long series of English translations of the Bible. Its most ardent preachers Tindale and Coverdale devised them to defend English as an accomplished national mother tongue worth being spoken and heard by common people at church. After a few decades Queen Elizabeth was able to address her beloved nation with New English as a literary standard descending from two different parents. Its written appearance was due to the dead language of Late Middle English that fixed Caxton's spelling and preserved the conservative spirit of English orthography from Chaucer's times. Its inner spoken content, however, expressed the democratic spirit of new ascending middle classes in southern seaside cities. In the age of Restoration Dryden and Defoe's contemporaries endeavoured to reinforce a rational reform

of English spelling but with a few exceptions their efforts encountered a heavy defeat. Modern English has established as a mixed literary standard combining old mediaeval spelling with new Renaissance pronunciation (E. Baugh 1970, J. Vachek, J. Hladký).

Humanist philology originated from decaying remains of exegetic scholastic theology enlightened by new ideas of secular rationalism. Most humanists started their career as monks who took to literary studies undertaken aloof in their monastery libraries but after Henry VIII decreed to abolish them in 1536 they followed their new destination at courts of wordly princes. Renaissance princes invited them to enhance learning in their newly-acquired libraries and to engage in colloquies held in their court academies. In a way, they continued their theological discourses upon the Holy Scripture but began to study it in terms of rational linguistics and secular historiography.

The early **Tudor humanism** originated in the early 1510's when a young generation of university scholars learned Greek from visiting professors Vitelli and Erasmus and turned to studying ancient literary records. John Colet and William Lily attempted to kindle a deep interest in ancient learning and wrote a new text-book of Latin grammar which was taught to their students at St. Paul's School. Colet desired to read the Holy Scripture as a historical document and adopted the historical method to approach its text as a testimony of real history. His contemporaries Thomas Linacre and William Grocyn went to Italy so as to study ancient authors from original manuscripts. When they returned to England they brought back ancient wisdom and helped to restore the horizons of ancient secular learning. They enriched university curricula with courses of lectures on classic philosophy, physics and medicine. Thomas More propagated their academic efforts in everyday literary life, forming a literary circle of young wits writing in Latin prose. The harvest of their endeavour was reaped by the Latin-English *Dictionary of Syr Thomas Elyot knyght* (1538) encouraged by Henry VIII.

Elizabethan humanism made appearance in the mid-50s as a response to Mary Stuart's staunch Catholicism. Its leaders Thomas Wilson, Roger Ascham and Thomas Smith formed a friendly circle around John Cheke who taught Greek at Cambridge University. Their dream was no more to abandon English for elegant Latin but cultivate elegant English as a tool of new national literature. Thomas Wilson approached this goal by composing his *Arte of Rhetorique* (1553), a manual of rhetoric and elegant courtly eloquence. Their masterpieces were influenced by a new wave of vernacular Puritanism and chimed in with a similar blossoming of Huguenot humanities in France. English studies were crowned by two valuable studies on English pronunciation and spelling. John Hart wrote a remarkable treatise on

Orthographie (1568) and his contemporary Thomas Smith devised a study *De recta scriptione* giving a vivid account of the Elizabethan spelling.

Huguenot comparativism gave a proof that linguistics does not evolve through cumulating inventions but perpetual breakdowns and breakthroughs. Huguenot historians tried to reveal the past of ancient Gauls as carriers of national democratic tradition opposed to Roman, Franconian and Norman oppressors.¹ In his *Antiquités gauloises et françaises* (1577-99) Cl. Fauchet tried to reconstruct the early history of French language and popular literature. In his study *Recueil de l'origine de la langue et poésie française* (1581) he wrote the first historical grammar of Old French tracing its development from Latin. His comparison of French to Latin found support in H. Estienne's *Traité de la conformité du langue français avec le grec* (1565) that searched for similar parallels in Classic Greek. Their historical, comparative and sociological method was introduced into French humanities by Jean Bodin whose treatise *Methodus ad facilem historiae cognitionem* (1566) linked the ancient tradition of comparative *vies parallèles* from Theophrastus and Plutarch to forerunners of Montesquieu.

The Baroque Age brought a new remarkable revival of philosophical universalism and also early attempts at artificial intelligence. Its best-known thinker René Descartes believed in innate ideas dwelling in newly-born children's mind and foreboded ideas of universal grammar, later preached by Noam Chomsky in his study *Cartesian Mind* (1966). Descartes did not major in linguistics but had close allies in Jansenists, a semi-protestant sect, which found a shelter from persecution in the monastery of Port Royal. This provided a hiding-place for a group of outstanding linguists and logicians who believed in patterns of universal human grammar present in all natural languages. In 1660 Antoine Arnauld (1612-1694) and Pierre Nicole published their *Grammaire générale et raisonnée*, an outstanding account of formal grammar based on the assumptions of universal semantics. This book enjoys a wide popularity among present-day structuralists as a blending of modern rationalism with the Cartesian belief in innate universal ideas. Their close friend was Blaise Pascal who made experiments with calculating machines and dreamt of first artificial robots. Their ideas bear much resemblance to views proposed by the Czech protestant scholar Iohannes Amos Comenius. The latter cherished ideas of universalist grammar and lexicon in his *Janua linguarum reserata* and *Orbis pictus*.

¹ F. Hotman : *Francogallia*, 1573 ; Cl. Fauchet: *Antiquités gauloises et françaises* 1577-1599.

Cambridge Platonists. The linguistic method vacillates between two basic extremes, between rational analogism and irrational anomalism, or to put it in mediaeval terms, between morphological normativism and exegetic allegorism. Renaissance humanism stood for the former extreme while Baroque exegetic theology represented the latter. The latter approach to language was supported by the Cavalier opposition in divine studies at Cambridge. Between 1648-1655 Cambridge theologians Henry More, N. Culwerel, B. Whichcote and R. Cudworth turned to Platonism as a gate to lures of mysticism and a step to hermeneutic semantics. More's essays at biblical exegesis combine the esoteric wisdom of Cabbala with that of modern hermeneutics.¹ The same trend influenced metaphysical poetry and popular occult sciences enquiring into alchemy, astrology, witchcraft and magic. Alexander Ross studied ancient authors with an intention to give them a hermetic, mystical and allegoric interpretation.² The Welsh metaphysical poet Henry Vaughan with his brother Thomas founded a few new occult disciplines, 'theomagic', 'hermetical physics' and 'hermetical astrology'.³ Nicholas Culpeper invented modern semiotics (*semeiotica*) by combining medical symptomatology with astrological hermeneutics.⁴

Dryden's age brought another tide of attempts at orthographic reforms as are characteristic of all types of literary classicism, political absolutism and humanistic academism. **Restoration normativism** started with a revival of exotic antiquarianism that inspired treatises worth appreciating as the first enquiries into comparative grammar. In 1658 William Beveridge wrote a textbook called *Grammatica Syriaca* and compared oriental languages in his study *De linguarum orientalium, praesertim Hebraicae, Chaldaicae, Syriacae et Arabicae*. Another outstanding achievement of Restoration philology was

¹ H. More: *Conjectura cabbalistica, or a Conjectural Essay of interpreting the Mind of Moses, in the first three chapters of Genesis, according to a threefold Cabbala, An Antidote against Atheism* 1653

² Alexander Ross: *Mystagogus Poeticus, or the Muses Interpreter, explaining the historicall Mysteries and mystical Histories of the ancient Greek and Latine Poets*. London 1647; A. Ross: *Gnomologicon Poëticum, hoc est, sententiae veterum Poëtarum insigniores* 1647.

³ Henry Vaughan: *Hermetical Physick* 1655; Thomas Vaughan: *Anthroposophia Theomagica; or a Discourse of the Nature of Man* 1650; *Anima Magica abscondita: Or a Discourse of the Universall Spirit of Nature* 1650; *Magia Adamica: Or the Antiquitie of Magic* 1650.

⁴ Nicholas Culpeper: *Semeiotica Uranica or an Astrological judgement of Diseases* 1651.

Grammatica linguae anglicanae (1653), the first modern descriptive grammar of English written by John Wallis. Its introductory part gave a fair outline of articulatory phonetics and an elucidating description of human organs of speech. His contemporary Alexander Gill shared his deep interest in English orthography and orthoepy but emphasised pronunciation more than writing.

As shown in maps of historical development outlined by Table 3, periods of renewed interest in linguistic orthography are usually due to neo-classicist movements. Humanist revivals in philology are linked closely with ideas of literary classicism and the institution of court academies. Classicists dream about bucolic idylls (Barclay's, Gascoigne's, Dryden's, Pope's and Johnson's literary circles) and devise social utopias (More, Bacon) projecting idylls into human society. Their efforts to carry out progressive reforms in society concern also reforms in the literary standard and orthography. Pope's classicism was no exception. While Whig politicians attempted to reform the social system, the Whig journalists defended changes in orthography. Their spiritual leader Richard Steele published *Prosodia rationalis* that attempted to improve the English notation for intonation and pitch. Another resurrection of classicism took place in the 50's when Samuel Johnson gathered a learned circle of scholars with philological interests. His chief claim to immortality was his *Dictionary of the English Language* (1755) which became one of the keystones of English lexicography. His lexicon fixed the correct standard of English writing as it is familiar up to our days. His circle bore close resemblance to Diderot's editorial team working on the new encyclopaedia in France. D'Alembert, La Mettrie, Diderot and Holbach advocated the same paradigm of natural sciences and normative philology as their contemporaries in England.

4. The Systematic Taxonomy of English Linguistic and Literary Studies

The pathways of English philology give evidence of gradual progress but they show also repeated declines according to laws of regular periodicity governing cultural processes in all countries. English studies cope with the same problems as other humanities and 'underdeveloped sciences'. They lack a **systematic taxonomy** of literary, linguistic and cultural trends, which would establish a consistent classification of their phenomena in a way similar to Darwin's evolution of species, Mendeleev's periodic table or Hubble's classification of stars. Social sciences did not manage to establish their own systematics because they were stricken to horror by Wilhelm Dilthey's Neo-Romantic reform of humanities, which showed a cold shoulder to many promising classificatory attempts. In his theoretical manual *Einleitung in die Geisteswissenschaften* (1883) Dilthey proclaimed humanities to be the realm

of human intuition, understanding and empathy (*Einfühlung*), because their subject matter consists of individual unique historical events, authors and works. In their kingdom there exist no deterministic laws and this is why they have to be separated from 'nomothetic' natural sciences. This aprioristic view is contradicted by advances of modern econometry and demography that prove that principles of **regular periodicity** govern natural as well as social processes of cultural growth.

The erroneous approach to humanities has it that humanities can be conceived meaningfully and exhaustively as the study of language, literature or society. However, nobody can imagine lecturing modern biology as the study of an abstract animal without outlining the contours of systematic phylogenesis. The first step to science is to concede F. Vodička's definition of literary theory as 'a study of the literary process'. When social sciences return back to studying the real economic, social, linguistic and literary process, they can apply statistic procedures used in modern demography and demometry. Intuitive methods of the 'history of ideas' (A. Toynbee 1932, A. Lovejoy 1941) can be developed into two new fields: **ideography** as a discipline concerned with mapping cultural trends on chronological maps and historical diagrams and **ideometry** as a method of statistic description of cultural processes. The cognitive import of ideography is made obvious by the chronological map in Supplement 2 of the development of English literary trends whose background allows also for a good historical survey of trends in linguistic studies. This chronological map depicts general results of the ideometric map elaborated by statistic procedures on Table 4.

The cultural growth of English literature and English linguistic studies is a process occurring in a 3-dimensional space (time \times place \times social hierarchy). Table 4 omits the geographical axis and plots the yearly chronology with social hierarchy that has been demonstrated by the left-to-right axis. The smallest unit on Table 4 is a symbol for a work or a book that codes its membership relation to literary genres. One year on the chronological axis is represented by a row of symbols which record the outcome of literary production of books published in that year. Literary trends are represented as 'clouds' of highest density of certain literary genres. For instance, years 1596-1601 brought a wave of comedies of humours, essays, satiric pamphlets, characters and portraits expressing the same philosophy of realistic 'humoralism'. Our statistic table records all occurrences of popular realism by the vowel *O-o*, the upper-case letter being reserved for high-brow literature and the lower-case letter being left for popular literature. Different literary genres are represented by different types of characters: prose by plain characters, poetry by bold characters, dramatic genres by italics and scientific treatises by understriking (Table 3).

left-wing	x u	lower-case letters	
right-wing	X U	upper-case letters	
POETRY	V v	bold	VO = O
SATIRE	# #	double cross	FO = ⊖
EPIC	⊙ ○	silhouette bold	OU = U
NOVEL	R r	ordinary basic	RO = ○
SHORT STORY	P p	silhouette type	PO = ○
DRAMA	<i>D d</i>	<i>italics</i>	DO = ○
TRAGEDY	<i>T t</i>	<i>italics</i>	TO = ○
COMEDY	C c	silhouette italics	CO = ○
OPERA	⊕ ⊖	single cross	OO = ⊖
MASQUE	# #	single cross italics	MO = ⊖
ESSAY	<u>E e</u>	<u>understriking</u>	EU = <u>U</u>
SCIENCE	<u>E e</u>	<u>understriking</u>	EO = <u>o</u>
JOURNALS	<u>J j</u>	<u>bold understriking</u>	JO = <u>O</u>
EVENTS	<u>X x</u>	<u>italics & understriking</u>	XO = <u>O</u>
PAINTING	A a	relief	AO = ○
SCULPTURE	I i	bold relief	IO = I

CULTURAL STYLES		LINGUISTIC METHODOLOGIES
CLASSICISM	A a	normative philologism prescriptive analogism illuminative encyclopaedism
SENSUALISM	E a	exotic geographism diffusionism
FORMALISM	I i	logicism panlogism
SOCIALISM	O o	sociologism evolutionism popular realism
TRADITIONALISM	U u	psychologism hermetism
MONUMENTALISM	Y y	antiquarianism heroism militantism

Table 3. *The coding tables of symbols applied by statistic ideometry*

1508 aa AA
 1509 aaa A
 1510 aa AAA
 1511 a AAAA
 1512 a AA
 1513 AAAA
 1514 AA
 1515 a AA AAA
 1516 AAA
 1517 AA
 1518 a A
 1519 a AAA AAA
 1520 aa AAA
 1521 AAA
 1522 a A

CLASSICISM

utopias: Thomas More
 pastoral eclogues: Barklay, J. Skelton
 court satire: Skelton
 humanist philology: Colet, Lily, Grocyn
 materialist physics: Linacre
Humanism: Linacre, More, Colet

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COURT ELEGISM

Skelton's love lyric
 at the Tudor's court

REFORMATION

1535 monasteries abolished
 1536 Church reform
 1537 Bible translated

POPULAR REALISM

1539
 1540
 1541
 1542 *Protestant philology*
 1543 translations, editions

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1548	<u>uuuuuuu</u>	<u>UUU</u>
1549	<u>uuuu</u>	<u>UUU</u>
1550	<u>uuuuuu</u>	<u>UU</u>
1551		<u>UUU</u>
1552		<u>UUU</u>
1553	<u>uuuu</u>	<u>UUUU</u>
1554	<u>u</u>	<u>UUU</u>
1555	<u>uu</u>	<u>UUUUU</u>
1556		
1557	U	U
1558		<u>U</u>
1559		
1546	u	<u>UU</u>

TRIDENT COUNTER-REFORMATION

Mary Tudor

RELIGIOUS TRADITIONALISM

martyrologic exegetics

<u>YYY</u>	<u>Y</u>
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y	YYYYYYY
	YYY
YYYY	YYYYYYY
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	<u>YYY</u>
YYYY	<u>Y</u>
	<u>YYYYY</u>
	Y
	<u>YYY</u>
	<u>Y</u>
	<u>Y</u>

1561 **MONUMENTALISM**
 1562 Queen Elisabeth enthroned
 1563 Puritan revival
 1564
 1565
 1566 *new normativism*

ELIZABETHAN CLASSICISM

Gascoigne's circle

	AAA
	<u>AA</u>
	AAAAAAAAA
aa	AAA-AA
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1581	eeee	<u>EEE</u>
1582	eee	EEEE
1583	eee	<u>EE</u>
1584	eeee	EEEEEEEEEEEEEEEE
1585		EEEEEE

1586		eee	E
1587	EUPHUISM	e	EEEEEEEEE
1588	ELEGISM	eee	EEEEEEEEE
1589		eeeeee	EEEEEEEEEEEEEEEE
1590	defenses	eee	EEEEEEEEEEEEEEEEEE
1591	of poetry		EEEEEEEEEEEEEEEEEE
1592		ee	EEEEEEEEEEEEEEEEEE
1593		eeeeeeeeeeeeee	EEEEEEEEEEEEEE
1594		eeee	EEEEEEEEEEEEEEEEEE
1595		eeee	EEEEEEEEEEEEEEEEEE
		ee	EEEEEEEEEEEEEE
			EEEE

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1597	oooooooooooooooo	OOO	
1598	oooooooooooooooo	OOOOOOOOOO	HUMORALISM
1599	oooooooooooo	OOOO	comedies of humours
1600	oooooooooooooooooooo	OOOO	Ben Jonson's school
1601	oooo		

1602		u	UUUUUUUUUU
1603	SHAKESPEAREAN	uuuuuuuu	UUUUUUUUUUUUUU
1604	HERMETISM	uuuu	UUUUUUUUUUUUUU
1605		uuuuuu	UUUUUUUUUUUUUU
1606		uuuuuuuuuu	UUUUUUUUUUUU
1607		uuuuuuuuuu	UUUUUUUUUUUU

1608		YYYYYYYYY	UUUUUU
	JACOBEAN	YYYYYYY	YYYYYX
1609	DECADENCE	YYYYY	YYYYYX
1610		y	YYYYYYXX
1611		yyyYYYYYY	YYYYYYXX
1612			YYYYY
1613			YYYYYYY

1613	aaa	AAA
1614	aaaaaa	AAAAAA
1615	aaaaaaaaaaaa	AAAAAA
1616	aaaaaa	AAAAAA
1613	aaa	AAAAAA
1614	aaaaaa	AAAAAA
1615	aaaaaaaaaaaa	AAAAAA
1616	aaaaaa	AAAAAA
1617	aaaaa	AAAAA

	NEO-CLASSICISM
	Jonson's idyllic masques
	Bacon: The New Atlantis

1618 **aaa** **AAAA**
 1619 **aa** **AAAAA**
 1620 **aa** **AAAAA**
 1621 **aa** **AAAAAAAAA**
 1622 **aaaaaa** **AAAAA**
 1623 **AAAA**
 1624 **aa** **AAAAA**

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CIVILISM
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1631 **CAVALIERS' SENSUALISM**
 1632 **EEEEEEEEEE**
 1633 **EEEEEE**
 1634 **ee** **EEEEEE**
 1635 **eeeeee** **EEEEEEEE**
 1636 **eee** **EEEEEEEE**
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1641 **POPULAR**
 1642 **PURITANISM**
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 1647 **OOOO**
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 1651 **METAPHYSICAL**
 1652 **HERMETISM**
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MONUMENTAL HEROISM

METAPHYSICAL HERMETISM

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Antiquarianism

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Prescriptive Analogism

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HEROIC ELEGISM

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EEEEEEEE *Geographism*
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WHIG DEISM

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Modernism

Solipsism

POPEAN CLASSICISM

Normative	AAAA
Philologism	AAA
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Geographism

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é = picaresque realism



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Moralism

CHURCHYARD POETRY
TRADITIONALISM

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New Clericalism

JOHNSONIAN CLASSICISM

Encyclopaedism

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MACPHERSONIAN
REGIONALISM

Antiquarianism

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1765 **EEEE** **STERNEAN**
1766 **eeee** **EE** **SENTIMENTALISM**
1767 **eeee** **EEEEEEEEEE**
1768 **eeee** **E** **Geographism**
1769 e **EEEEEE**
1770 **ee** **EE**
1771 **ee** **EEEEEE**
1772 **EEEE** **UTILITARIANISM**
1773 e **EEEEEE**
1774 **oo**
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1785 **oo** **oooo**
1786 **ooooooo** **GOTHIC ROMANTICISM**
1787 **ooooo**
1788 **ooo** **ooooooo**
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1809 **yYYYYYYYY**
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1811 **Antiquarianism**

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Feminism
u = Blakean anarchism

LAKE SCHOOL ROMANTICISM

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1804 **BYRONIAN CLASSICISM**

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Philologism

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**SCOTTISH
MONUMENTALISM &
ANTI-CLASSICISM**

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MODISH SENSUALISM

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*Exotic
Geographism*

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DICKENSIAN REALISM

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*Comparative
Evolutionism*

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 1844 iiii IIII
 1845 iii IIIIII
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 1847 i I

Logical Formalism

PRE-RAPHAELITE ROMANTICISM

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Antiquarianism

CARROLLIAN FORMALISM

GASKELLIAN CLASSICISM

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Positivism

DARWINIAN EVOLUTIONISM

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FORMALISM

Anti-Darwinism

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1882 II
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Table 4. An ideometric map of English literary and linguistic trends

PATHWAYS OF COMPARATIVE LINGUISTICS

1. The Story of Comparative Linguistics

The foundations of comparative linguistics were laid down in early decades of the 19th century when European philology discovered Sanskrit and in 1790 P. Paulin de Saint-Barthelémy wrote its first historical grammar. After Napoleon's defeat romantic historians turned to dreaming about the ancient past and linguists to brooding about ancient Germanic literary records. The Danish scholar Rasmus Rask studied the grammar of Old Norse sagas and Jacob Grimm enquired into that of Germanic *Heldenlieder*. Both found numerous parallels to complete missing links leading to Wulfila's fragmentary Gothic translation of the Bible and to reconstruct the appearance of Common Germanic. They traced its descent from Indo-Germanic as an *Urprache* spoken by Aryan forefathers. Franz Bopp devised brilliant studies on Sanskrit parallels but coined a broader term of Indo-European including also Caucasian, Indonesian and Melanesian languages. His comparative tables of verbal conjugation in classic languages helped to reconstruct the general layout of Indo-European morphology. Grimm's works on conspicuous anomalies in the Germanic consonant system had the same import for Indo-European comparative phonology. Grimm noticed striking regularity in these anomalies and explained them by lawful sound changes. According to Grimm's laws, Proto-Germanic separated from the Indo-European stock by a circular series of consonant shifts (*Lautverschiebungen*) similar to laws in physics.

The first pioneering generation of comparative linguists began to loom in the late 1810's as a linguistic rear-guard of **Old-Hegelianism**. Hegel's and Old-Hegelians' historicism bore much resemblance to French philosophy, especially to the parallel wave of August Comte's positivism in France. Their deep interest in ancient Germanic ancestry started ebbing in the thirties when challenged by Young-Hegelian philosophers. The Young-Hegelians B. Bauer, D. Strauss and A. Ruge preached a new sort of historical rationalism applying historical criticism to the New Testament gospels. They interpreted them as real historical documents bringing evidence on real historical persons.

A new huge revival of comparative Indo-European studies came only in the late fifties when Ch. Darwin and H. Spencer began to preach **evolutionism**. This was a new revised doctrine of positivism fascinated by evolutionary trees. Linguistic evolutionism found its heralds in August Schleicher, Franz Miklošič and Fr. Diez who began to link Indo-European families with simple linguistic genealogies and pedigrees. Schleicher is remembered as the founder of *Stammbaumtheorie*, a theory of linguistic evolution through divergent splitting and binary bifurcation. His genealogic pedigrees assumed that every mother language splits into two daughter languages. In his view prehistoric cultures

spoke an isolating language similar to Chinese, the next stage were the Uralic and Altaic agglutinating languages and the highest stage was reached by the Indo-European inflecting system. The ancestor language of our supposed Aryan forefathers seemed to be so real to him that he ventured to write a fable in it.

About 1875 a number of German grammarians proposed a new platform of Indo-European research laying emphasis upon rigid laws, regularity and analogy in linguistic change. 'The sound changes that we can observe in the historical literary documents proceed according to firm laws which can be broken only by the interference of other laws' (W. Scherer 1875). The chef-d'oeuvre of these **Young Grammarians** (*Junggrammatiker*, Neo-Grammarians) was supplied by K. Verner's law that managed to explain exceptions from Grimm's Proto-Germanic *Lautverchiebungen*. They considered the growth of Germanic languages as a linear sequence of rapid sound shifts occurring in a precise chronological order without realising that most changes concealed a victory of one social dialect over another. They assumed that there were no exceptions to sound laws and believed in 'the alleged *Ausnahmslosigkeit der Lautgesetze* (absence of exceptions to sound laws)'.¹ Their favourite all-explaining term was 'false analogy'.

What Schleicher had devised as a working hypothesis grew with time gradually into a dogma and an indisputable catechism. In 1872 Johannes Schmidt proposed an alternative approach, which combined pure chronology with geographic aspects. His *Wellentheorie* regarded language phenomena as **waves** and **isoglosses** spreading from original common centres, homelands or cradles. A similar position was adopted by G. I. Ascoli who dealt with regional varieties of dialects. Their method proved to be efficient in describing the geographic distribution of languages and helped to found modern **geographic linguistics**.

The opposition against the concept of strict deterministic laws advocated by Young Grammarians grew strongest in the late nineties. The literary movement of *Neuromantik* was accompanied by a strong wave of Crocean **psychologism** in social sciences. German philologists F. N. Finck, H. Steinthal and G. von der Gabelentz turned attention to psycholinguistics as a large field of emotional and intuitive expression. Their influence was palpable also in early papers that V. Mathesius wrote about the English word-order.² The main

¹ J. Vachek: *Prague School Reader*. Bloomington 1966, p. 5.

² V. Mathesius: Studie k dějinám anglického slovosledu. *Věstník české akademie* 16, 1907, 261-275; 17, 1908, 195-216, 299-311.

import of their considerations were their discoveries in ethnopsychology and the assumption of 'national characters' of languages.

In the second decade of the 20th century linguistics returned back to comparative studies but with a new emphasis on **geographism**. Young linguists became distrustful of historical speculations and refused reconstructions of proto-languages based on a few isolated ancient literary records. New research showed promising prospects of exploring recent aboriginal overseas tribes. Field research in ethnography and anthropology was directed towards dying primitive cultures in Australia, America and Siberia. Similar cultural traits and parallels between distant tribes in Oceania and Austronesia were explained by prehistoric migrations and ethnic diffusion. This stress on migrations made ethnographers refer to the whole movement as **diffusionism**. Diffusionists Frobenius, Gräbner, Schmidt, Rivers, Perry and Lang defended a convergent polyphyletic view of prehistory assuming a long genetic stability of many different human stocks. They claimed that the primitive populations of America, Australia and Oceania have not arisen from one 'proto-culture' speaking one 'proto-language' but have composed from diverse tribes arrived from Eurasia and Africa. They did not classify cultures according to their local neighbourhood, which was usually responsible for their secondary assimilation, but emphasised typological traits relating them to their distant forefathers on the old continent. They argued that pyramids of Amerindian tribes in Peru and Mexico could not be explained as a local outgrowth but should be attributed to the same Cyclopean race that brought about their distribution in Egypt, India and Polynesia.

Ethnographic diffusionism encouraged a great upheaval of linguistic **descriptivism**. Descriptivism is usually associated with American Bloomfieldians (L. Bloomfield, E. Sapir, F. Boas) who undertook extensive field research in order to record all remains of Amerindian dying languages. Their exploration did not care much about 'historical grammar', 'literary standard' and 'received pronunciation' but attempted to map available linguistic reality in its spoken form and natural geographic distribution. Only much later they began to group and classify Amerindian dialects into hypothetical proto-families. The Na-Dene group of Canadian Athapascans was related to Chinese languages and the Uto-Aztecan group to mound cultures in North America.

In the mid-10s the descriptivist philosophy of language became popular also in Europe and Russia. Russian linguists turned from traditional comparative grammar to the synchronistic study of present-day nonliterary languages, especially those spoken by small ethnic groups on the Caucasus and in Siberia. At Kazan' University J. Baudouin de Courtenay managed to form a team of explorers dealing with recording minor languages in Pre-Soviet

Russia. In his paper *On the Mixed Character of All Languages* he formulated a new linguistic theory that considered recent languages as mixed amalgams of neighbouring dialects. He refused strict chronological determinism and attached the decisive role to ethnic migration and mixing.

His views influenced also N. S. Troubetzkoy who proposed a new approach known as *Kettentheorie*. His study *Zur allgemeinen Theorie der phonologischen Vokalsystem* (1929: 39-67) gave a wide survey of contemporary Asiatic vowel systems and traced their typological relations regardless of genetic links. He saw the basic oppositions between Caucasian 'triangular systems' (*Dreiecksysteme*) and Uralo-Altaiic 'quadrangular systems' (*Vierecksysteme*) which were distributed in long belts of similar dialects. He assumed that these belts suggested ancient associations of languages (*Sprachverbände*) distributed along paths of ancient migrations. These 'language unions' were very close to what F. Gräbner's study *Methode der Ethnologie* (1911) called *Kulturbereiche*, chains of cultures associated by similar traits and the same *Kulturtypus*. They did not form large compact units but narrow chains cutting across large language families.

N. S. Trubetzkoy resigned from plotting false genealogic trees out of families of ancient literary languages (Sanskrit, Latin, Greek) because he realised that they did not constitute a pure *Kulturtypus* but amalgams merged from many local dialects. He was sceptical of the so-called 'Indo-European unity' conceding this to be a secondary product of assimilation of several dialects. He did not believe in 'divergent theory' indulging in large language families and preferred to study 'long typological chains' crossing different language families. He found parallels in Latin *deponentia* in *-r* (Latin *duces hortabantur* 'dukes encouraged themselves') and *r*-passives in Irish and Hittite and Tokharian. Such typological chains (*Ketten*) could not be explained by splitting large language families but must have concealed ancient ethnic migrations. His faithful follower Heinrich Wagner, a German Celtologist staying in Ireland, called this approach '**chain theory**' (*Kettentheorie*). Its adherents Baudouin de Courtenay, Troubetzkoy, Jakobson and Wagner adopted a 'convergent theory' explaining language unity as a result of secondary amalgamation: 'In reality language diversity is always primary while language unity is the secondary product either of the expansion of a language over wide territories or the creation of an oral or literary standard language' (Wagner 1971: 228-9).

A similar model was proposed by Italian **Neo-Linguists** and Mathesius's 'linguistic characterology'. Italian Neo-Linguists (M. G. Bartoli, G. Bonfante, V. Pisani), immediately saw through the fallacies of *Stammbaumtheorie* because they could easily demonstrate its errors on the evidence of Italic dialects. Schleicher's *Stammbaumtheorie* derived all Romance languages from

Common Romance without realising that Latin was a secondary product of mixing various tribal Italic languages (Umbrian, Oscian, Venetian) and other Romance languages arose from merging the original tribal languages (Gallic, Dalmatian, Dacian) into the Latin literary standard. The fact that the Romance language unity originated by a convergent assimilation of an original diversity made Neo-Linguists suspect that a similar myth of immaculate conception was underlying the birth of Indo-European. G. Bonfante was probably the first to demonstrate that the language diversity in prehistoric Europe might be due to mixing and merging strong layers of Non-Indo-European tribes. V. Pisani refused Indo-European as a 'myth' and a fallacious unity arisen from mixing great numbers of local tribal dialects: 'Large language families such as IE or Uralo-Altai cannot be explained except as a product of a long assimilation, secondary differentiation and new regrouping' (Pisani 1956: 197-8).

Neo-Linguists also claimed that there was no linear chronological evolution, only frequent shifts in the local dominant standard. Such shifts did not represent an inner organic growth but a clash between two opposite language elements. Most shifts betrayed that one set of grammatical devices began to win predominance over another thanks to ethnic migrations and conquests. In the mid-20s similar views were shared by Czech linguists and the movement of sociological **typologism** gaining ground in all European countries. In his paper *On linguistic characterology with illustrations from Modern English* (1928) Mathesius advocated as a remedy 'linguistic characterology' derived from Crocean psycholinguistics and F. N. Finck's idea of national linguistic characters. What he recommended was 'comparison of languages of different types without regard to their genetic relations' (1928: 56). A good illustration of the typological philosophy of linguistic studies is given by B. Trnka's *Syntaktická charakteristika řeči anglosaských památek básnických* (1925) which could clearly distinguish in Old English grammatical *adstrata* or 'subgrammars' due to other ethnic entities. Havránek's treatise *Genera verbi* (1928) may be seen as a triumph demonstrating potentials of typological semantic analysis in one national language. Between 1929 and 1933 the Prague School philosophy of typologism was replaced by functionalism but the post-war era saw its revival in V. Skalička's *Typ češtiny* (1951). This emphasised a synchronous study of recent languages according to their geographic distribution and structural types.

We may recapitulate that in the first half of the century the philosophy of geographic descriptivism (or linguistic diffusionism) was preached by several schools of linguistic studies:

- a. J. Schmidt's *Wellentheorie* (wave theory): languages propagate in waves like water when disturbed by a stone thrown on its surface,
- b. G. I. Ascoli's 'substratum theory': language consists of many layers,

- c. Baudouin de Courtenay's 'amalgam theory' (his *On the Mixed Character of All Languages* defended convergence and fusing into amalgams),
- d. Trubetzkoy's *Kettentheorie* (chain theory): linguistic phenomena spread in chains paving the paths of migrations where the ancient tribes trod,
- e. Mathesius's (1928, 1961) 'linguistic characterology': languages have their own 'inner character' and constitute definite structural types,
- f. the Italian Neo-Linguists (V. Pisani 1961, G. Bonfante, E. Benveniste),
- g. American descriptivism: E. Sapir, F. Boas, L. Bloomfield,
- h. Höffler's (1955: 30ff.) *Entfaltungstheorie*: the theory of independent parallel development of tongues of different origin.

Whatever be their merits, from the thirties onwards linguistics began to revert back to sterile traditionalism and historical speculation. A new wind began to blow from American **universalism** in the 60's with the vogue of generative studies. Its philosophic standpoint was expounded in N. Chomsky's book *The Cartesian Mind* (1968) which defended Descartes' innate ideas as a ground for claims that all human languages reflected the same universal logic and human nature. What were its implications for comparative studies was made clear by J. H. Greenberg (1966, 1974, 1978) and his school of universalist typology of world languages. Their miscellanies and manuals advocated the view that all languages of the world are exposed to same sound changes, alternations and grammatical rules. Instead of realising that vowel harmony, synharmony and rounded front vowels *ü*, *ö* may indicate in aboriginal languages clear traces of a remote descent from the Uralo-Altaic stock, they argued that all languages were exposed to the same phonetic laws.

One of the recent revivals of comparative studies made appearance between 1969 and 1975 with the popularity of rupturism. At that time a new prophet and influential sect of comparative linguistics was born in Russia. V. M. Illich-Svitych (1971) breathed life into Pedersen's Nostratic Hypothesis sheltering all Indo-European, Hamito-Semitic, Uralo-Altaic and Dravidian languages with one roof of a Nostratic Caucasoid race. His vocabulary of long-range comparisons became popular overseas (Bomhard 1984, 1988) but found also a wide response in our country. The Brno Nostratic School (A. Lamprecht (1976; A. Erhart 1982, 1979; M. Čejka 1979) contributed much to this new comparative philosophy by analysing the hypothetical Nostratic unity into West Nostratic and East Nostratic dialects.

2. The Methods of Comparative Linguistics

The Nostratic approach to comparison displayed the same tendencies as the parallel and contemporary vogues of rupturism (Foucault, Kuhn) and neo-

evolutionism (G. Lenski 1970). It retained the idea of descriptive typology and deep interest in recent remote languages but gave up the descriptivists' healthy distrust to historical speculation and fallacious genealogies. It returned back to Schleicher's linear evolutionism for which we prefer to coin as an appropriate term 'chronologism' and only expanded the fallacies of the IE mythology to a broader range of world languages. We may take Nostratic studies as another proof of rupturist and non-cumulative progress of science. The Nostratic revival contributed a lot to comparative studies but its field was soon abandoned for several decades owing to a new fashion of **psycholinguistics**. Obviously, our linguistic knowledge is not built according to a premeditated logical plan and its own inner needs but it is shattered repeatedly to debris by irrational moods of times and street psychology.

Linguistic cannot exist as a full-fledged sovereign science until it finds an antidote against such irresistible fits of irrational folly and attacks of everyday ideology. One of the ways to strengthen its immunity against ideology is a self-reflection of its fates in the historical mirror of its changing attitudes. For this purpose we have devised our statistic tables of linguistic and cultural history corroborating the view that there is periodic lawfulness and regularity in both linguistic and cultural thought. For a more detailed discussion of linguistic methodology we, however, need more specific labels as follow in the ensuing short lexicon of terms. These are suggested as catchwords for resuming complex streams of linguistic thought classified according to their philosophy of linguistic change and approach to historical grammar. These tendencies lay emphasis on some aspects of linguistic development without considering and taking into account other aspects.

antiquarianism - a revival of historical interest in ancient manuscripts, ancient monumental past and great classic writers,

chronologism - tendency to view linguistic change as a linear temporal process of subsequent shifts in scribes' orthography without considering diverse regional and social dialects of oral speech underlying the written standard (classical *Stammbamtheorie*: Schleicher, *Young Grammarians*: K.Verner)

geographism - tendencies to emphasise regional and geographic varieties of recent languages as a reliable source for the reconstruction of ancient proto-languages (J. Schmidt's *Wellentheorie*, American descriptivists F. Boas and E. Sapir, V. Skalička's language typology),

typologism - belief in clearcut types and characters of linguistic structures (F. Graebner's diffusionism, V. Mathesius's 'linguistic characterology'),

sociologism - sociolinguistic approaches viewing language as a hierarchy of social stratification in which popular oral dialects are governed by the received written literary standard (G. I. Ascoli's substratum linguistics),

formalism (or functionalism) - a tendency to explain linguistic changes from

the equilibrium of inner pressures within the formal linguistic structures (the Prague School functionalism between 1929-1933, generative phonology, Chomsky and Halle 1969),

psychologism - resigning from external linguistics, denying its historical, geographical and social dimensions, and engrossing into the eternal inner subjectivity of the human mind,

residualism - views assuming that present-day that recent languages and dialects cannot be regarded as an 'integrated whole' but represent inconsistent amalgams of heterogeneous ancient remains and residues betraying original clearcut types (N. Troubetzkoy's *Kettentheorie*, H. Wagner 1971, P. Běliček 1993-4).

These methods can be depicted on Table 5 as axes of an abstract linguistic space. Languages apparently evolve in time and propagate in space. Their growth can therefore be studied either as a time series by 'pure chronology' (chronolinguistics) or as a geographic distribution by linguistic geography (geolinguistics). These two dimensions must, however, be completed by the third axis of sociolinguistics which deals with the question how social dialects function in society and how they achieve different degrees of social predominance. Table 5 outlines a Cartesian geometry of linguistics as a space with three basic axes and their three respective methods: **geolinguistics** (areal linguistics), **chronolinguistics** (historical grammar) and **sociolinguistics** (*substratum* linguistics). However, no serious science would detach these three aspects of one linguistic process from one another and deny the obvious need to keep them in organic integrity. For this reason the three fields of study are kept together and they are said to constitute one integral science called 'external linguistics', or in a more appropriate way, **macrolinguistics**.

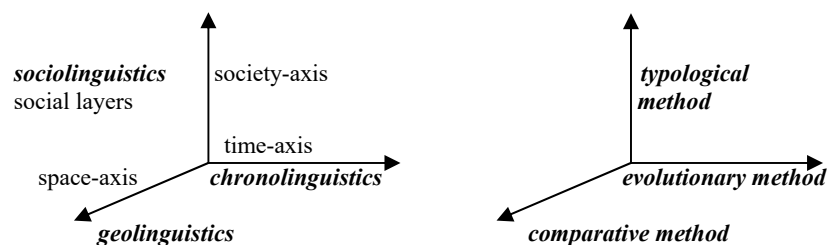


Table 5. *The theoretical space of macrolinguistics and its methods*

The three fields of study are only abstract dimensions in an empty space unless we complete them with **ethnolinguistics**, which gives them a real ethnic substance of physical bodies with real mass and weight. Because it is the *ethnos*, i.e. the ethnic community of a tribe or a nation, that gives languages

real existence and makes them function as real entities in cultural history. The basic error of linguistics is that it attempts to study languages in independence on the *ethnos* and isolates them as two incoherent fields of science. The *ethnos* is the carrier of its own language and as such it governs its fates. Ethnic types of languages in time constitute evolutionary series and justify the methods of **evolutionism**. Ethnic types of languages studied according to their geographic distribution enable their structural comparison and comparative methods of linguistic **comparativism**. If we compare ethnic types of languages on the axis of their social stratification, we arrive at methods of **typologism**. On the right half of Table 5 there is a revised coordinate system that maps macrolinguistics into its methodology. Particular studies may focus on isolated aspects treated by one-sided methods but systematic methodology must insist on their mutual unity and integrity.

The case of the Prague School (or modern descriptivism) vs. the Young Grammarians was one between 'true' and 'false evolutionism'. The Young Grammarians wanted to approach linguistic reality from the viewpoint of historical comparison but relying upon scanty records of ancient literary languages of mixed nature they lapsed into **diachronistic chronologism**. Descriptivists, on the other hand, turned to the abundant evidence of contemporary nonliterary dialects and in an attempt to reveal a systematic typology of language they found an efficient tool in **synchronistic geographism**. Generally speaking, it is immaterial whether the truth is approached from the viewpoint of chronology (diachrony) or geography (synchrony), what matters is whether we proceed to the systematic knowledge of meaningful categories or waste time by detecting incongruous phenomena of mixed nature and accidental importance. In this respect the descriptivists were more successful since they reached a deeper understanding of general language types where the old comparativists confined their scope to individual aspects of a few ancient literary languages.

3. Applicative Levels in English Studies

If we open current primers of linguistic methodology (Čermák 1997: 33ff.), only few count with geolinguistics or sociolinguistics and few acknowledge methods plotted in the left column of Table 5. This is rather surprising because comparative, typological, genetic and evolutionary methods have been established firmly in esthetical and philological studies since Aristoteles and his Peripatetic School (Theophrastos, Dikaiarchos, Duris of Samos, Eudemos of Rhodos). The obvious reason is that most linguists are interested in **internal linguistics** and tend to deny the rights of **external**

linguistics. This prejudiced view tends to reinforce formal, structural and functional methods in belief that they can fully replace external methods.

The difference between the two is of principal importance because it is one between science and applied technology and implies two opposed approaches to reality. Engineers and craftsmen are not interested in the phylogenesis of nature but in the practical use of a few domestic species and their present-day application in practice. They do not study reality as scientists but make use of some of their parts to develop and construct new reality to satisfy social needs. If we distrust comparative, typological and evolutionary methods used in external linguistics we can naturally apply formal, structural or functionalist methods common in internal linguistics. Both sets of methods are efficient and useful tools but they represent different types of research. To abolish the former set in natural sciences means to abolish science and to replace systematic biology by applied technology, by animal husbandry and agronomy. The latter may be deemed more needful than the former but we cannot replace the syllabus of the Faculty of Natural Sciences by that taught at Colleges of Agriculture, Forestry and Veterinary Medicine. Few linguists, however, seem to realise that the same division of labour as operates in all sciences applies also to philological studies (Table 6):

SCIENCE historical comparative sociological typological method	TECHNOLOGY formal functional structural descriptive method	CRAFT practical normative prescriptive didactic method	RELIGION hagiographical hermeneutical exegetical interpretative method
<i>academy</i> <i>university</i>	<i>institute</i> <i>applied research</i>	<i>vocational</i> <i>school</i>	<i>'occult</i> <i>sciences'</i>
macrolinguistics microlinguistics language teaching pseudolinguistics			

Table 6. *The division of labours and theoretical approaches to language*

Humanities abound with a wide range of methods without realising that this abundance betrays their inner weakness. Natural sciences never apply methods on the right side of Table 6 because they clearly distinguish science from technology, craft and religion. Their professional division of labours applies to also all social sciences. Linguistics cannot exist as a science unless it sets its goals as **macrolinguistics** and studies phenomena along the axes of its space on Table 5. Similarly, applied linguistics is not a field of human technology unless defines its goals as **microlinguistics** and applies functional methods.

The space explored by microlinguistics is about the same as in micropoetics (Table 7). One of its fields is phonetics designed to study aspects of linguistic signs concerning tone, rhythm, melody, timbre and quantity.

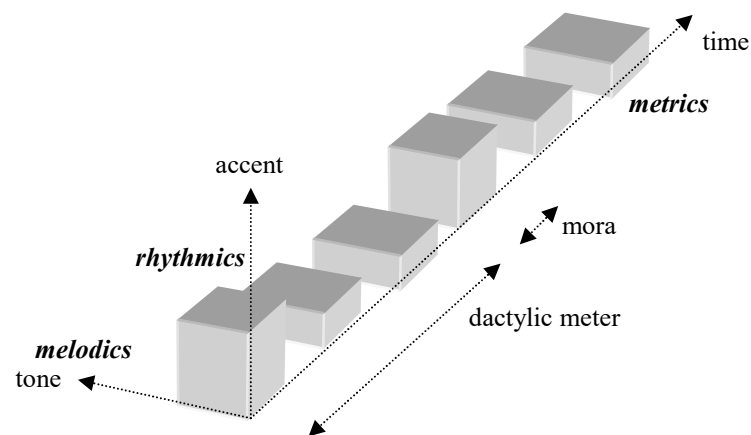


Table 7. *The theoretical space of micropoetics (versology)*

4. The Growth of the Prague School Methodology

When we overlook the Prague school methodology it becomes obvious that its mainstream did not pursue the wake of geographic descriptivism but **typological descriptivism**. Its shape started moulding in Mathesius's 'linguistic characterology' tailored according to the German psychologists F. N. Finck and G. von der Gabelentz but grew ripe only in the mid-twenties when influenced by a strong stream of sociologism (and social functionalism). The pursuit of a general type of character of language was the unifying force in the best works by the Prague School such as Mathesius's *Obsahový rozbor*, Havránek's *Genera verbi* (1928) and Trnka's *Syntaktická charakteristika* (1925). Most linguists see the unifying inspiration in **functionalism** but forget that this was true only of the first sessions of *Cercle Linguistique de Prague* and the turmoil of years 1929-1932. The decisive turn to functionalism came only in the thirties when linguistics was fumbling its way to a new abstract **formalism** which later resulted in a new linguistic **psychologism**.

The pre-war scene of Prague linguistics renders an exciting sample of methodological development that is of great import for the evolution of linguistic methodology in general. We attempted to map its growth as a statistic process on the background of all cultural studies (Table 8 and

Supplement 3). At the same time we tried to arrange the main streams of Prague linguistics into discrete currents. Linguistic currents are shown to coincide with literary and cultural trends whose propagation was analysed by the so-called ideographic and ideometric method.

PSYCHOLOGISM 1895-1904/5: 'aktuální větné členění', functional sentence perspective and word-order

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MATHESIUS, V.: On the potentiality of the phenomena of language, 1911, in: (ed.): Vachek, J.: *A Prague School Reader in Linguistics*. Bloomington 1964: pp. 1-32.

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These surveys show that the Prague School cannot be conceived as a homogeneous movement, it represented a polyphonic trend mirroring many currents of ideas on our pre-war and post-war scene. Its hard core coincided with the mainstream of **functionalism** and **formalism** that turned attention to topics of the literary standard and exhibited many parallels to the *Wiener Schule* (Carnap, Schlick, Wittgenstein). Table 8 and Supplement 3 demonstrate that our humanities were visited by several waves of formalism (Herbartism 1775-1883, Prague Structuralism 1929-1933 and Chomskian Generative Structuralism 1963-1970) and all of them made a fruitful contribution to applied linguistics. However, Mathesius, Trnka and Havránek as the chief leaders of the Prague linguistic circle shaped their linguistic philosophy in an earlier period and followed closely the wake of **typological descriptivism** 1915-1923. This movement was inspired by ethnographic diffusionism and focused chiefly on the typology of exotic languages. As is seen in Table 4 and Supplement 2 tracing the trends in methodology and culture in Britain, its roots are linked with in cultural waves of 'exotic geographism'. **Geographism** indulges in the study of primitive exotic cultures and usually follows after a

vogue of **antiquarianism** engaged in the study of ancient languages or regional dialects. Much of the Young Grammarian controversy may be interpreted as a clash between antiquarianism and geographism. In his life-time Mathesius was influenced also by two deep cultural waves of **psychologism** which attracted his attention to problems of word-order and functional sentence perspective.

Statistic profiles of history show that there do exist regular cultural patterns in human thought, which govern our approach to reality and interest in different linguistic topics. Supplements 2 and 3 demonstrate that linguistic methodology is closely related with streams in other humanities and other fields of culture. Since ancient Greece linguistics has experienced many revivals of **philological analogism** and **interpretive anomalism** that accompany the periods of enlightenment and decadence, respectively. The former loves classic philology, *ars poetica*, dictionaries and encyclopaedias and cultivates didactic, biographic and illuminative methods. It makes linguistics into **secular ideology** where the latter indulges in the exegesis of sacred texts, semantic interpretation and allegory and treat linguistics as a **religion**, as a dogmatic interpretation of sacred texts. Czech schools of normative analogism can be seen in the circle of humanists around Jan Hodějovský z Hodějova, in B. Balbín's and V. Rosa's purism, in Jungmann's *Slovesnost* (1820) and also in P. Sgall's and P. Novák's discussions about Czech orthography and its received literary standard in the 50s. Interpretive anomalism permeated the literary manifests of *Česká* and *Katolická moderna* (both 1895) and contemporary Postmodernism (M. Hilský, M. Procházka). Linguistic anomalism tends to develop psycholinguistics and problems of functional perspective (Mathesius 1907-8, 1939, 1942).

Another important opposition divides scientific **comparativism** (applying comparative, genetic and sociological methods common in external linguistics) from **formalism** (using structural, functional, logical and exact methods common in internal linguistics). The formal approach to humanities won dominance with Czech **Herbartism** (Durdík, Dastich, Hostinský, Lindner) alongside with the Lumír School and Vrchlický's formal eclecticism. Another strong wave of formalism came in the late thirties thanks to the Prague School and similar scientific movements of Central Europe (Wienschule, Reichenbach's Berlin School, Adjukiewicz's school of formal logic in Lwow). Its last revival stormed humanities in the 60's with Chomsky's generative linguistics, French structuralism and Lévi-Strauss's ethnographic studies. Comparativism became a dominant trend in the linguistic branch of Goll's Realistic School (J. Gebauer, O. Hujer, J. Janko).

HERBARTISM/ECLECTICISM

1875		LLL
1876	Durdík	
1877	Hostinský	LL
1878	Čupr	L
1879	Dastich	LL
1880	Lindner	LLL
1881		LLL
1882		LLLL
1883		LLLLL
1884		LLLL
1885		L
1886	REALISM/NATURALISM	LLL L LL
1887	ss	LLL
1888	ss Masaryk	LLL
1889	ssss Krejčí	
1890	ssssss SS <i>Comparativism:</i>	
1891	Gebauer	
1892	sssss Hujer	
1893	sS Janko	
1894	sssss SS Naturalism: Šlejhar	
1895	SSSS	
1896	s	

DECADENCE/PSYCHOLOGISM

		H
		<u>HHH</u> HHHHHHH
		hhhhh <u>HHH</u> HHHHH
		H
		h HHHHHHHHH
		h h HHH
		h <h>hh</h> HHHH
		h <h>h</h> HHH
		h h HHH
		ANARCHISM <u>HH</u>
		<u>HH</u>

HHHHHHH

H = hermetism
h = anarchism

NEOCLASSICISM/PHYSIOLOGISM

1903	kkkkkkkkkkkkk	KKKKKKK
1904		KK
1905	kk kkkkkk	KKK
1906	kk kkkkkk	KKKKK
1907	kk kkkk	KKK
1908	kkkkkkk	
1909	<u>kk</u> kkk	
1910	kk kk k	
1911	kk kk k	
1912	kk kk	
1913	kk kk	

1938 **CHOSISM HERMETISM/HOLISM**

1939 Group 42 **HHH**

1940 **hhhhhhhhhhhhhhhhHHHHHHHHHHHH**

1941 **hhhhh hhh HHHHHHHHĤĤĤĤĤĤ** Ĥ = rural & clerical hermetism

1942 **hhhhhhhhhhHHHHHHHHĤĤĤĤĤĤĤĤĤĤĤĤ**

1943 **hhhhh HHHHHHHHHHĤĤĤĤĤĤ**

1944 **hhhhh HĤĤĤĤĤĤ**

1945 **hhhhh HHHĤĤĤ**

1946 **hhhhhhhhh HHHHHHH**

1947 **hhhhh HHHHHHH**

1948 **hhhh HHHHHHHH**

1949

ķ = frézismus

1950

1951 **nnnNNNNNNNN**

1952 **nnNNNNNNNN**

1953 **NNNNNNNNNNNN**

1954 **NNNNNNNNNNNN**

1955 **NNNNNNN STALINISM**

KKK KKKKKKK
ķķķķķķķķķķķķ KKKKKKKKKKK
ķķķķķķķķ KKKKKKKKK
ķķķķķķķķķķ KKKKKKKKKKK
ķķķķķķķķķ KKKKKKK
ķķķķķķķķķķķķ KKKKKKKKK
ķķķ KKKKK
ķķķķķ KKKKK
ķķķķķķķķķ KKKK

UTOPIANISM/CLASSISM

1954 **ANTIDOGMATISM/EMPIRISM**

1955 **ee**

1956 **eeeeeeeEEEEEE**

1957 **eeeeeee eeeëëëëëë eeeEEEEEE**

1958 **eeeeeeeëëEEEEEEEE**

1959 **eeeeeeeëëëëëëëëëëEEEE**

1960 **eeeeeee eeeeEEEEEE**

1961 **eeeeeeë eeeeEE**

1962 **eeeeeeEEEEEEEE**

1963 **eeeeeeeeeeeEEE**

1964 **eeeëë**

1965 **ë**

1966 **eë**

1967

1968

1969

1970

1971

1972

STRUCTURALISM

LLLLL
LLLLLLLLLLLLLLLL
lLLLLLLLLLLLLLLL
lLLLLLLLllllllll
LLLLLLLLLLLLLLL
LLLLLLLLLLL
LLLLLLLll
LLLLll
LLLLlll
LL
L

1968			
1969	sss		SOCIOLOGISM
1970	sssss		
1971	sssssssSSSSSS		
1972	ssSSSSSSSSSS		
1973	sSSSSSSSSSSSS		TRADITIONALISM
1974	ssssSSSS		
1974	ssssSSSS		
1975	sssssss		
1976	sssss		
1977	sss	f	
1978	ss	f	
1979		fffff	
		ffffF	
1980		f	
1981	SCIENCE	fff	
1982	FICTION	f	
1980	CCĚ CATASTROPHISM		
1981	ccCCCCCCCCCCCCĚĚ		ṽ = rural traditionalism
1982	cCCCCCĚĚĚĚĚĚĚĚ		ṽ = religious traditionalism
1983	cccccĚĚCCCCCCCCCCCCĚ		f = science fiction
1984	ccCCCCCCCCCCCCĚĚĚ		
1985	ccccccĚĚCCCCCCCCCCCCĚ		
1986	ccccccCCCCCCCCCCCCĚ		Ě = hermetic catastrophism
1987	cccccCCCCCCCCCCCCĚĚĚ		
1988	CCCCCCCCĚĚCCCCCCCCĚĚ		
1989	CCCCCCCC		
1989			HERMETISM
1990			HHHHHHHHH
1991			hHHHHHHHHHHHHHHH
1992			hHHHHHHHHHHHHH
1993			hhHHHHHHHHHHHH
1994			HHHHHHH
1995			
1996			
1997			

Table 8. An ideometric chronology of Czech literary and linguistic trends

left-wing	x u	lower-case letters	
right-wing	X U	upper-case letters	
POETRY	V v	bold	VO = O
SATIRE	# #	double cross	FO = ⊕
EPIC	○ ○	silhouette bold	OU = U
NOVEL	R r	ordinary basic	RO = O
SHORT STORY	P p	silhouette types	PO = O
DRAMA	D d	<i>italics</i>	DO = O
TRAGEDY	T t	<i>italics</i>	TO = O
COMEDY	C c	<i>silhouette italics</i>	CO = O
OPERA	⊕ ⊕	single cross	OO = ⊕
ESSAY	E e	<u>understriking</u>	EU = U
SCIENCE	E e	<u>understriking</u>	Eo = o
JOURNALS	J j	<u>bold understriking</u>	JO = O
EVENTS	<u>X x</u>	<i>italics & understriking</i>	XO = O
PAINTING	A a	relief	AO = O
SCULPTURE	I i	bold relief	IO = I
MUSIC	Û u	<i>ryté</i>	UO = O

CULTURAL STYLES		LINGUISTIC METHODOLOGIES
CLASSICISM	K k	normative philologism prescriptive analogism illuminative encyclopaedism
ANTICLASSICISM	N n	regional antiquarianism
SENSUALISM	E e	exotic geographism diffusionism
FORMALISM	L l	logicism panlogism
SOCIALISM	S s	sociologism evolutionism
TRADITIONALISM	T t	psychologism hermetism
CATASTROPHISM	C c	antiquarianism folklorism
HERMETISM	H h	psychologism

Table 9. Ideometric symbols used in Table 8

THESES TO MACROLINGUISTIC TYPOLOGY

1. The Typological Approach to Linguistic Change

Linguistics cannot do without valid categories and without a systematic taxonomy of its units. Such categories pose the same problem of valid genera and species as was tackled by the 19th century Darwinist zoology. Comparative linguistics swarms with false languages families such as Common Romance and Common Celtic which plague our linguistic considerations in the same way as false zoological species of bipeds, tripeds and quadrupeds plagued mediaeval scholastics. The present-day national languages are melting pots fusing secondary amalgams of many heterogeneous tribal dialects and linguistics cannot understand linguistic structures unless it analyses these alloys back into original pure metals. Reconstructing ancient proto-languages from such fallacious units of mixed character leads to a deadlock, it means blending amalgams into amalgams of amalgams. Modern national languages are **phenostructures**, heterogeneous visible wholes of recent dating which should be analysed into **genostructures**, compact homogeneous typological units operating in prehistoric times. The original genostructure languages were spoken by Palaeolithic races of Mousterians, Magdalenians and Solutreans and their structural consistency must have been as clearcut as their geographic distribution and archaeological record. Their tribal languages should, in contradistinction to proto-languages, be called 'eteo-languages', i.e. 'true, genuine languages' (cf. Eteo-Cretan, Běliček 1988). A proto-language is a secondary compound manifesting outer unity but concealing inner diversity whereas an **eteo-language** represents primary inner ethnic unity revealing rich outer ethnic diversity.

The two opposite models of linguistic evolution can be depicted on diagrams. The bifurcation model proposed by Schleicher's *Stammbaumtheorie* (Table 10) assumes that Indo-European decomposed into large language families, these dissolved into national languages and the latter split into their regional dialects. On the other hand, the alternative immersion model defended by Troubetzkoy's *Kettentheorie* (Table 11) presupposes that Mesolithic and Neolithic Europe displayed a state of high ethnic diversity but also high structural consistency (Wagner 1971: 228). It was occupied by various heterogeneous tribes of different races: the Danubian peasants of Indo-European stock (Renfrew 1974), the Mediterranean Sea Peoples of Iberian descent, short-sized Lapponoid Urnfielders, warlike cattle-breeders from the east (*Hügelgräber*) etc. With due progress of time primary tribal diversity disappeared and underwent assimilation resulting into modern nations who absorbed heterogeneous tribal islets into regional dialects. Regional dialects

therefore reveal translucent residues of *substrata* and *adstrata* of ancient eteo-languages showing through the surrounding *superstratum* environment.

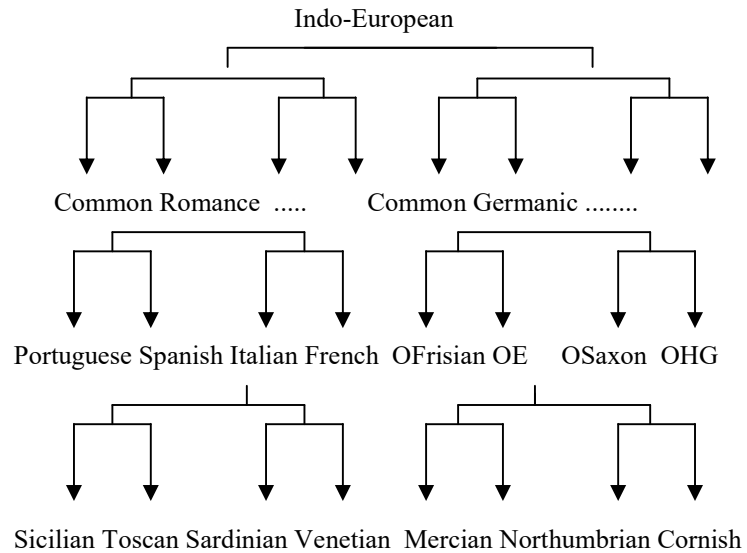


Table 10. *The bifurcation model of glottogenesis in Stammbaumtheorie*

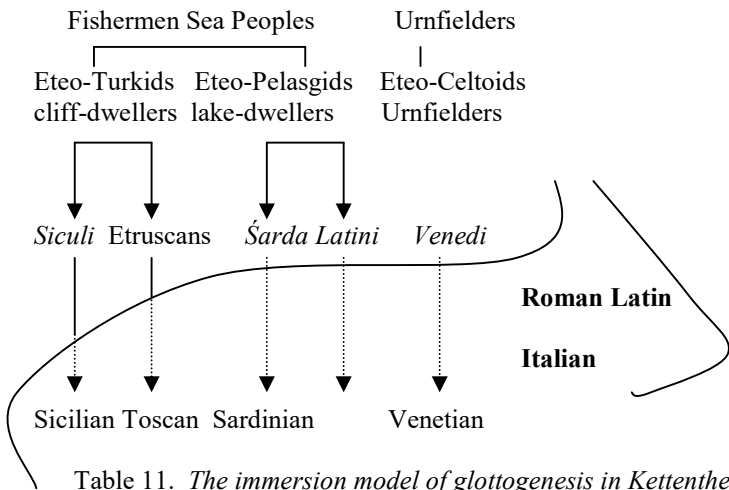


Table 11. *The immersion model of glottogenesis in Kettentheorie*

The reconstruction of transient proto-languages is difficult but it may be replaced to a great extent by a systematic typology of eteo-languages. T. Milevski's *Zarys jazykoznavstwa ogólnego* (1947-1948) or V. Skalička's *Typ češtiny* (1951) prove that linguistic typology may become a very efficient tool in classifying peripheral and aboriginal languages. Linguistic typology arrives at valuable results if it is based on reliable typology in other prehistoric sciences, providing it is consistent with available evidence in anthropology, ethnography and archaeology. In our study *Prehistoric Dialects* (2001: 6) we proposed a simple classification of languages that sheds light on basic types of prehistoric cultures, language families and human races (Table 12). It tailors linguistic typology according to ethnic migrations documented reliably by archaeology, and completes their eteo-languages with corresponding types of prehistoric races and primitive economies. Languages are classified according to their peculiar plural endings so that *x*-dialects denote a group of eteo-languages with *x*-plurals here.

Family	Type	Race	Culture	Economy
Eteo-Bantu	<i>m</i> <i>b</i> -dialects	Negroids	Acheulian hand-axe	peasants
Eteo-European	<i>b</i> -dialects	Nordics	double-axe	peasants
Eteo-Uralic	<i>t</i> -dialects	Uraloids	Combed Ware	hunters, breeders
Eteo-Basque	<i>k</i> -dialects	Dinarics	Megaliths	cattle-breeders
Eteo-Turkic	<i>r</i> -dialects	Turcoids	Microliths	fishermen, pirates
Eteo-Pelasgic	<i>l</i> -dialects	Pelasgoids	Levalloisian	fishermen, pirates
Eteo-Lappic	<i>i</i> -dialects	Laponoids	Urnfielders	artisans

Table 12. *An outline of a multi-cultural classification of languages*

2. A Typological Approach to English Grammar

The amalgamative theory of linguistic change prevails in Romance philology but it has been applied successfully also in the historical grammar of English (B. Trnka 1925, J. Vachek 1978, J. Hladký 1996). These studies have proved that linguistic evolution cannot be considered as a linear chronological series of causal changes but it must count also with parallel coexistence, recurrence and revivals in linguistic phenomena. They demonstrated that English analytic perfects, conditionals and future tenses have existed as minority phenomena in small numbers since Anglo-Saxon times but as an organic part they started to function only in Middle English, probably under the influence of Common Scandinavian (Old Norse) and Norman French. Also the present progressives and the habitual auxiliary *do* appeared as early as in Old English but they cropped up in rare occurrences such as *þa ēā siþþan is*

yrnende 'the river is then running' (Hladký 1996: 159). Their possible descent from Welsh and other Celtic languages was discussed by J. Hladký (1996: 160). The present progressive 'I am allowing' reads in Modern Irish *táig ag ligean*, in Gaelic *tha mi a' leigeil* and in Manx *ta mee lhiggal* (Lockwood 1975: 107, 127, 146). Outside the British Isles the habitual and progressive tenses can be seen only in Albanian which has two progressives, *Po(punof)* and *Yam tue punue* 'I am writing' (Ejntrej 1982: 84). England's nickname is Albion and in his *Historia Regum Britanniae* Geoffrey of Monmouth mentions its (and Scotland's) earlier name *Albania*. After the Anglo-Saxon conquest the Celtic Gaels and 'Albanians' were submerged into the Old English (or Wessex) official standard but with the Puritan revolution they emerged from darkness to restore their own dialect heritage within the boundaries of English again. They were a short dark-haired roundheaded race that persisted as urban craftsmen for many centuries under the reign of Anglo-Saxon and Norman kings but reappeared as the Puritan Roundheads when their social class felt strong enough to carry out democratic reforms both in society and language.

The amalgamative interpretation of Modern English assumes that its history cannot be reduced to a linear series of sound changes deduced from orthographic conventions but betrays a long-time competition between several ethnic and social forces balancing their rights within one society. Nobody would doubt that British toponymy and English lexical wordstock clearly consisted of a Celtic, a Danish and a Norman component but hardly any linguist is ready to concede that the same applies to phonology, morphology and syntax. Our thesis is that Modern English is not a consistent homogeneous structure but a compound composed from several components. Table 13 attempts to illustrate this by outlining the system of English verb forms as an amalgam fused from Anglo-Saxon, Norman and Celtic **subgrammars**. Its very Anglo-Saxon core was an inflecting language with a synthetic verb system, its outer shell was completed by the Norman analytic verb system with semipredicative constructions and its inner hidden juicy pulp continued to persist in Celtic predicative constructions (*the boatswains are aboard, I am a-hunting*) with a *do/does-habitualis* and an *ing-actualis*.

Gothic and Old English preserved a relatively faithful continuation of IE as spoken by the Danubian Linear Ware peasants (C. Renfrew 1974). Its system of tenses was based on conjunctives applied primarily in subordinate *that*-clauses and *if*-clauses. Middle English extended this system by adding the future tense, conditionals and perfects due to Old Norsemen, Danes and Normans. These innovations contributed to its **analytic layout** by forming multiple chains of auxiliaries and participles of full-meaning verbs. This system is known to function according to rules of *consecutio temporis* in most Uralo-Altaic languages and may have been imported by fishermen of eastern

origin. Uralo-Altaic perfects combine participles with the auxiliary verb 'to be' as in German *er ist gegangen* or ME *lenten is cumen*, cf. Estonian *olen lugenud* 'I have read', Turkish *sevdi idim* 'I have loved' (J. Németh 1916: 78).

ANGLO-SAXON SUBGRAMMAR

TENSE	indicative	conjunctive	that-clause
present	<i>he is</i>	<i>he be</i>	<i>that he be</i>
past	<i>he was</i>	<i>he were</i>	<i>that he were</i>

Norman
gentry

NORMAN SUBGRAMMAR

TENSE	indicative	'conditional'
present (imperfect)	<i>he is</i>	<i>he will be</i>
present perfect	<i>he has been</i>	<i>he will have been</i>
past (imperfect)	<i>he was</i>	<i>he would be</i>
past perfect	<i>he had been</i>	<i>he would have been</i>

Anglo-Saxon
peasantry

Celtic
craftsmen

NORMAN SEMIPREDICATION

GERUND	active	passive
present (imperfect)	<i>asking</i>	<i>being asked</i>
past (perfect) gerund	<i>having asked</i>	<i>having been asked</i>

CELTIC SUBGRAMMAR

TENSE	<i>habitualis</i>	<i>actualis</i>
present	<i>I (do not) ask</i>	<i>I am asking</i>
future	I will ask	I am going to ask
past	<i>I used to ask</i>	<i>I was asking</i>
conditional	I would ask habitual <i>would</i>	I was going to ask

Table 13. *Different ethnic layers in the English tense system*

Another remarkable trend in Middle English was avoiding *hypotaxis* and subordination in effort to replace *that*-clauses by non-finite verb forms. The subjunctive *that*-clause in *it is necessary that he be obedient* was substituted either by infinitive constructions while the indicative *that*-clause was made up for by the newly formed gerund, derived probably from the Anglo-Norman *gérondif*. Instead of *hypotaxis*, subordination, *that*-clauses and conjunctive *if*-clauses and a new semipredicative system of gerundial, infinitive and participial constructions was applied as is common in Uralo-Altaic languages. The use of gerundial, participial and infinitive constructions as a makeshift for the subordinate *that*-clause was called by I. Poldauf (1958: 177) 'secondary predication', J. Hladký (1961: 105ff.) coined the term 'condensation' and L. Dušková (1988: 542) 'semipredication'. Gerunds, infinitives and participles have also their respective perfect forms that complete the many-level temporal consecution of perfect tenses. This is a sound argument for making grammatical terms consistent and calling past gerunds and infinitives 'perfect gerunds' and 'perfect infinitives' (Thompson & Martinet 1991: 233).

The chief dark mystery in Germanic philology is the descent of Scandinavian Vikings who bore much resemblance to the pirates of southern seas. William the Conqueror justified his claims to England by the Nordic origin of early Anglo-Saxon kings who described themselves as grandsons to Odin (Wotan). Odin's ancestor Thorr is reported in *Edda* to have come from Turkey through Thrace. Since heroes of Germanic epic treat the Hunnish chieftain Atilla as their kinsman, they may also have been real warriors and kings of Hunnish origin. The Hunnish episode cannot, however, have played the decisive role in the rise of Common Germanic. Its beginnings were probably due to the Northern Arctic Culture (3000 B. C.) of hunters and fishermen. Their history may be traced back to the Mesolithic period when cold marshlands in northwest Europe were occupied by Magdalenian hunters and fishermen producing microlith industry. Their descendants survived as scattered tribes of the Maglemose, Cresswell and Ertøbølle culture until they were absorbed by the first Indo-Europeans (4000 B. C.). In the Northern Arctic Culture fishermen continued to prevail but in the Corded Ware culture (about 2000 B. C.) Indo-Europeans won predominance. In spite of a strong Indo-European influence Arctic fishermen preserved their ethnic identity in the Viking pirates. Ptolemy's maps from the 2nd century A.D. probably recorded their close kinsmen as *Cimbri*, *Teutones et Ambrones*.

Another branch of Magdalenian fishermen with microlith tools travelled along the coastlines of the Mediterranean Sea and settled on its rocks as Palaeo-Iberian cliff-dwellers. Their tribes lived in submarine caves and vertical shafts cut deep in steep rocks. Archaeologists could trace their descendants in *Cimmerians*, Iberians, Welsh *Cymri* inhabiting Cambria, *Hiberni* settled in

Ireland and the Hebrides, and possibly also Northumbrians living on the Humber¹. The ancient Irish myths described these Palaeo-Iberian cliff-dwellers as giant *fomoir*, bloodthirsty cutthroats living on piracy and raids. Ancients knew them as Sea Peoples associated with Phoenicians or Puns but some earlier records attributed similar customs also to Pelasgians, Sicilians, Etruscans and Sardinians. About 1300 B.C. their list (I. M. Dyakonoff 1968: 103) made by the Egyptian pharaoh Ramses III included *Šrd* (Šarda), *Prst* (Pelishtu), *Škrš* (Sikuli) and *Trš* (Tyrrhenians, Etruscans).

There was also an eastern branch of sea pirates travelling east and recorded in Indian chronicles as the people of *Kumar* (Khmers). They flooded India with microlith ware about 10000 B.C. and now survive as Dravidian tribes speaking *r*-plural languages. Abundant evidence for *r*-plurals is seen in Etruscan and Scandinavian languages. It is remarkable that the Nordic heroes were called *æsir* 'gods' and their name coincided with Etruscan *asir* 'gods' in the Turcoid plural *r*-ending. Their mutual contacts in later times are corroborated by runes. J. Hladký (1996: 213) gave an extensive account of the origin of Germanic runes (*futhark*) from the right-to-left writing of North Etruscan script. In Northern Europe the Germanic forefather Irmin was embodied by phallic columns *Irminsul* and in Ancient Greece he was worshipped as Hermes represented by similar columns *hermai*. When Cimmerians occupied Babylonia (ca. 1900 B. C.) their ruler Hammurabi had phallic milestones built along all roads. Their tribal ethnonyms *Cimbri*, *Teutones*, *Ambrones*, *Hernici*, *Hermunduri*, *Hermiones* sounded Indo-European but pointed back to common Palaeo-Turcoid ancestry. Their names *Cimbri*, *Ambrones*, *Khmers*, *Cimmerians*, *Iberians*, *Umbrians* and *Cymri* all bore the Palaeo-Turcoid *r*-endings like *Hunns* (*Hunnir*), *Phoenician Puns* (*Foinir*) and *Tartars* (*Teuton* + *-r* = *Tatar*).

These ethnic parallels suggest that Indo-European language families did not arise by splitting IE unity but owing to **transparency** allowing Mesolithic autochthonous tribes to show through the IE peasant newcomers. Crucial issues of English, Germanic and IE comparative philology have similar solutions as those of zoological cynology. Modern language families are interrelated in the same way as the animal genera of the Canines and Canidae and this is why searching for Common Germanic is as pointless as looking for the common ancestor of dogs. Both fields had a long divergent evolution in the Palaeolithic but since the Neolithic their crowded populations have only overlapped, mixed and undergone convergent crossing. Instead of faking their false genealogies from the wolf (*Canis lupus*) we should treat modern dogs as

¹ The Humber was said to have been settled by Hunns, Geoff. of Monmouth, *Hist. Reg. Brit.*

bastards and mongrels preserving different rates of blood from several ancestors: wolves, foxes, jackals, hyenas, coyotes and dingoes. Also modern languages are bastard children taking after several fathers. Neolithic Europe was occupied by different races and tongues: tall long-headed peasant Danubians (Nordics, Europoids), short, round-headed Urnfielders (Celts, Lapponoids), warlike pastoralists (Sarmatians, Uraloids) and pirate fishermen (Cimmerians, Iberians, Turcoids). All modern languages contain a definite admixture of their heritage but in different rates and degrees of dominance.

INDO-EUROPEAN	PALAEO-NORDIC (PALAEO-TURKIC?)
synthetic morphology	analytic morphology
inflecting present and preterit	auxiliaries + participles
SVO-word order (<i>I sing songs</i>)	SOV-word order (<i>daß er krank ist</i>)
NG-attributes (<i>walls of stone</i>)	GN-attributes (OE <i>stānes weall</i>)
derivation (<i>wait + -er</i>)	compounds (<i>stone wall</i>)
suffixes	izaphet (<i>of-stone wall</i>)
<i>s</i> -plurals	<i>r</i> -plurals (OE <i>čildru</i>)
prepositions (<i>after that</i>)	postpositions (<i>thereafter, darüber</i>)
ablaut alternation	umlaut plurals (<i>foot - feet</i>)
ablaut preterits	<i>t/d</i> -preterits
present optative subjunctive (<i>I be</i>)	<i>s</i> -futurum
past optative subjunctive (<i>I were</i>)	<i>s</i> -conditionals
present and preterit only	perfects <i>has gone, ist gegangen</i>
no consequence of tenses	<i>consecutio temporis</i>
subordinative hypotaxis	semipredication
<i>that</i> -clauses	gerunds
conjunctive <i>that</i> -clauses	infinitive constructions

Table 14. *Indo-European and Palaeo-Turcoid remains in English grammar*

The case of English grammar cannot be solved unless we explain it as a daughter of two distant fathers (Table 14). The first was the true-born Indo-European system, common to all Goths, Frisians, Angles and Saxons, consisting of synthetic verb forms, inflection, case forms, *s*-plurals, prepositions, conjunctions, subordination and conjunctive *that*-clauses. The second father was a Palaeo-Nordic *r*-tongue of arctic fishermen (Germans, Teutons), based on analytic verb forms, postpositions, compounding, perfects, semipredication, infinitives, gerunds and participles. It is no use reconstructing their proto-languages because they were transient intermediary forms with great geographic variation. They represented inconsistent amalgams of two **subvocabularies** obeying the rules of two independent subgrammars.

3. A Typological Account of English Phonology

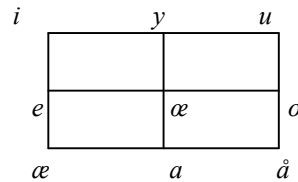
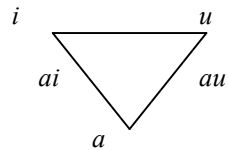
The rise of Common Germanic phonology was a result of an immersion of Mesolithic fishermen into the Neolithic peasant environment. The Indo-European peasants settling in north Europe after 4000 B.C. were of tall robust stature, lived in 'long houses' and produced Linear Ware pottery. Their tribal genealogies consisted of Frisians-Prussians, Goths-Jutes, Angles-*Ugliči* and Saxons-Senones(?). In the northern arctic marshlands they met scattered hordes of hunters, pirates and fishermen who spoke a Palaeo-Turcoid *r*-language but soon were absorbed by newcomers. Ancient historians recorded names of several ethnic islets referred to as *Cimbri*, *Teutones*, *Ambrones*, *Hernici*, *Hermunduri* and *Hermiones*. The former provided inner Indo-European substance, the latter supplied the outer form setting all peculiar traits of Germanic languages. The former absorbed the latter as a stronger ethnic majority but the latter won control over the former as their aristocracy and kings. Under their rule these peaceful peasants launched into several military expeditions. The first had to do with the expansion of the **Corded Ware** culture (after 2000 B.C.) that spread Germanic tribes from the Scandinavian cradleland into their present-day settlements. The Langobards conquered Pannonia, Goths occupied Dacia and Frisians, known better as Prussians, got hold of the coasts of the Baltic Sea. In his *De origine Getarum* (cca 550 A. D.) Jordanis described how Filimer led Goths on an expedition through Gdynia and up the river Visla (the ancient *Codanisca*) as far as the Black Sea. It is usually dated to the 3rd century A. D. but it may have occurred much earlier because the kings of *Getes* were reported to rule in Dacia from 1000 B.C.

It is hardly any use reconstructing Proto-Germanic, Common Germanic or Common Scandinavian phonology because their linguistic structures are incongruous and display different rates of Indo-European and Palaeo-Nordic ancestry. Their mutual clash may be described as a duel of two heterogeneous phonological systems. Table 14 describes this clash as a fusion of the typical IE system with the typical Palaeo-Turcoid system. The IE system exhibits a triangular vocalism, long diphthongs and triphthongs and a simple consonantism based on the opposition of voiced and voiceless consonants. The Palaeo-Nordic sound system applies front rounded vowels, laryngalisation, vocalic alternations, synharmony, strong and weak consonants, medial gemination and rhotacism.

All Proto-Germanic sound shifts may be explained easily as an **embedding** (or immersion) of the IE wordstock into Palaeo-Nordic phonology. All accounts of Common Germanic start with Grimm's laws and the so-called Proto-Germanic Consonant Shift (*Lautverschiebungen*). The circular roundabout of all consonant series makes little sense unless we consider it as

rendering IE words with the opposition of voiced and voiceless consonants in terms of a heterogeneous phonologic repertory based on the opposition of *fortes* and *tenues* consonants. Modern Turkic languages have incorporated also some voiced consonants but their original state is evidenced in Uralo-Altaic alternations between initial *fortes* consonants *p-*, *t-*, *k-* and their medial weak counterparts *-pp-*, *-tt-*, *-kk-*. Gamkrelidze and Ivanov (1980: 23) were the first to see through the fallacies of Grimm's Proto-Germanic mythology when they noticed that similar consonant shifts occurred with similar results also in Armenian and Tokharian.

INDO-EUROPEAN	PALAEO-NORDIC (PALAEO-TURKIC?)
triadic vocalism	quadrangular vowel system
vocalic stability	vocalic alternations
no front rounded vowels	front rounded vowels <i>ü, ö</i>
one central low open vowel	low open vowels <i>æ, ǣ</i>
long diphthongs	Proto-Germanic breaking
no laryngalisation	laryngeal <i>r</i> -vowels (<i>a^r, o^r</i>)
voiced and voiceless consonants	<i>fortes</i> and <i>tenues</i>
strong initial aspiration	medial gemination
alveolar <i>r</i> -roll	cacuminal, uvular or retroflexive <i>r</i>
no rhotacism	rhotacism
no vowel harmony	regressive synharmony



voiced	voiceless
<i>b</i>	<i>p</i>
<i>d</i>	<i>t</i>
<i>g</i>	<i>k</i>

fortes	tenues
<i>p-</i>	<i>-pp-</i>
<i>t-</i>	<i>-tt-</i>
<i>k-</i>	<i>-kk-</i>

Table 15. *Indo-European and Palaeo-Turcoïd remains in English phonology*

The Palaeo-Nordic (Palaeo-Turcoïd) opposition of *fortes* and *tenues* concerned also sonants and fricatives. They underwent voicing and gemination in medial positions but remained voiceless in initial positions (*thin* /θ-/ vs. *leather* /-Δ-/). It seems obvious that strong initial preaspirated sonants in OE

hlāf ‘loaf’, *hrōf* ‘roof’ and *hnutu* ‘nut’ signalled original *fortes* sonants in words of Palaeo-Nordic origin and while unaspirated initial sonants in OE *mōdor* ‘mother’ and *niht* ‘night’ were due to voiced sonants in words stemming from the IE (or Palaeo-Gothic) wordstock. There were no one-way shifts within one system but only amalgams of overlapping language areas producing ‘two-way translations’ into heterogeneous phonologies (Table 15). Translations of Uralo-Altaic *fortes* into IE preassibilated clusters *sp-*, *st-*, *sk-sm-*, *sn-*, *sl-*, *sw-* (from preaspirated consonants ^hp, ^ht, ^hk, ^hm, ^hn, ^hl, ^hw) occurred much earlier in Anatolia before 6000 B. C., and when imported to Scandinavia, they were accepted without any further changes.

INDO-EUROPEAN		PROTO-GERMANIC		PROTO-NORDIC
b d g	→	p t k sp- st- sk- b d g f θ h -vv- -ðð m n l w sm sn sl sw ^h m ^h n ^h l ^h w	←	p- t- k-
β δ γ	→		←	
p t k	→		←	-pp- -tt- -kk-
			←	
m n l w	→		←	m- n- l- w-
			←	

Table 16. *Two-way projections into the Proto-Germanic consonant system*

The Proto-Germanic vowel system displays less consistent a layout than the consonant system. Its state in Gothic was an unspoilt continuation of the IE state while in Palaeo-Nordic it had a quadrangular structure with the central column of front rounded vowels. Their opposition was one between Troubetzkoy’s (1929: 39-67) ‘triangular systems’ (*Dreiecksysteme*) of IE of Caucasian origin and ‘quadrangular systems’ (*Vierecksysteme*) of Uralo-Altaic descent. The occurrence of rounded front vowels *y* (or *ü*) and *æ* (or *ö*) is regularly associated with that of low open vowels *a* (or *ä*) and *ā*.

Another remarkable coincidence is similarity between the rules of Germanic umlaut and Turkic vowel harmony (synharmony). Most Uralo-Altaic languages obey the laws of progressive synharmony requiring that vowels in final endings should have the same quality as the vowels in the stem (Lyons 1969: 128-130). The Germanic umlaut, on the other hand, is governed by laws of **regressive synharmony** which explain the OE alternation in Sg. *fōt*

‘foot’ and Pl. *fēt* ‘feet’ as a result of ‘palatalisation’ due to *j* (or *i*) in the following syllable (Gothic Pl. *fōtjaz* ‘feet’). The only Palaeo-Nordic innovation was that Germanic umlaut implied regressive changes consisting in fronting, backing, rising and lowering vowels according to the quality of the final vowel while Uralo-Altaic languages proceeded the other way round, stem vowels governed vowels in postpositive suffixes and endings.

The idea of causal or teleological laws in sound shifts is shattered to smithereens when we encounter specimens of their frequent returns and recurrent shifts. Linguistic evolution has no inner immanent logic but only that of **ethnic predominance**. This rule says that whoever governs the people governs also its literary standard. If a new royal house seizes the reign, its kings soon shift the capital to their native town and adopt its spoken dialect as a new official literary standard. All linguistic changes may be described as a result of an outbalancing of one ethnic and social layer over the others. The rise of Middle English consisted in ‘Normanising English’ after which English had to be ‘de-Normanised’ or ‘re-Englished’. ‘Re-Englishing English’ implied the loss of vowel harmony and rounded vowels and the rise of new falling diphthongs. It is conspicuous that the Great Vowel Shift in New English had striking parallels in contemporary High German and Czech: The changes of New English $\bar{i} > ai$ in *rīden* > *ride* or High German $\bar{i} > ei$ in *sīgen* > *steigen*, *rīten* > *reiten* restored back the state in Gothic *steigan*, *reitan* or Indo-European (cf. Greek $\sigma\tau\epsilon\acute{\iota}\chi\omega$ ‘I walk’). A similar transition from rising diphthongs *uo*, *ie* to falling diphthongs *ej* (< \acute{y}), *ou* (< \acute{u}) may be observed also in Czech dialects. Such parallels may be explained only by the fact that popular dialects of European peasantry began to win back their former position and predominate in language over the ruling aristocratic castes of alien origin.

4. Theses to Macrolinguistics as a Generalisation of Comparative Grammar

A. *Stammbaumtheorie* started as a tentative working hypothesis but has unduly turned into a stale dogmatics claiming a monopoly in all fields of historical grammar. Its main **errors** may be summed into these items:

1. The genetic relationship is determined according to lexical cognates, which are mostly loans from neighbouring languages.
2. The intersections and overlappings between two languages are mistaken for real genetic links.
3. Any two neighbouring languages are likely to be claimed to have a common proto-language (*Ursprache*).
4. The so-called proto-languages are amalgams of several incompatible

phonologies and morphologies.

5. The neighbourhoods of languages are mistaken for 'common languages' of language families, the neighbourhoods of neighbourhoods for proto-languages.
6. Divergence, bifurcation and binary splitting are considered to be the only models of linguistic development.
7. Prehistoric tribes are mistaken for medieval nations, prehistoric tongues for medieval national languages.
8. Secondary unity in mixed amalgams of recent date is considered as the original unity and the starting-point of development.
9. The medieval or recent historical state of affairs is equalled with the prehistoric state.
10. The superficial chaos of recent phenomena is passed off as the essential order at the original stage.
11. The lawful and systematic character of cultural phenomena is denied, the occurrence of inconsistent and incoherent traits in modern mixed cultures fosters the belief in an unsystematic and accidental distribution of different traits in ancient communities.
12. Typological traits are believed to be associated only loosely with cultures and languages, they are said to have been spread among prehistoric tribes only by isolated individual tradesmen.
13. The real time-order of history is reversed what is a secondary product of amalgamation will be passed off as a prehistoric *Urpsprache*.
14. All cultural and linguistic phenomena are given short terms for development, all languages and tribes arose after the *Völkerwanderung*, the Indo-Europeans are believed to have differentiated into the Nordic race, Lapponoid Celts and Mediterranean race within five hundred years.
15. There does not exist any genetic, anthropological or cultural stability, Indo-Europeans were able to change their burial rites and patterns of their Corded Ware pottery as freely as fashions and vogues.
16. The huge dialectal and cultural diversity of modern primitive tribes is not considered to be relevant for the study of ancient tribes.
17. The origins of ancient tribes are dated to the beginnings of our era when the tribal society was decaying or dead.
18. No geographic movement in prehistory beside the natural growth of tribal areas is admitted.
19. The ancient tribes are believed to have perished and to be extinct, the current tribes are considered to be new outgrowths of medieval date.
20. The changes of cultures in a territory are not attributed to new migrations, they are supposed to be different vogues and fashions of the same civilisations.

21. The Bronze Age Europe is believed to speak Common Indo-European though there is evidence of huge cultural and linguistic diversity.
22. Dialects are believed to have sprung up from the medieval national languages, though they are clearly systems of relics of ancient languages.
23. Regional ethnography and dialects are neglected as unimportant for comparative linguistics.
24. Cultures are not studied in the totality of their manifestations but as isolated phenomena, their integral image is decomposed into different aspects reflecting the diversity of studies at modern universities.
25. Categories of anthropology, ethnography, archaeology and comparative linguistics are thought to be mutually incompatible and therefore they are not studied in their mutual correspondences and natural integrity.
26. Modern cultural phenomena are given a synchronic description as integral wholes without realising that they contain incoherent relics of many different systems of older date.
27. Tribal migrations are completely left out of consideration although almost all historically evidenced population explosions involved dispersions all over whole continents.
28. The competition and balancing of different ethnic dialectal shifts of substrata in a linguistic area are mistaken for 'historical sound shifts' of one 'national language'.

B. Rational **principles** of comparative grammar have been suggested by Italian Neolinguistics, Troubetzkoy's *Kettentheorie* and Czech 'linguistic characterology'. Their ideas have to be integrated into principles common to all natural, anthropological and social sciences:

1. Linguistic synchrony is a reflection of linguistic diachrony. The modern linguistic typology is a mapping of the historic typology, a mapping of the glottogenesis of mankind. All prehistoric tribes, their customs and languages have been preserved - to a greater or lesser degree - in the modern ethnographic and linguistic diversity.
2. The dialectology of any language is a synchronic mapping of its diachronic linguistic history. The history of a particular language has been preserved - to a greater or lesser extent - in the diversity of its dialects.
3. The internal genetic stability in language development is prior to external influences and factors. A language cannot change of its own will unless it is overlaid by a different language. Dialects and folk customs are degenerate survivals of prehistory: they may grow and magnify but they cannot produce new forms. Linguistic evolution is but a decay of what had existed formerly in pure forms.
4. A tribe is a unity of its linguistic, anthropologic and ethnographic

manifestations. Anthropology, prehistory, archaeology, ethnography and comparative linguistics must form mutually consistent nets of their respective categories.

5. All pure cultures existed only in ancient primitive societies while all modern developed cultures are mixed amalgams of different ethnic components. Linguistic development is a convergent process of assimilation of ancient tribal dialects. Any modern language is a sum of tribal dialects of all previous linguistic invasions into its area. *'In reality language diversity is always primary while language unity is the secondary product either of the expansion of a language over wide territories or the creation of an oral or literary standard language'* (Wagner 1970: 228-9).
6. The more primitive a society is, the greater dialectal diversity it manifests.
7. The lexical parallels betray only the degree of neighbourhood and overlapping between two languages but it is the structural similarity that reveals the real cognateness of languages. The lexical wordstock of an isolated tribe will perish, but its structural characteristics will survive in dialectal peculiarities. Oral dialects are prior to literary standards (F. de Saussure). *'Traditionally, the appearance of IE consonantism was equalled with that of languages with the most ancient literary tradition such as Sanskrit and partly classic languages, Old Greek and Latin. These tongues enjoying wide popularity and prestige often determined directly the shape of the reconstructed system in comparative Indo-European grammar. This explains why Grimm and Rask understood the Old Germanic stage as a product of a shift (Lautverschiebung) of original IE phonemes ... But it is not a result of an appropriate linguistic analysis but a product of casual historical development caused by the special prestige enjoyed by languages of earliest literary records...'* (Gamkrelidze, Ivanov 1980: 23).
8. Every linguistic change is a victory of one standard over another caused either by an outer linguistic invasion or by the ascent of a different social and ethnic class. Any sound change is a reception of an older language culture into a new standard or a translation of subdued ethnic languages into the system of the victorious one. There are no sound changes without exceptions, there are no defeats without surviving relics. Dialects are dead reservoirs of remains, they have no inner development but gradual decay. Every sound shift is a switch from one ethnic tradition to another within a language culture. Since most 'lexical cognates' are loan-words we need - instead of sound laws - an integrated theory of receptions of loan-words.
9. The social stratification of dialects in a society is a map of the historical superposition of ethnic castes in its historical area. The ethnic

stratification of a society is the germ of its social stratification. Linguistic changes are only outer manifestations of ethnic and social changes. There is no immanent linguistic development outside the ethnic and social evolution. The social evolution of languages in a class society forms only one thousandth of their tribal existence. The social changes in the supremacy of classes reinforce shifts in the literary standard. The official literary standard is not the national language fathering and engendering local dialects; it is an ethnic and social dialect victorious over other dialects. The medieval evolution of languages may be described in terms of ethnic migrations and transformations: '*Normanisation*', '*Gaelisation*', '*Germanisation*', '*Slavinisation*', '*Sarmatisation*' or '*Arabisation*'. The story of all languages has several common stages: the rise of the ecclesiastic standard and the feudalisation (*Normanisation*), the illusory explosion of dialects during the period of feudal disintegration, urbanisation (*Gothisation*) and democratisation (*Gallisation*).

10. The linguistic invasions produce long-distance continuous chains of dialects running through different language areas. The ancient tribes lived in large tribal centres which periodically burst into radial migrations which were narrow streams settling continuously in new areas by world-wide travels. The modern language areas arose through areal generalisation uniting several migration streams into centres of greater ethnic concentration.
11. The peripheral languages living in ethnic isolation preserve best the earliest shape of the central languages. The peripheral languages provide a record of central languages before the migration or diaspora. The central languages provide a safe basis of linguistic typology if and only if they have ruled the neighbouring ethnic elements and have become the local dominant of the linguistic area. It is only the linguistic periphery that has preserved the original diversity of languages.

5. The Scientific Philosophy of Language

The principal error of classic comparative linguistics lay in the idea that languages have their own autonomous development and immanent laws, which work regardless of people, culture and society. If there existed an aboriginal tribe of homogeneous origin surviving in utter isolation for more than ten thousand years, what changes would its language undergo? A. Schleicher and *Junggrammatiker* would expect a huge growth of new descendant languages and a state of high dialectal diversity. Their autonomist philosophy mistook the language for a live autonomous being living its own family life with many daughters and grandchildren. Baudoin de Courtenay and N. S. Troubetzkoy, on

the other hand, would expect a convergent growth with a few structural changes. In our view the lexical wordstock would grow but the culture would remain a homogeneous whole of the same linguistic, racial and ethnic type. Both views indulge in the idea of a self-contained energetic whole but either finds this in a different sphere. Linguistic **autonomism** considers language as an active autonomous force or a spiritual agent developing according to its own laws. Linguistic **organicism** assumes that any language is interrelated intimately with the fates of its speakers, it does not initiate any changes without people and their society.

A language does not evolve of its own will and according to its own laws but it tends to survive as an inertial substance mirroring faithfully the fates of its people. Language, customs, material culture and religion do not lead their own independent existence but function as indispensable complements of one living social organism, human society. They have no autonomous development and do not change unless their users and speakers change. A natural language forms a stable entity with no inner need to change unless there are wide migrations (diffusions) of tribes, foreign invaders' conquests or overthrows of social castes within one society.

In most primitive cultures of Africa, India, Melanesia and Oceania we had a similar pattern of caste hierarchy and hence also a similar pattern of cultural development. Tall black peasants tilled their land as serfs, warlike pastoralists ruled them as land-owning aristocracy and short-sized pygmies worked as their slaves or urban craftsmen. The dark ages of feudalism brought raids of pastoralists who conquered peasant communities, founded their petty kingdoms and installed also their literary standard. Since most pastoralist herdsmen were of either Uralic, Altaic or Hamitic origin, most mediaeval languages suffered shifts reminiscent of the British 'Normanisation'. Yet the decay of feudalism restored the liberty of peasantry as well as its cultural, religious and linguistic supremacy. The feudal gentry were assimilated and the literary standard got adapted to peasant dialects with diphthongisation. The next step were later democratic revolutions that emancipated social dialects of the urban working-class and craftsmen and helped them integrate into the received written norm. The British Anglo-Saxons, Normans and Celts lived in the same caste hierarchy as peoples of Africa and southeast Asia and therefore their linguistic evolution has general validity. All recent and modern languages have been balancing several different ethnic layers and changed their outer cast according to their social dominance.

The opposition of autonomism and organicism has much to do with that between particularism and monism. Linguistic **monism** implies that all scientific disciplines concerning human prehistory should be integrated and kept in one whole. We cannot afford having different accounts of human

prehistory as given by comparative linguistics, anthropology and ethnography because the latter study only different manifestations of one and the same process. Linguistics cannot launch into forging speculative genealogies of languages families but its evidence is thoroughly misleading. Instead it should concentrate on deciphering the linguistic meaning of the much more reliable typology of archaeological cultures. This is why linguistic studies at universities should start with introductory courses in prehistory so that human glottogenesis might acquire more definite contours in the light of evidence available in anthropology, archaeology and ethnography.

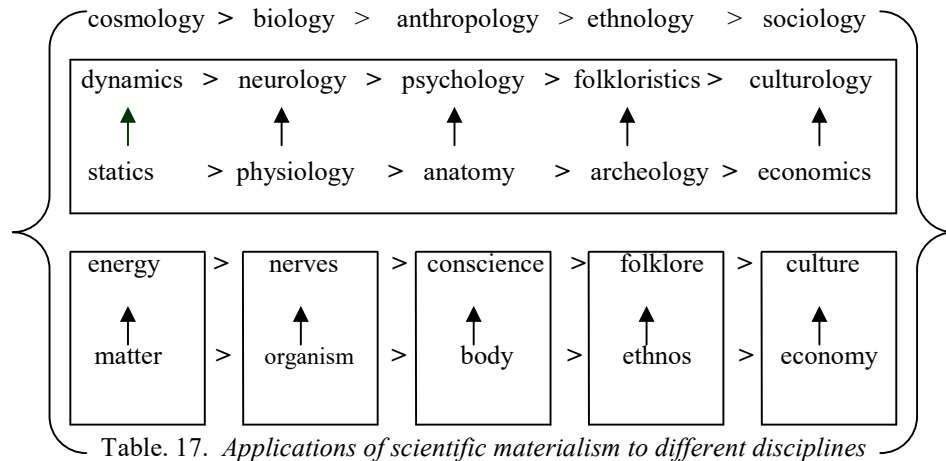


Table 17. *Applications of scientific materialism to different disciplines*

The requirement of scientific monism unlocks the crucial question of scientific materialism. **Linguistic materialism** says that linguistic, religious and cultural evolution simply depends on the ethnic, social and demographic evolution. It is the *ethnos* and people who act as an active force upon language and as the real carrier of its spoken spiritual culture. Its speech, folk customs, religious myths and rites change as outer manifestations reflecting its changing inner needs. They tend to survive as inertial substance but they never act as independent agents leading their own immanent existence. Some authors emphasise the primary role of material culture but this does not mean that spiritual myths depend upon tools, clothing and architecture. Nor does it imply a primary role of graphic signs and phonetic sounds. It is the collective ethnic body of the nation that governs all these secondary products of its material existence and sets them into motion. Claiming that matter determines human spirit is too general a statement to have any import for linguistic studies. Table 17 attempt specify what materialism means in every particular scientific

discipline. In Table 18 is each priority relationship given also a verbal formulation with some trivial implications enclosed in the brackets.

cosmological materialism:	matter generates energy and motion
physical materialism:	matter generates its reflections (linguistic notions reflect the real nature)
biological materialism:	organism generates conscience (speech reflects nature through perception)
anthropologic materialism:	body generates mind and thought (linguistic thought is part of body behaviour)
ethnographic materialism:	<i>ethnos</i> generates folklore (language reflects the wealth of ethnic culture)
linguistic materialism:	the fates of ethnic cultures govern the fates of linguistic cultures linguistic change reflects ethnic changes
sociologic materialism:	society generates its culture (the literary standard is set by the ruling caste)

Table 18. *Specific and non-specific (linguistic) meaning of materialism*

As suggested by Table 18, language has trivially to do with all applicative levels of materialism but it must be regarded primarily as an ethnic or ethnographic phenomenon. From this it follows that language cannot be considered exhaustively as a field of animal and human psychology and neither can it be treated as a goal of social studies. (Comparative) linguistics should not be classified as one of social sciences concerned with the historical growth of advanced civilisations because its roots are anchored deep in remote prehistory. Alongside with folklore, oral tradition, folk customs and primitive religion all languages have evolved from Palaeolithic ethnography. Even if they overlap into social sciences and civilised history, they are rooted deeply in anthropologic and ethnographic studies. This is a sound argument with many far-reaching implications. One of them is that philology, linguistic and literary sciences should appropriately be studied at Faculties of Anthropology, Ethnography and Demography. Comparative linguistics and theory of literature will rest on rotten foundation as long as they do not reshape their genealogic categories (language families) in the light of archaeology and general anthropology.

A natural language is a real ethnic and historical phenomenon inherited from our parents and surviving since times immemorial. It is not an arbitrary convention or an intentional deliberate product of a group of people devised with the aim to enhance communication. When approaching language from the viewpoint of applied linguistics we may devise artificial formal languages and treat them as functional entities designed according to a clearcut teleological

plan. Plato's and F. de Saussure's linguistic **conventionalism** makes sense only in applied studies when explaining language as a sign system created by collective agreement for social communication. Macrolinguistics as a discipline aspiring to reach deeper knowledge of natural languages must observe principles of linguistic **naturalism** treating languages as natural phenomena arisen in the distant past and developed during many thousand years without any deliberate plan.

SCIENCE	METAPHYSICS
materialism: matter generates spirit	idealism: spirit generates matter
organic causalism: inner organic causality peculiar to all matter	teleologism: purposeful development according to a higher plan
evolutionism: ascending development	traditionalism: eternal tradition
organicism: organic self-evolution	creationism: spirit creates <i>ex nihilo</i>
progressivism: ascending progress	regressivism: descending decay
monism: natural and cultural facts conceived in integral unity	immanentism: autonomous evolution in independent immanent series
determinism: spiritual dispositions are ruled by needs, genes and hormones	indeterminism, arbitrarism: everything is determined by free will
rupturism: knowledge as organic growth through breaks and ruptures	cumulationism: knowledge as linear collecting pieces of evidence
collectivism: the power of masses	personalism: a cult of great persons
naturalism: a materialist account from real natural conditions	psychologism: psychologic reasoning, the loss of natural and social space

Table 19. *The principles of science as opposed to those of metaphysics*

Linguistics does not exist as a science if it diverges flagrantly from axioms given by the list on the left side of Table 19. Such principles cannot be attributed to one person because they have been pursued to a greater or lesser extent by Milesian, Sophist, Peripatetic, Alexandrian as well as modern science. They cannot be disputed as issues of personal philosophical opinion but have to be accepted as concepts structuring any scientific thought. This holds good as far as we understand linguistics as 'macrolinguistics' and distinguish 'microlinguistics' distinctly as a field of applied technology. Microlinguistics cannot function efficiently unless it observes a different set of principles and adopts an approach common to conventionalism, functionalism and teleologism. This is why there exists only one true philosophy of science and only one valid philosophy common to all fields of applied technology.

THESES TO MICROLINGUISTICS

1. Microlinguistic Notation and Calculus

Macrolinguistics can provide linguistic research with taxonomy and systematics but it is microlinguistics that can refine its tools and supply it with calculus, formalisation and exact measurement techniques. Microlinguistics is to be conceived as applied linguistics fulfilling the same goals as agronomy, medicine or engineering. Apart of elaborating working techniques and technologic procedures it has to cope with the following tasks:

- linguistic description (linguography): describing aboriginal dialects,
- quantitative measurement (linguometry): statistic lexicography,
- language recognition (linguoscopy): decision grammars, OCR,
- language teaching (linguopedics), school methodology,
- correct spelling (orthography): remedial corrections of the standard,
- text production (linguogony): generating meaningful sentences and texts.

Modern linguistics has taken decisive steps to adopt formal notation that would guide its way to acquiring a higher degree of exact description. The first attempt was made in the early fifties by the Israeli logician Y. Bar-Hillel (1953) who devised a quasi-arithmetical notation for syntactic description. Its purpose was to decide whether a given syntactic structure is a well-formed string and a correct syntactic expression. His ideas launched a series of modern **decision grammars** (categorical grammars, recognoscative grammar) which developed a new field of linguistic analysis (linguoscopy) and proved efficient in computer word processing. Their achievements influenced advances in optic character recognition (OCR) and optical pattern recognition (OPR) and contributed a lot to rapid progress in artificial intelligence (AI).

Bar-Hillel's procedures helped analyse difficult word strings by applying cancellative laws used in common arithmetic. They were referred to as 'categorical' grammars because they started their analysis from categorical, part-of-speech symbols (nouns, verbs, adjectives, adverbs) and judged their categorical compatibility. His project introduced a new notation with arithmetic fractions and cancellative laws reducing complex expressions:

- sentence: $S = N + N \setminus S$
- noun: $N = N$
- adjective: $A = N / N$
- verb: $V = N \setminus S$
- adverb: $D = (N \setminus S) \setminus (N \setminus S)$

The equation $V = N \setminus S$ originated from an expression $S = N \times V$ (read ‘a sentence S is a string of a noun phrase N and a verb phrase V ’) where the operator sign \times suggests an analogy with arithmetic multiplication. The whole string is regarded as an arithmetic product allowing to flip N from the numerator on the right side of the equation into the denominator on the left side. The apparatus of sentence analysis applying cancellative laws to reduce long expressions may be illustrated by a simple example:

$$\begin{aligned} \text{Good cars drive fast} &\rightarrow A N V D \rightarrow N/N N \setminus S (N \setminus S) \setminus (N \setminus S) \\ &N/N N \setminus S (N \setminus S) \setminus (N \setminus S) \rightarrow N \setminus S \rightarrow S. \end{aligned}$$

This procedure presupposed to carry out a series of cancellative reductions such as $N/N N \rightarrow N$, $N \setminus S (N \setminus S) \setminus (N \setminus S) \rightarrow N \setminus S$, $N \setminus S \rightarrow S$. If the final value of the whole syntactic pattern was equal to S the structure was recognised as a sentence, if its value was N the whole expression functioned as a noun phrase.

The second attempt at mathematical notation was made by Noam Chomsky (1958) who intended to provide a formal procedure for producing correct sentences. In his *Syntactic Structures* (1957) he proceeded in just the opposite way because what Bar-Hillel denoted as $N V \rightarrow S$ (noun + verb \rightarrow sentence) he recorded as $S \rightarrow N V$ (sentence \rightarrow noun + verb). Both formulas had conveyed the meaning of a simple equation *subject + predicate = sentence* but gave it two alternative forms of formal treatment. Bar-Hillel wanted to analyse complex string into elementary symbols while Chomsky intended to make simple rules produce complex sentences from elementary symbols. The chief problem encountered was that of recurrence because the sentence subject can appear in forms N or $A + N$, $A + A + N$ as well as $Art + A + A + N$. In order to avoid such ambiguity, Chomsky introduced **noun phrases** as a convenient term for the syntactic subject and object and **verb phrases** as a new term for the predicate. Then S as the sentence symbol could generate strings of a noun phrase NP with a verb phrase VP :

$$S \rightarrow NP + VP$$

Chomsky conceived a **phrase-structure grammar** as a formal apparatus for generating real sentences from a set of few initial symbols. A simple example of generative grammars may be illustrated by the following rules:

- P1: $S \rightarrow NP + VP$
- P2: $NP \rightarrow Art + N$
- P3: $VP \rightarrow V + NP$
- P4: $N \rightarrow \text{dog, cat, table, egg}$
- P5: $Art \rightarrow a, an, the$

P6: $V \rightarrow \text{likes, hates, seeks}$

Generating sentences is understood as a process starting with substituting the initial symbol S by a series of phrase-structures until we obtain only terminal symbols:

$$S \rightarrow NP + VP \rightarrow \text{Art} + N + V + \text{Art} + N$$

$$\text{Art} + N + V + \text{Art} + N \rightarrow \textit{The dog likes the cat} .$$

This generative apparatus was expected to enumerate a set of well-formed sentences called the language L . All that it needed for enumeration was a quadruple of several sets: the initial symbol S , the set T of terminal symbols, $T = \{a, \textit{cat}, \textit{dog}, \textit{egg}, \textit{hates}, \textit{likes}, \textit{seeks}, \textit{table}, \textit{the}\}$, the set P of rewrite rules and the set N of non-terminal grammatical symbols, $N = \{S, NP, VP, \textit{Art}, N, V\}$. This simple formalism made it possible to give a simple definition of a grammar G as a generating system

$$G = [N, T, P, S] .$$

The whole apparatus had only small drawback. It paid little heed to natural semantics and formed absurd sentences such as *A table seeks the dog*, *A table hates a cat*, *An egg likes the dog*.

In sixties American linguists (D. G. Hays 1967) devised a new but more formal variant of the traditional head-tail analysis called **dependency grammars**. The binary analysis of syntactic pairs was applied also by the **arch-pair grammar** (D. Johnson, P.M. Postal 1979). This graph-theoretic approach was advocated also by D. M. Perlmutter's book *Relational Grammar* that applied the formalism of the algebraic theory of relations. These theories regard the classic syntactic dependency pairs as arches or edges of an oriented graph. In a pair *blue sky* the dependent member *blue* is the 'tail' dependent on the governing member *sky* called the 'head'. This formalism allows to describe a sentence as a graph outlining a semantic network of notions and to suggest different synonymous transformations.

Relational semantics helped to pour new blood into the veins of traditional lexical semantics. Since it analysed the lexical meaning into smaller components, some authors began to call it **componential analysis**. This term was applied in E. H. Bendix's (1966) analysis of general vocabulary, which broke words into linear components and explained the meaning of compound words through the meaning of its components. One variant of componential analysis was developed also in our text-book of semantics (Běliček 1988).

All these achievements brought a rapid progress in formal linguistics but offered only partial temporary solutions which do not suffice to keep pace with natural sciences. In our view the reform of grammatical notation should be completed by several successive steps:

(1) A **bracketing** convention can express syntactic neighbourhood, which Rulon Wells (1947) found operating between ‘immediate constituents’. E.g. A sentence *The three pretty girls drive the car carelessly* may be segmented into bracketed expressions (*The (three (pretty girls)) ((drive (the car)) carelessly)*). Then a recognition grammar might process strings as follows:

The three pretty girls drive the car carelessly →
 → (article(quantifier(attribute(noun))(((verb)object)adverb) →
 → (quantifier(attribute(noun))((verb)object) →
 → (attribute(noun))(verb) → (noun)(verb) → (sentence) .

(2) **Exponential branching** may conveniently simulate dependency relations and subordination between syntactic units. A syntactic chain $A N$ is not a commutative string so that $A N \neq N A$. Therefore a sentence *Ripe apples in large orchards are very sweet*, recorded with brackets as $A N (A N) V (D A)$, might be rewritten with exponents as

$$S \rightarrow N V \rightarrow A N V \rightarrow A N (A N) V (D A) \rightarrow {}^A N ({}^A N) V ({}^D A) .$$

(3) An **indexing** convention can easily exclude undesirable effects of logical ambiguity and undue polysemy. A formula $N \rightarrow A N$ denoting an expression *thin books* implies undesirable false tautologies such as $books = thin books = thin books$ with a yellow cover. However, when indexed as in $N_k \rightarrow A N_{k+1}$ they turn into meaningful statements where $N_k \supseteq A N_{k+1}$, $books \supseteq thin books$.

(3) The **superset** convention means that instead of vague rewrite rules such as $N \rightarrow dog, cat, fox, ostrich \dots$ we should use precise set-theoretical conventions such as

$$N_i = \{n_1, n_2, \dots, n_k\} = \{dog, cat, fox, ostrich \dots\}$$

This usage may introduce a convenient hierarchy of nominal classes ranging from the superset N (all nouns) to its subset N_i (live animate beings) and individual elements such as n (fox) $\in N_i$.

(4) The **equative** convention makes it possible to replace one-way arrows by regular equations and to write a sentence *Brochures are thin books* as follows:

$$N_k = A N_{k+1} .$$

All physical sciences prefer to use a simple formula $v = s/t$ for both generating and recognition so that instead of one generating rewrite rule $NP \rightarrow A N$ and one recognition rule $NP \rightarrow A N$ we may fuse them into $N_k = A N_{k+1}$ only. Such notation has been applied in the so-called **True grammars** and **semi-True** systems. Their notation denoted the subject+predicate relations by two-way equations:

$$S(\text{sentence}) \approx N(\text{noun}) + V(\text{verb}) .$$

(5) Another reasonable requirement is to insist on using **multiplicative notation** common in algebraic structures called **quasigroups**. This means that any lexical or syntactic chain may be recorded as an algebraic product written either $S = N * V$ or $S = N \times V$ or simply $S = N V$. This convention also implies that there are also two inverse operations underlying Bar-Hillel's proposals:

- **right-side division** $N = S / V$
- **left-side division** $V = N \setminus S$

(6) Applying **set products** means that instead of a false and erroneous equation $N = A \times N$ (a noun is equal to a chain of an adjective and a noun) we may employ a set product $\mathbf{N} = \mathbf{A} \times \mathbf{N}$ whose meaning reads as follows: all strings of the set \mathbf{A} of adjectives with the set \mathbf{N} of all nouns exhibit the syntactic validity of nouns.

(7) Permuter's relational grammars made a good point in emphasising dependency type of syntactic relations. Some words do not function as constituents but denote logical **relators** and have to be represented as binary relations in relational algebras.

- *The dog has a bone* $i(D, B)$ or $D i B$ or $n I n$
- *The bone belongs to the dog.* $i^{-1}(D, B)$ or $D i^{-1} B$ or $n_1 I^{-1} n_2$

In our diploma thesis *Evaluation in English* (1969) we applied formalism common in relational algebras to match possessive *i*-relations with inverse pertinence relations, denoted by i^{-1} . This notation was improved in our paper called *Towards a Variant of Transformation Grammars* (1971).

(8) **Lie group** notation is an efficient manner how to join advantages of 'immediate constituent analysis' and Permuter's relational grammars. When analysing I. Poldauf's example *White walls are astonishing* we concluded that it has to be analysed into a composition of two relations (Běliček 1969, 1971):

$$\begin{aligned} & \text{Walls are white} + \text{Whiteness is astonishing} = (\text{White}) \text{ walls are astonishing} \\ & N_1 \ e_1 \ A_1 \ + \ A_1 \ e_2 \ A_2 \quad = \ N_1 \ e_3 \ A_2 \end{aligned}$$

In general, a composition of two relations implies $uAv + vAw = uAw$. Such products can apply cancellative laws peculiar to Lie groups ($xx = 0, x0 = x$) so that a string $uAv + vAw$ written as $uAvvAw$ yields formulas

$$uAvvAw = uA0Aw = uAAw \ .$$

(9) Meaningful sentences should not be treated as ordinary syntactic strings but have to be regarded as propositions in **propositional calculus**. The sentence *Brochures are thin books* relates two synonyms and may be written as a logical

formula $N_k = A N_{k+1}$. Other sentences may be dealt with as inequalities or inclusions (*Their daughters are good schoolgirls*).

Lexical and syntactic structure may have some structural peculiarities common only to natural languages but this should not imply that they need a special calculi. Their elementary units have to be treated with standard approaches common in modern mathematics and natural sciences. The standard **algebraic approach** to linguistics means that all lexical and syntactic pairs of morphemes should be considered as **binary operations** on elementary units of language. This crucial requirement applies to phonetic clusters, derivation, affixation, compounding, determination as well as predication and subordinating relations between sentences and clauses.

- $look + ed = looked$
- $blue + sky = blue\ sky$
- $Dogs + bark = Dogs\ bark$

2. The System of Linguistic Disciplines

In mathematics an arbitrary algebra A represents a simple system $A = [V, \oplus]$ composed of a basic set V and an operation \oplus . As a lexicology \mathbf{W} we might define an apparatus $\mathbf{W} = [W, +]$ which concatenates all elements of the set M of all morphemes and turns them into a set W of all words. The operation $+$ defines an operation of lexical **derivation** represented by affixing a suffix to the root and an inverse operation consisting in dropping the suffix:

$$\begin{array}{ll} waiter = wait + -er & c = a + b \quad (\text{lexical addition}) \\ waiter - -er = wait & c - b = a \quad (\text{lexical subtraction}) \end{array}$$

Joining morphemes, words or sentences, whether we mean derivation (affixing), composition (compounding) or sentence formation is conceived as an analogy to arithmetic addition, whereas their dropping from complex chains is expressed as an analogy of arithmetic subtraction. The analogy with arithmetic has also weaker points, since this operation is non-commutative:

$$wait + -er \neq -er + wait$$

Therefore we had better speak of **concatenation** (chaining). This term may be used also for chains of units of a sentence, clauses, sentences as well as paragraphs and utterances.

Modern mathematics has developed the idea of static algebras but recent advances have focused on dynamic systems. Their formalism was anticipated by the concept of „sets of generators“ or „generating subsets“. For instance, a ring $O = [R, \times]$ was defined as a pair of a set R of rational numbers and an

operation of multiplication \times . An important step forward consisted in introducing the set P of prime numbers, which was traditionally called **generating subset** but now is often referred to as **input subset**. The set P of prime numbers generates the set R of all rational numbers in such a way that infinite multiplication of prime numbers will give the whole set R of rational numbers. Beside static classic algebras we may apply new models that are more convenient for the needs of modern theories of automata and dynamic systems. A symbolic formula $[P, \times] \rightarrow R$ says that infinite multiplication of prime numbers

$$P \times P \times \dots \times P \rightarrow R$$

generates the whole set R of rational numbers. We may also proceed the other way round and suggest a system $[R, \div] \rightarrow P$, where \div is the operation of division. Then we may say that infinite division of the set R of real numbers generates the set P of prime numbers. Division \div is an **inverse operation** to multiplication \times and both systems $[P, \times] \rightarrow R$ and $[R, \div] \rightarrow P$ look like mirror copies. Multiplication \times maps the set P of prime numbers into the set R of all rational numbers, whereas division \div maps the set R of rational numbers onto the set P of prime numbers. Instead of notation $R = [P, \times]$, it is more convenient to write $[P, \times] \rightarrow R$ or $[R, \div] \rightarrow P$. The set P may be called *input set* and the set R *output set* of $[P, \times] \rightarrow R$. We may also say that the input set P **generates** R and the output set R **degenerates** into P .

Such convention allows us to establish a hierarchy of inner ordering of sciences. Every science is conceived as a set of tools, which make it possible to enumerate sets of output elements from sets of input elements. Then let us say that a science $[X_k, \times] \rightarrow X_l$ is an **extension** of a science $[X_i, \times] \rightarrow X_j$, if it holds that $X_j = X_k$, i.e. if the output of the more elementary science is identical to the input of a higher science. Similarly, we shall say that a science Y is a **superscience** of a science X , if its input is a subset of the output of X . The relation of a science to its superscience is a convenient manner how to link sciences into a hierarchy of generating chains, and therefore offers an efficient tool for classifying sciences.

Modern system theory (L. von Bertalanffy) has abandoned older algebraic formalism with cumbersome terms such as ‘generating subset’ and replaced classic algebras with dynamic systems. Every linguistic discipline may be defined as a system operating on a set of input elements and generating a set of output elements. Let M be a set of all morphemes (stems and affixes) and let W be the set of all words (vocabulary). Then any word w_1 , say *lambkin*, may be read as a lexical combination of two morphemes *lamb* + *-kin* = *lambkin*. This simple notation makes it possible to define lexicology by a formula $W = [M, +]$ or $[M, +] \rightarrow W$. It is read as follows: providing + is an operation of

concatenation on a set of morphemes M , then their (infinite) chaining enumerates the set of all words W . In this manner lexicology W is identified with the vocabulary and the set of all words.

Advantages of applying such formalism are illustrated on Table 20 that displays a generating chain of linguistic sciences. They start with simple rules of phonetics and end with such complex literary disciplines as stylistics and poetics. The rules of lexical addition may be applied also to higher units so as to formulate so complex syntactic relations as *subject + predicate = sentence*. This allows us to give simple definitions of linguistic disciplines and order them as chains of extensions. The final result will be defining microlinguistics as a chain of generating systems and a hierarchy of subdisciplines where the input of every higher field of study is formed by the output of a lower field. The whole series of linguistic subdisciplines may be ordered into the following chain: phonology > lexicology > morphology > syntax > stylistics.

Phonetics	F = [E, +, -]	composes sounds from acoustic features.
Syllabics	V = [F, +, -]	composes syllables from sounds.
Morphematics	K = [V, +, -]	composes morphemes from syllables and sounds
Lexicology	W = [K, +, -]	composes words from morphemes
Morphology	M = [W, +, -]	composes syntactic constituents from words.
Syntax	C = [M, +, -]	composes clauses from syntactic constituents.
Syntactics	S = [C, +, -]	composes complex sentences from clauses.
Stylistics	U = [S, +, -]	composes utterances from complex sentences.
Poetics	P = [U, +, -]	composes works of art from utterances.

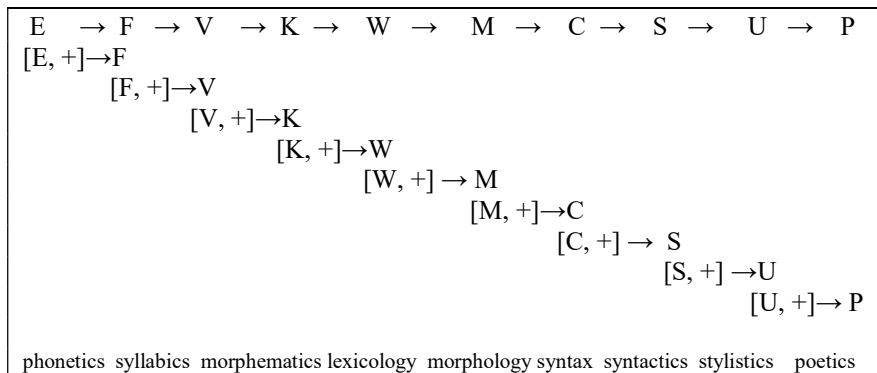


Table 20. *The system of classification and ordering of linguistic disciplines*

3. Macrophonetics and Microphonetics

The theoretical issues of modern phonetics are given several nonstandard solutions and their discussion should take into account several objections:

- (1) It is not wise to insist on fundamental differences between acoustics and auditory phonetics, since the latter collects only subjective impressions of what may be measured exactly by the former. Thus, acoustic phonetics is but an exact formalisation of experimental auditory phonetics.
- (2) Articulatory and acoustic phonetics use different basic concepts but these may be kept in close mutual correspondences. They are related like generative and recognoscative grammars or literary synthesis and literary analysis.
- (3) Phonetic features have their own objective existence and nature regardless of whether they function in binary oppositions. Many phonemic systems have survived as consistent structures for more than several thousand years and so they must have an objective ground.
- (4) Human languages have specific sound systems with their characteristic sounds. Their traits are not abstract 'subjective sound impressions' (F. de Saussure) but objective generalisations of material sounds.

Modern linguistics cleft asunder linguistic phonology and experimental phonetics and so it has widened the methodological gap between historical science and applied technology. Their opposition stands on sound grounds but it does not imply that their evidence is mutually incompatible. Theoretical phonology should acquiesce with exact acoustic measurements introduced into experimental phonetics and reshape its concept of **phoneme** according to new experimental data. ModE *e* gives one name to a great number of objective material realisations but joins them all into one general category perceived by all native speakers of English as one phoneme /e/. How does its nature differ from other abstract categories, say animal genera such as canines and felines referring to a great number of individual animals? Every phoneme brings under one cover many individual phenomena but its general boundaries are fully objective even if they existed only in human heads. No science can afford separating universals (general concepts) from particulars and discuss their issues in two different disciplines. Advances in experimental observation have not threatened the classic intuitive concept of a phoneme, they only gave it new techniques for grasping its real nature and historical character.

Phonetics is said to be a science of phones, phonology is defined as the study of phonemes. If so, they have one scope of study because phonemes are just families of real phones, they are abstract concepts of classes of material sounds. So far it would be no use keeping phonetics and phonology apart as different disciplines because we cannot isolate general concepts from individual phenomena and dissect their field into two independent disciplines.

The opposition of phonology and phonetics is, however, worth maintaining if we understand it as one between systematic historical science and applied technology. The former resembles Darwin's systematic comparative zoology because it deals with phonemes as historical phenomena without regard to individual pronunciation. The latter concentrates on phonetic technology: its concern is measuring different sounds, recording them for acoustic studies, producing them artificially in special synthesisers etc. We will hardly get any further in phonetic studies without adopting a standard classification of their subdisciplines and distinguishing **macrophonetics** (comparative phonological science) from **microphonetics** (applied sound technology).

Phonology conceived as macrophonetics presupposes that phonemes are objective historical phenomena which originally appeared in pure types of sound repertoires but owing to processes of assimilation they lost their systemic character and started occurring as residual phenomena accompanying lexical subcomponents in different vocabularies. Its endeavour to study ancient phonemic systems is hindered by misleading evidence offered by modern mixed languages resembling a 'mongrel' born from a dachshund and an Alsatian shepherd. Desire to disclose consistent phonemic systems confused many linguists into claiming that any modern sound repertory is 'an organic integrated whole' and phonemes are 'subjective impressions' (F. de Saussure) common to universal human psychology. Such view are common to universalists (Greenberg 1974, 1978) who believe in Cartesian 'innate ideas' but their view contradict historical evidence. In our opinion, an adequate philosophy for macrophonetic phonology is **residualism** (Baudoin de Courtenay, Troubetzkoy 1929, Wagner 1971) claiming that 'diversity was primary' while 'unity is secondary'. To put it in different words, prehistoric languages were pure types, while modern dialects are mixed amalgams composed of many heterogeneous residues.

The residualist approach to phonology seems to be fully justified by the ModE vowel system that looks like a loose amalgam of Anglo-Saxon, Nordic and Anglo-Norman French phonology. Modern English phonemes /æ/ and /ɔ/ may function as functional counterparts in different vocalic series but they will always represent a clear historical residual continuation of OE phonemes /æ/ and /ɔ/ functioning in close correspondence with the central rounded series /ü - œ - a/. Originally they appeared only in words of Palaeo-Nordic wordstock but later they absorbed also neighbouring phonemes from other ethnic layers. Similarly, /A:/ appears mostly in words that can be traced back to French or Anglo-Norman origin (*dance, chance, enhance, pass*). This phoneme has a firm position within the ModE vowel repertory even if it has no clear distinctive counterparts and stands aloof within the whole system. Residualism assumes that modern languages have 'deplete phonemic systems' and also

their phoneme have **polyvalent** functions. In phonology it means that /A:/ may also represent similar sounds of different origin (/A:/ in *father*).¹

These points lead to reconstructing phonetic studies and their convenient classification in terms compatible with usage common in natural sciences.

A. **Macrophonetics** - linguistic science enquiring into natural phonological systems of pronunciation in different natural languages of the world:

- **chronophonetics** - macrophonetic subdiscipline studying phonologic phenomena and phonetic changes on the historical axis.
- **geophonetics** - macrophonetic branch of study dealing with phonologic phenomena on the spatial axes in respect to their geographic distribution.
- **sociophonetics** - macrophonetic field of study analysing differences in pronunciation between different social dialects.

B. **Microphonetics** - applied linguistic technology enquiring into individual aspects of pronunciation in natural as well as formal languages.

- descriptive technology - **phonography**: recording pronunciation
- recognoscative technology - **phonoscopy**: auditive phonetics, acoustics
- **graphoscopy**: deciphering ancient scripts
- remedial technology - **orthoepy**: correcting pronunciation
- **orthography**: correcting spelling
- constructive technology - 'phonogony': articulatory phonetics
natural and synthetic sound production
- 'graphogony': polygraphy, printing technology
- metrical technology - **phonometry**: phonetic/acoustic measurement
- **graphometry**: graphology

Macrophonetics cannot be restricted 'segmental phonology' scrutinising only single sounds but its scope of study involves also complex 'suprasegmental' strings endowed with higher intonation patterns. The hierarchy of macrophonetic fields includes the following levels:

- **phonosyllabics**: rules for ordering syllabic clusters,
- **graphosyllabics**: graphemics of writing syllabic clusters,
- **phonotactics**: ordering sounds in words,
graphotactics: graphemic rules for writing complex phonotactic clusters,
- **phonosyntactics**: intonation and prosodic rules for higher sentence units,
graphosyntactics: punctuation rules for clauses (comma, full-stop),

¹ In grammar polyvalency means that the ModE present simple may, at the same time, stand for the Anglo-Saxon present indicative, the Palaeo-Nordic present imperfect and the Eteo-Celtic present *habitualis*.

- **phonostylistics**: prosodic rules for paragraphs and auditive pauses,
graphostylistics: punctuation rules for paragraphs and articles.

An essential issue of phonetic theory is associated with the need to define the phoneme in terms of quantitative acoustics. Phonetics may be bridged over with phonology when we define phonemes as dense clouds of phones in experimental acoustics. Acoustics makes it possible to determine precise qualities of phones by plotting them in an abstract space whose axes are defined by formant frequencies F1, F2, F3. **Topologic phonology** is a new approach to phonetic studies allowing us to view phonemes as clusters of points in a topological space. Its space is defined by formant frequencies and presupposes to accept several theoretical generalisations:

- (1) The individual realisations (allophones) of phonemes are **events** in an abstract space represented by acoustic formant frequencies.
- (2) The phoneme is to be defined as a cluster of events reaching its highest density in certain formant frequencies. It is a discrete set of isolated points whose centre is in the region of the highest occurrence.
- (3) Any phoneme may be represented as a **topological set** of such events pronounced in an abstract acoustic space.

Let us recall that **topology** is but an application of set theory to classical geometry so that a set of points is a **topological set** (or a point x is in a **topological space**) if we may define the distance $d(x, y)$ between any two arbitrary points x, y and the rule of triangle inequality holds good:

$$D(x, z) \leq d(x, y) + d(y, z) .$$

Let us define an acoustic phonetics A_a as a plane of a two-dimensional space of phones $A_a = F1 \times F2$ where any **phone** f_i is a sound defined by two coordinates $f1, f2$ on the F1 and F2 axes: $f_i = (f1, f2)$. This plane is not an infinite space, it consists of two intervals spanned between 300 cycles to 2,600 cycles per second. A **phoneme** P_k may be defined as a **topological set** of phones in A_a such that

$$P_k = f_1 \cup f_2 \cup \dots \cup f_n .$$

Then the phonemic repertoires of vowel systems may be represented as families of disjoint topological sets. Now we may define a function φ mapping the acoustic space A_a into an articulatory space A_r defined by articulatory positions such that

$$\varphi(A_r) = \varphi(A_1 \times A_2) = F1 \times F2 = A_a .$$

This suggests that there are no absolute differences between articulatory and acoustic phonetics and their data are open to mutual comparison.

4. Universal Semantics

Microlinguistics is divided into a study of hierarchy of units (hypolinguistics) and a study of their translations into different levels (paralinguistics). **Hypolinguistics** ranges from phonology, syllabics and lexicology to syntax and stylistics. **Paralinguistics** concerns with graphic strings (graphemics), their phonetic pronunciation (phonetics), their logical meaning (semantics), physical reference (physics) as well as foreign translations (translatology). Their units link with one another by a concatenative operation represented as follows:

graphemics: dogs * bark = Dogs bark.
phonemics: /dɔgz/ * /bA:k/ = /dɔgz bA:k/
translatology: psi * štěkají = Psi štěkají.
semantics: dogs * bark = Dogs bark.
physics: dogs * bark = Dogs bark.

All these levels display an **isomorphism** φ mapping pronunciation $\varphi(/ab/)$ into its graphic realisation

$$\varphi (/ab/) = \varphi(/a/)\varphi(/b/) = ab \text{ .}$$

or into its semantic meaning $\varphi'(/ab/) = ab$. Two words 'a' and 'b' are **synonyms** if $a = b$. A word 'a' is a **hyponym** of 'b' if $a \subseteq b$ and it is its **hyperonym** if $a \supseteq b$ (Palek 1989: 133). A convenient illustration is seen in $insects \supseteq flies \cup beetles$.

A **linear antonym** a^{-1} of a is a word with an opposite meaning such that $(a^{-1})^{-1} = a$.It defines a simple negation as in *to do* – *not to do* or *pleasant* – *unpleasant*. **Dual antonyms** link pairs such as *must* – *may*, *make* – *let*, *get* – *keep*, *begin* – *continue*. Their idea is derived from Boolean logic and its opposition of *all* – *some* relating universal and existential quantifiers. It allows

semantic field	\tilde{a}	\tilde{a}^{-1}	a	a^{-1}
quantity	100 %	75 %	25 %	0 %
necessity	<i>all</i>	<i>not all</i>	<i>some</i>	<i>none</i>
causation	<i>must</i>	<i>needn't</i>	<i>may</i>	<i>mustn't</i>
continuation	<i>to make</i>	<i>not to make</i>	<i>to let</i>	<i>to prevent</i>
possession	<i>to begin</i>	<i>not to begin</i>	<i>to continue</i>	<i>to finish</i>
certainty	<i>to get</i>	<i>not to get</i>	<i>to keep</i>	<i>to lose</i>
	<i>certain</i>	<i>uncertain</i>	<i>possible</i>	<i>impossible</i>

Table 21. Dual negation in a four-degree scale of existence

to quantify phenomena in a four-degree scale of existence without specifying any quantitative data. Generally speaking, a is dual to b if

$$a^{-1}x^{-1} = bx.$$

<i>I must leave = I mustn't stay</i>	$\bar{a}x^{-1} = a^{-1}x$
<i>I needn't leave = I may stay</i>	$\bar{a}^{-1}x^{-1} = ax$
<i>I must stay = I mustn't leave</i>	$\bar{a}x = a^{-1}x^{-1}$
<i>I needn't stay = I may leave</i>	$\bar{a}^{-1}x = ax^{-1}$
<i>I begin to lack = I cease to have = I lose</i>	$\bar{u}i^{-1} = u^{-1}i$
<i>I don't begin to lack = I continue to have = I keep</i>	$\bar{u}^{-1}i^{-1} = ui$
<i>I begin to have = I cease to lack = I get</i>	$\bar{u}i^{-1} = u^{-1}i$
<i>I don't begin to have = I continue to lack = I don't get</i>	$\bar{u}^{-1}i^{-1} = ui$
<i>I make X lack = I stop X from having = I take</i>	$\bar{o}i^{-1} = o^{-1}i$
<i>I don't make X lack = I let X have = I leave</i>	$\bar{o}^{-1}i^{-1} = oi$
<i>I make X have = I stop X from lacking = I give</i>	$\bar{o}i^{-1} = o^{-1}i$
<i>I don't make X have = I let X lack = I don't give</i>	$\bar{o}^{-1}i^{-1} = oi$

This formalism was applied in our text-book *Handbook of English Semantics* (1988) to give a componential analysis of English wordstock in wake of E. H. Bendix (1966). It allows us to define any English word as a componential product of more elementary words. Given a vocabulary **C** of **core words** $C = \{e - be, i - have, \bar{u} - begin, \bar{o} - make, let, x - do, g - go, \bar{a} - must, find, person, thing, animal, good, big \dots\}$, we can redefine English vocabulary in terms of a limited number of core words:

<i>become = begin to be</i>	<i>die = cease to be</i>
<i>give = make have</i>	<i>wonder = find suprising</i>
<i>take = make lack</i>	<i>know = find certain</i>

A very important result is a subclassification of words into wide categories:

mutatives:	<i>become = begin to be</i>
duratives:	<i>remain = continue to be</i>
terminatives:	<i>die = cease to be</i>
inchoatives:	<i>get = begin to have</i>
causatives:	<i>give = make have</i>
receptives:	<i>wonder = find strange</i>

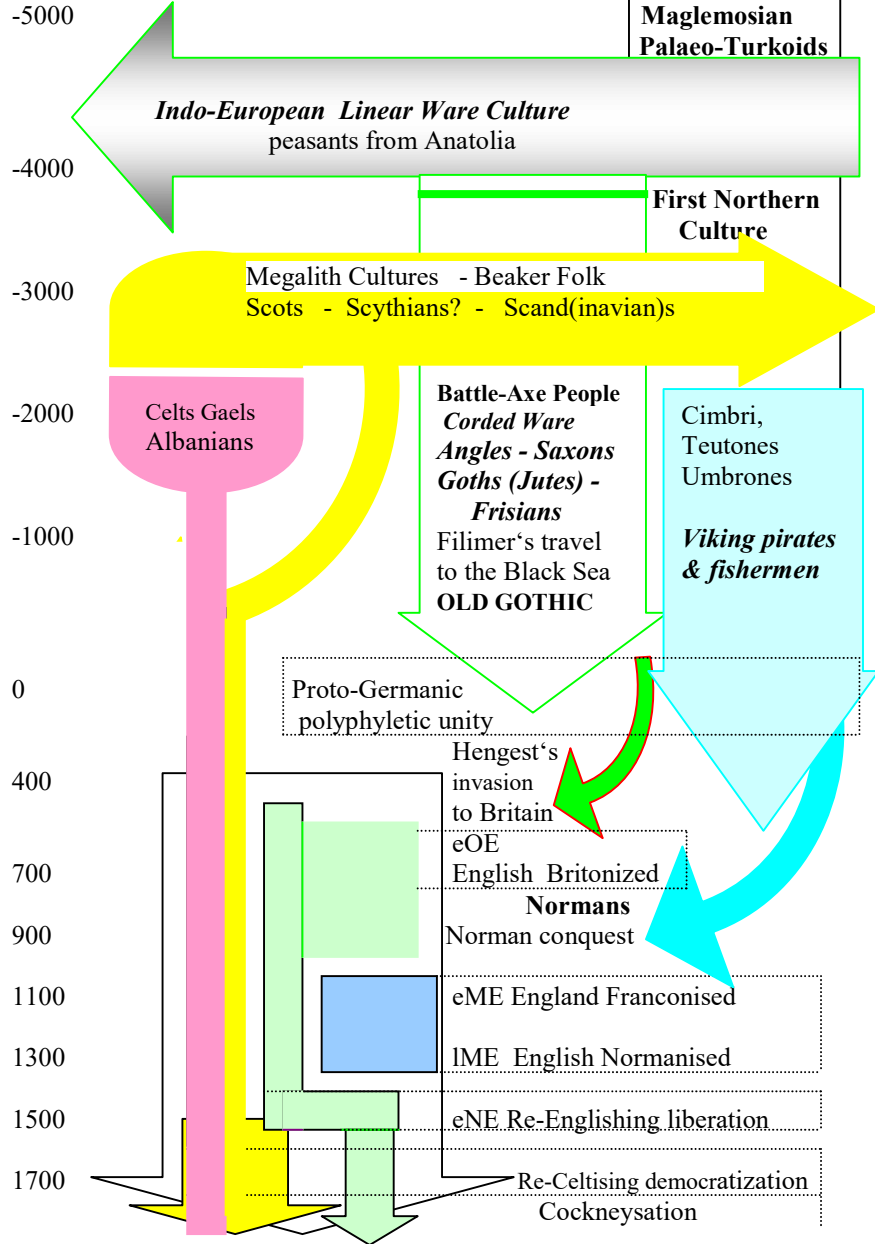
Such categories imply also definite syntactic constructions and may be applied for syntactic description. Clearly, *give* involves all complementation peculiar to its subcomponents so that *to give Jane a flower* follows from constructions peculiar to *to make Jane do* and *Jane has a flower*.

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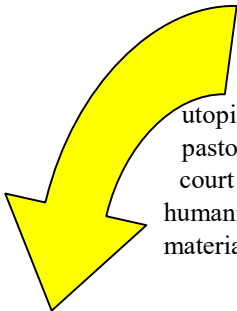
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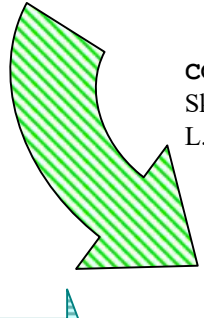


Supl. 1. *The Linguistic Prehistory of the British and Germanic Cultural Area*


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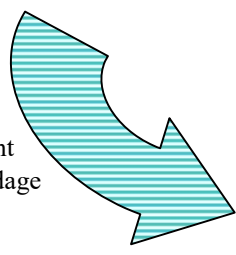
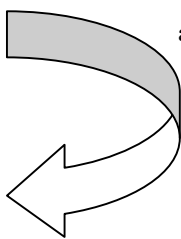
TUDOR ABSOLUTISM
CLASSICISM
 utopias: Thomas More
 pastoral eclogues: A. Barclay
 court satire: J. Skelton
 humanist philology: Colet, Lily, Grocyn
 materialist physics: Linacre



COURT ELEGISM
 Skelton's love lyric
 L. Cox: *The Arte or Crafte of Rhetoryke*
romantic comedy:
 J. Rastell: *Calisto and Melibea*
sentimental moralities:
The Prodigal Son, Youth
Mundus and Infans

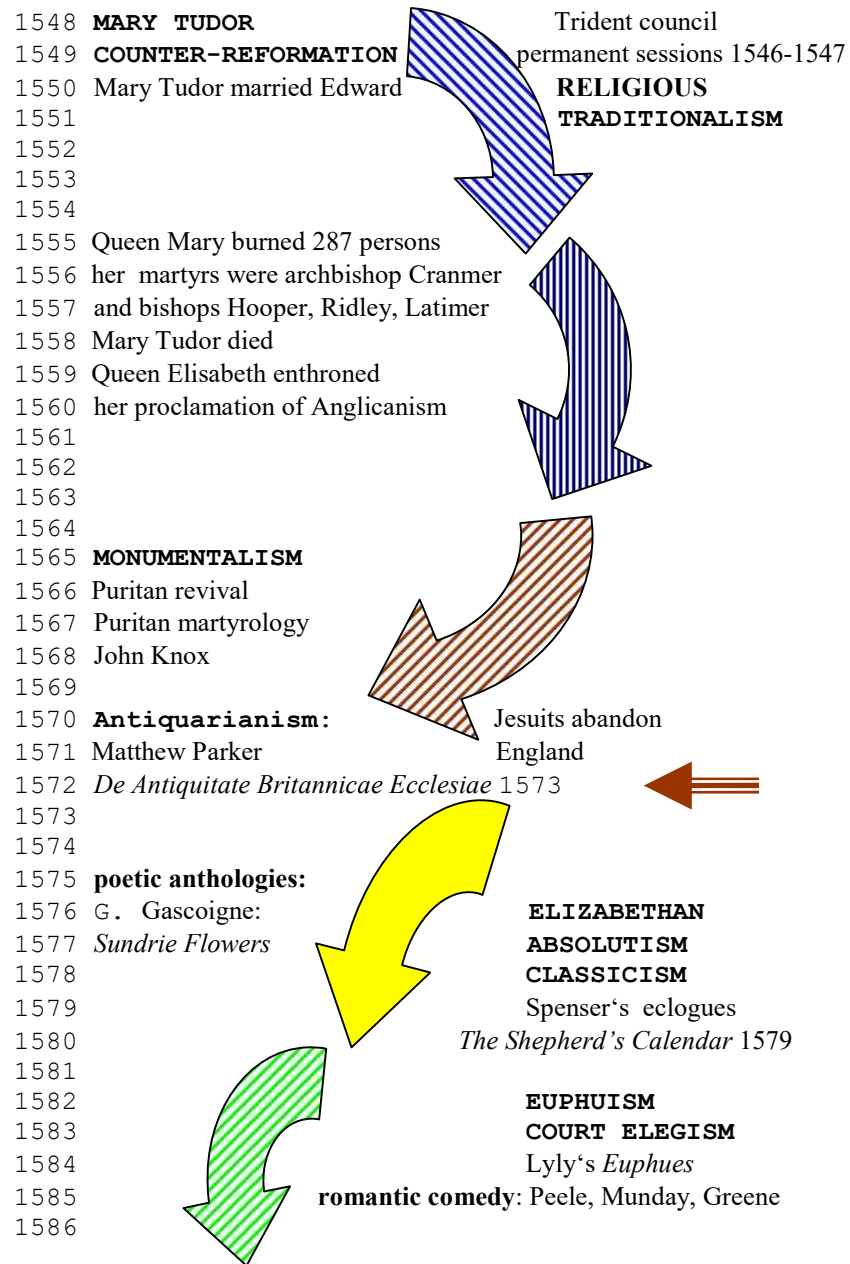


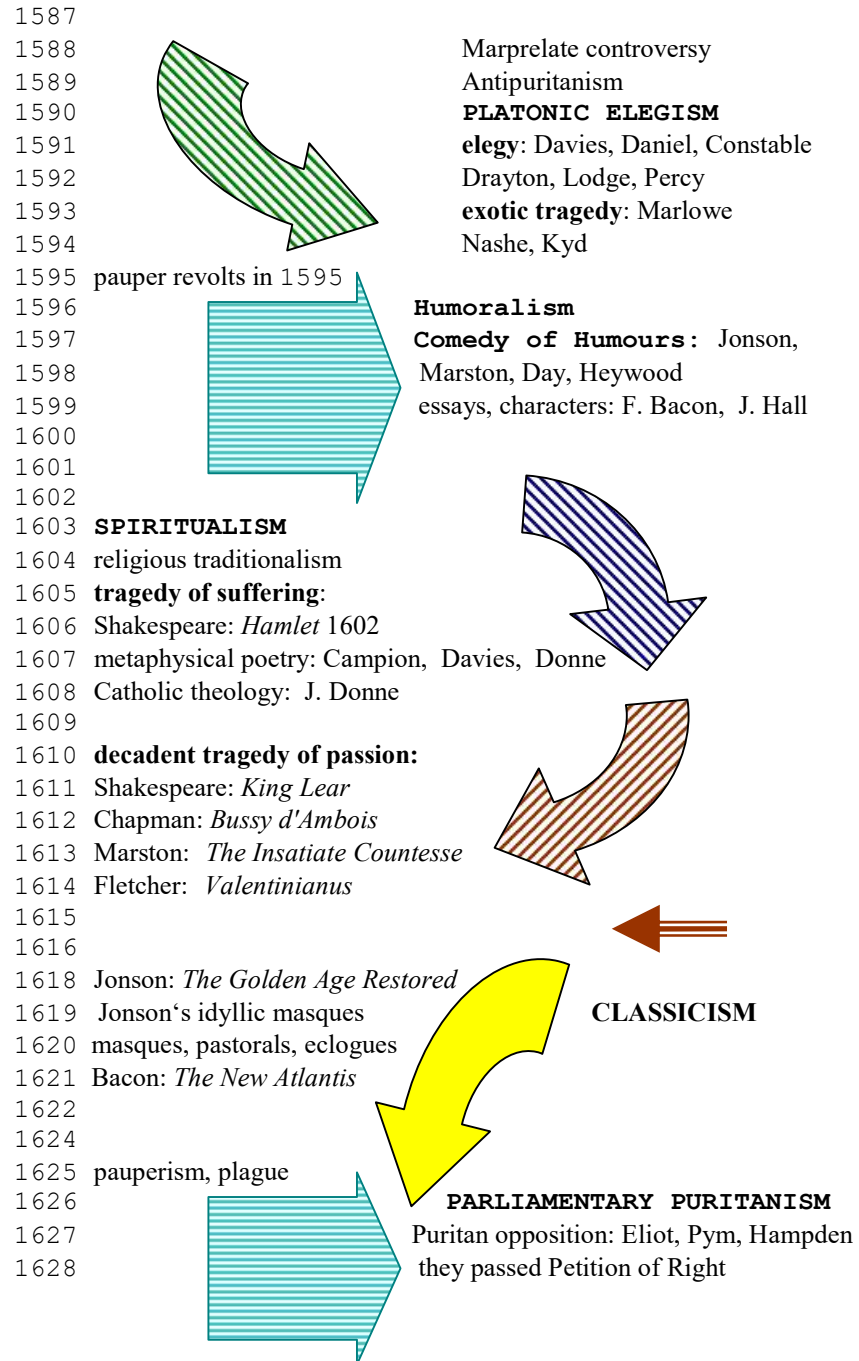
REFORMATION
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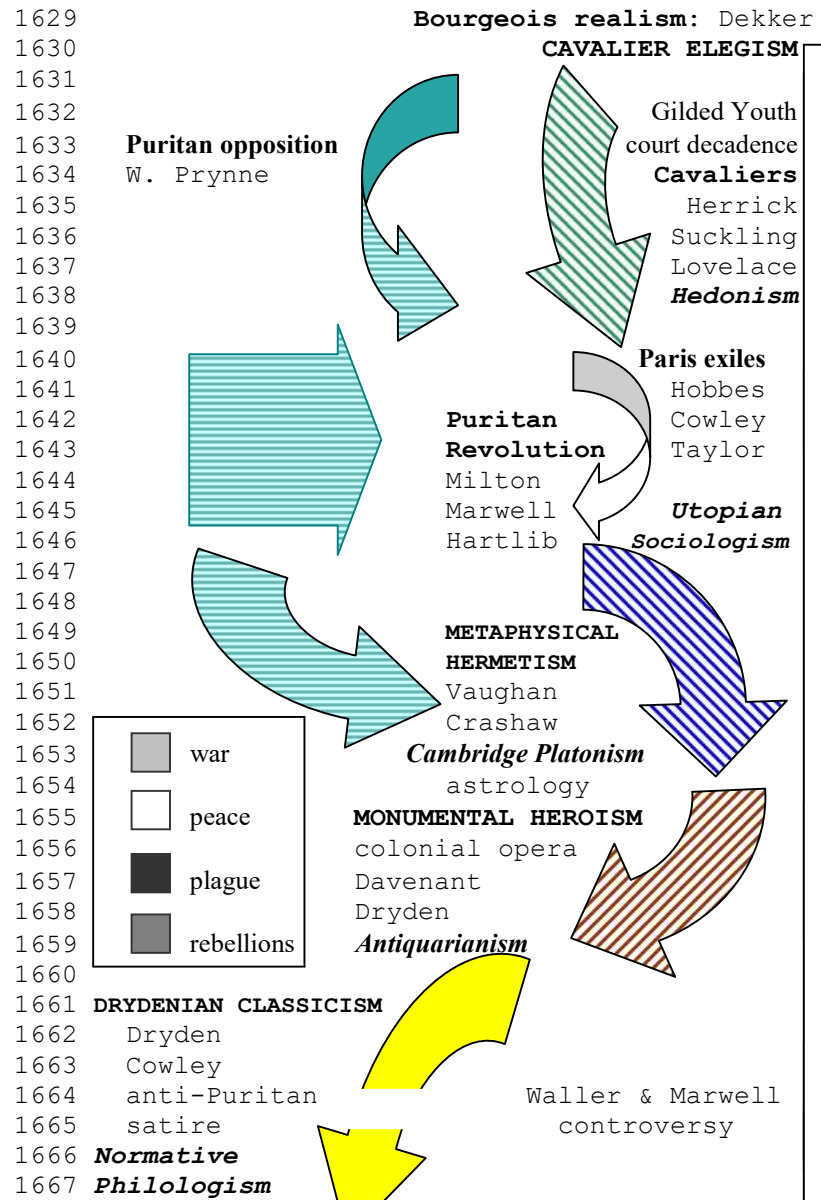



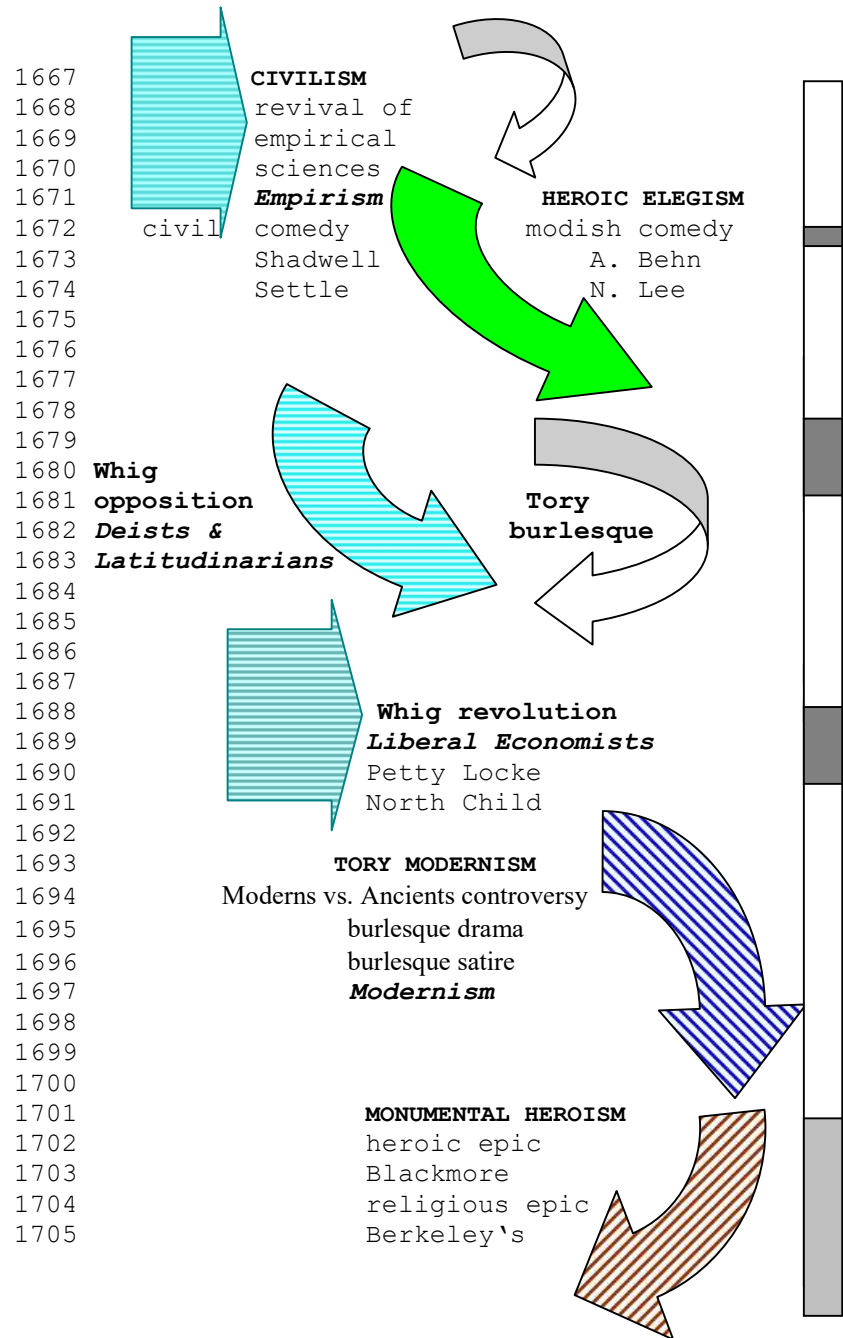
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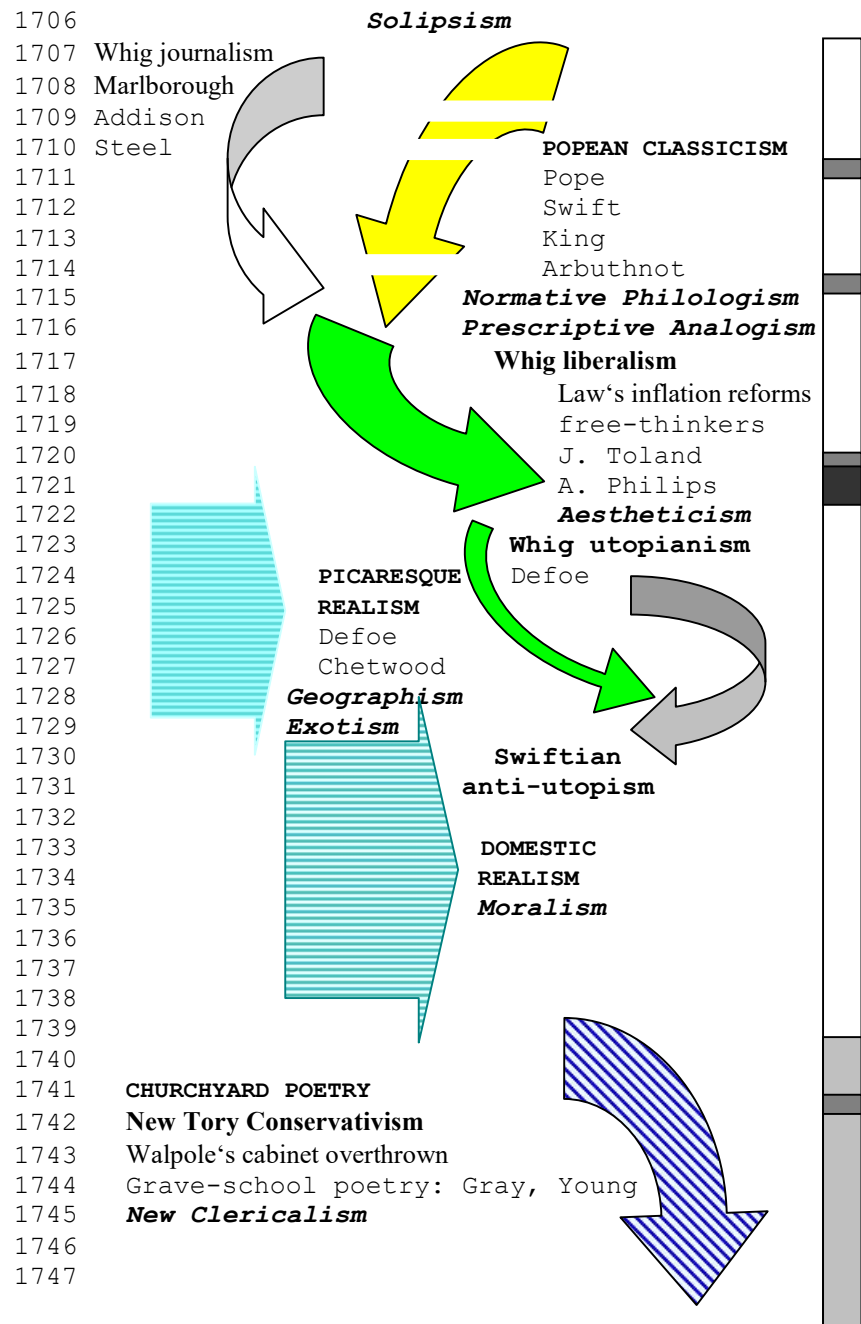
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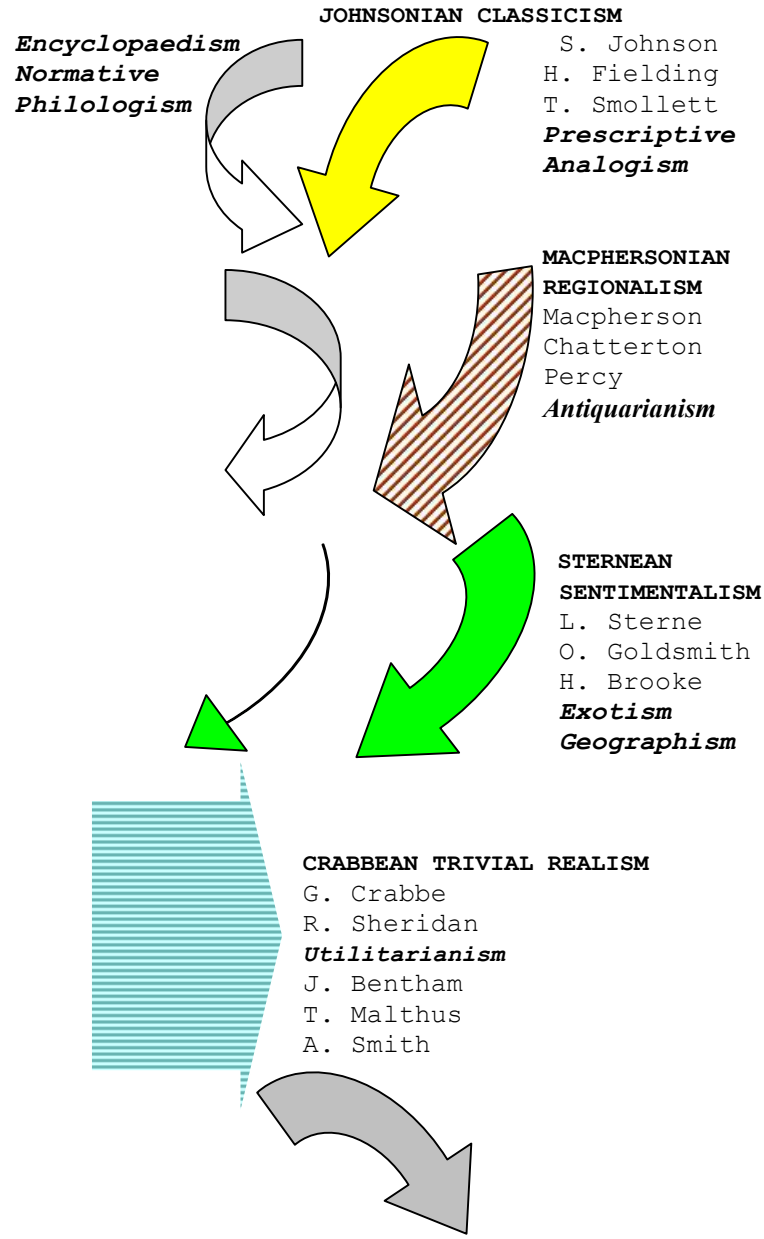


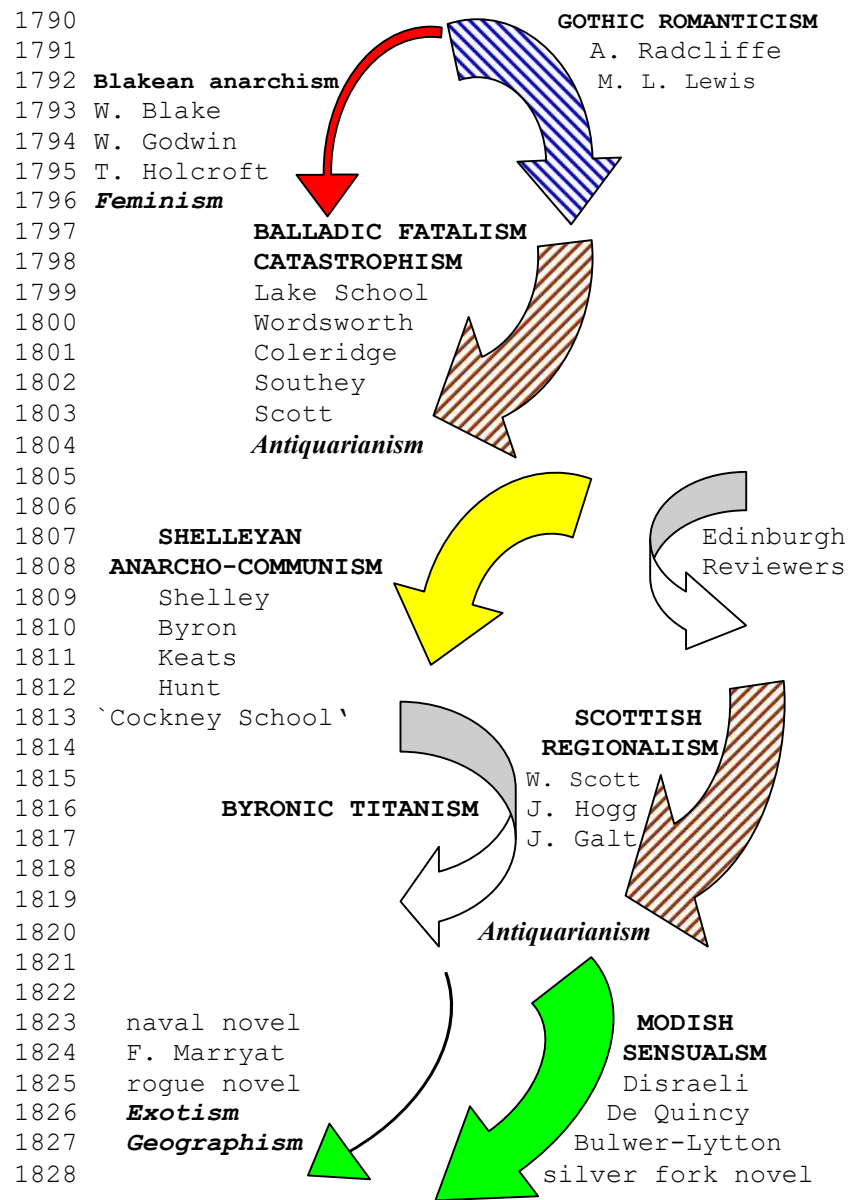


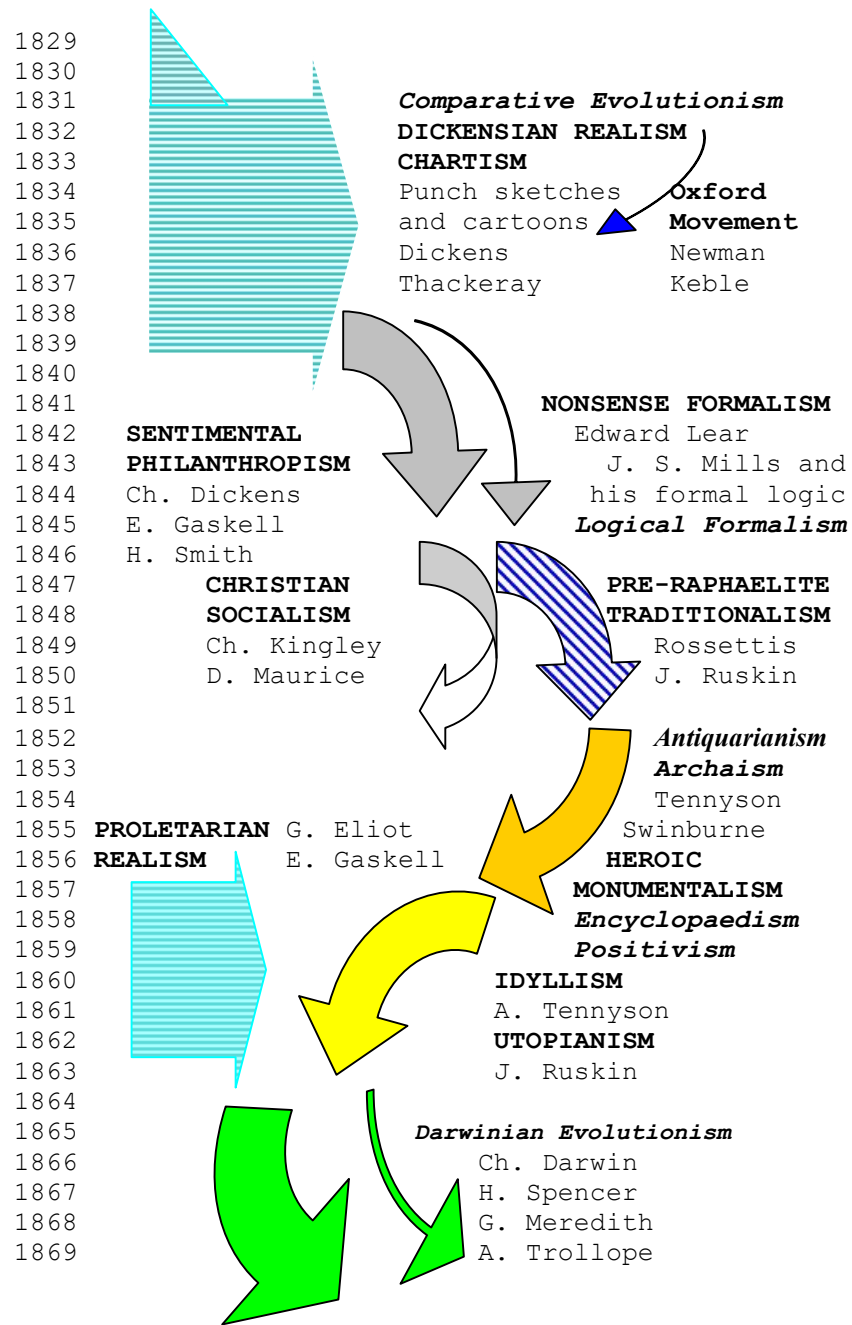




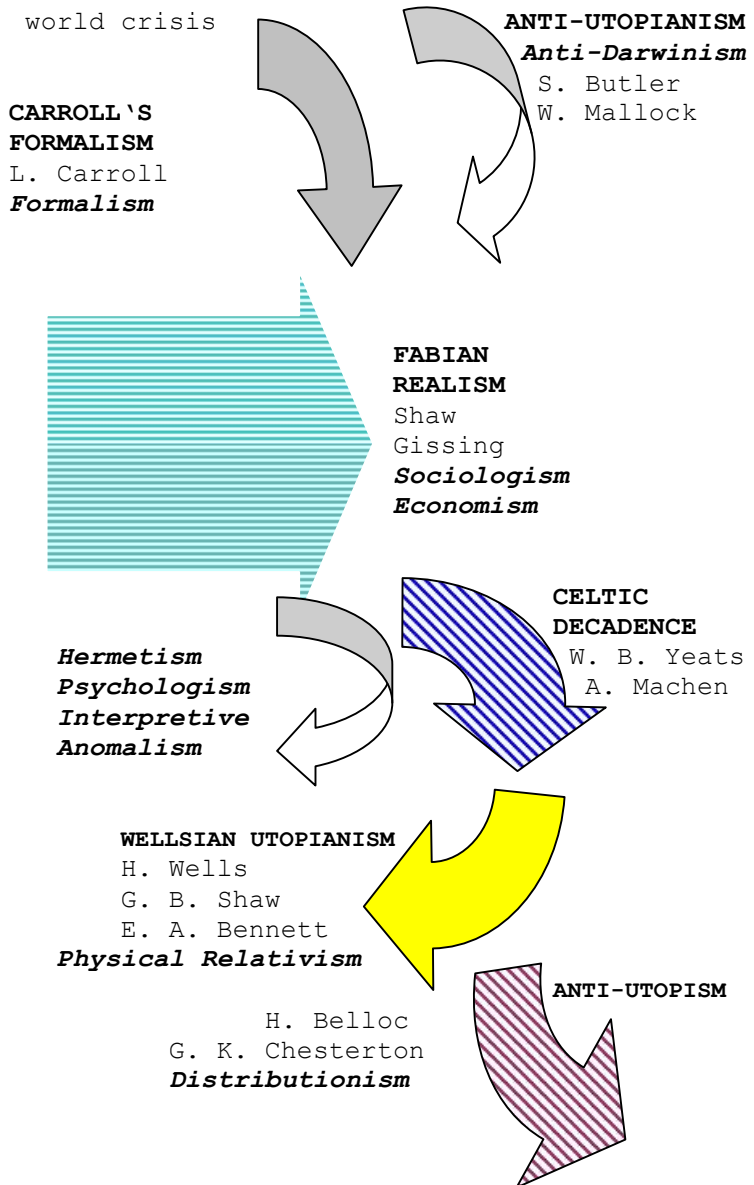
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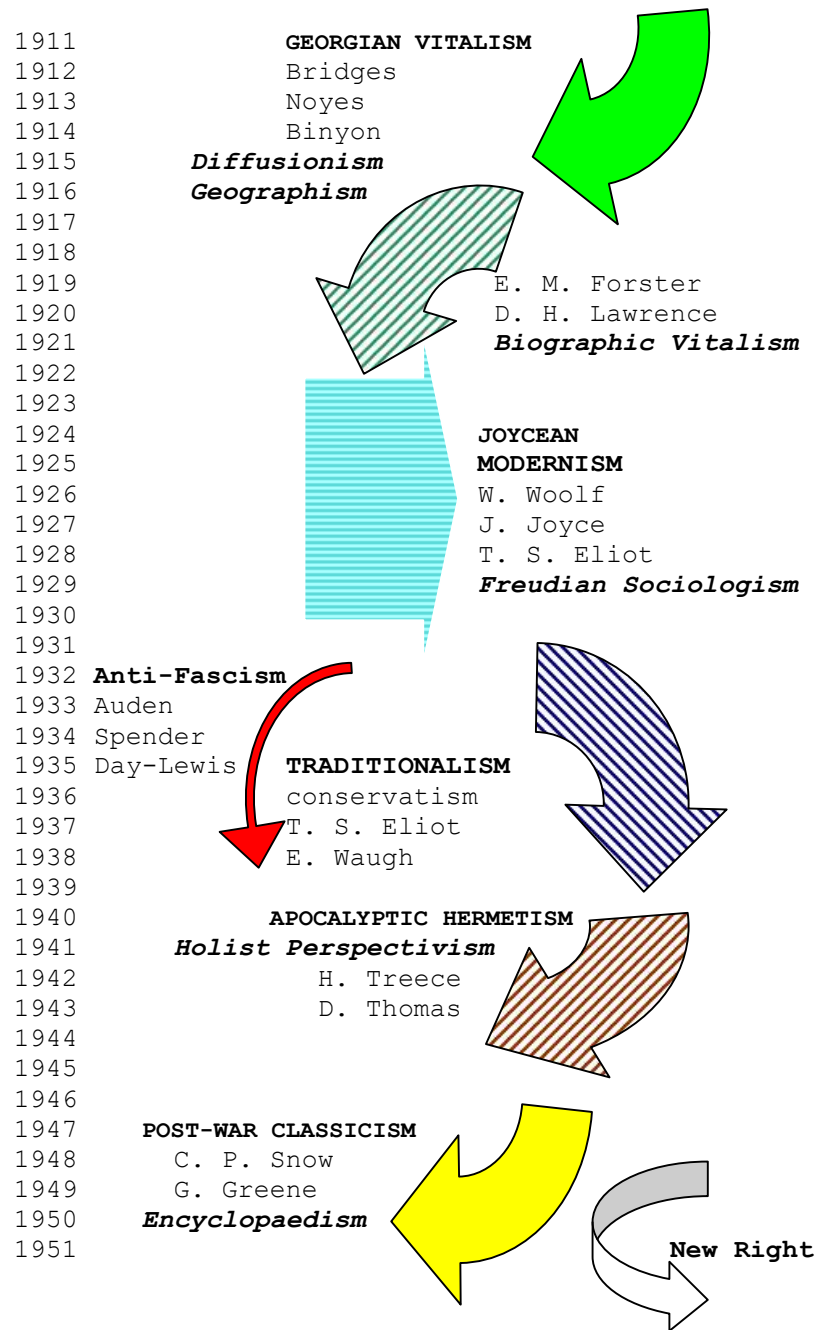




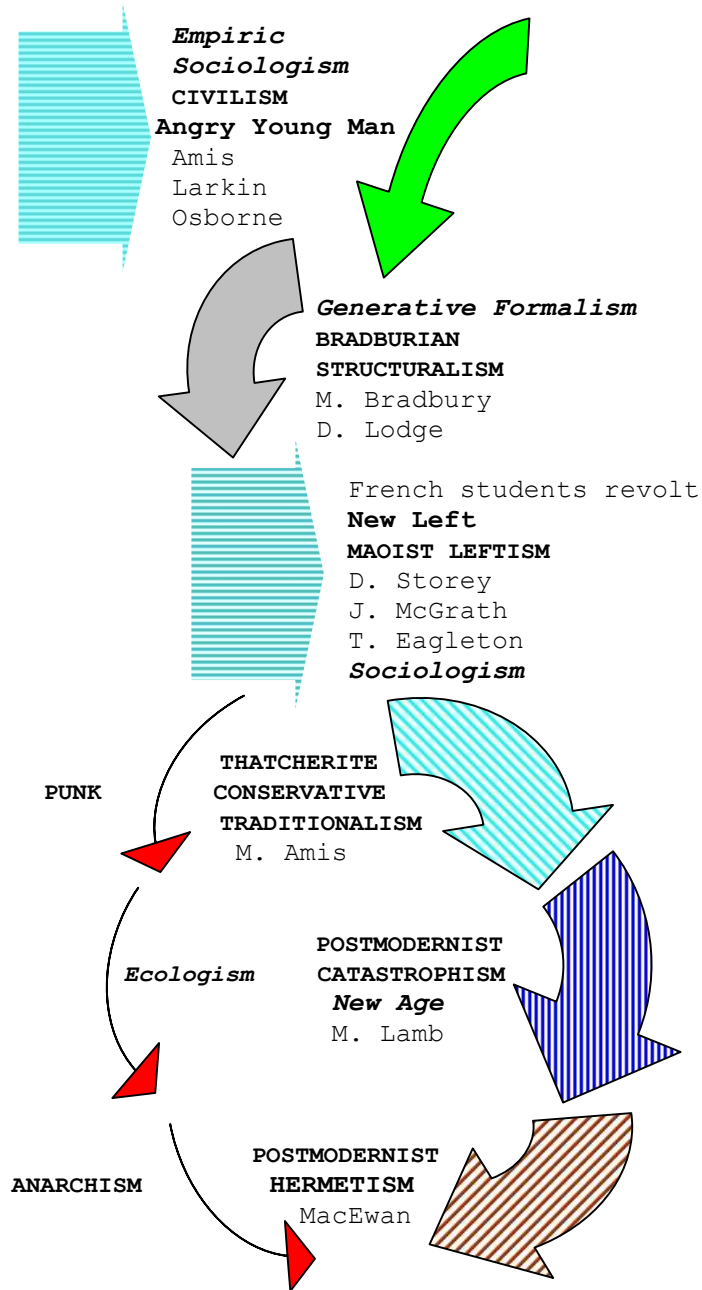


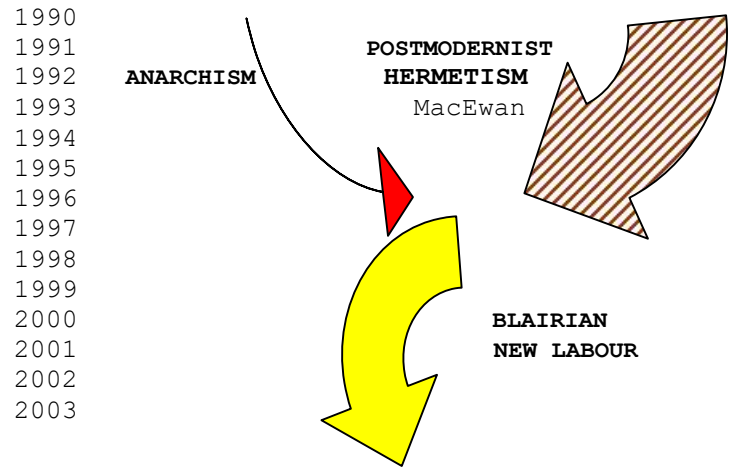
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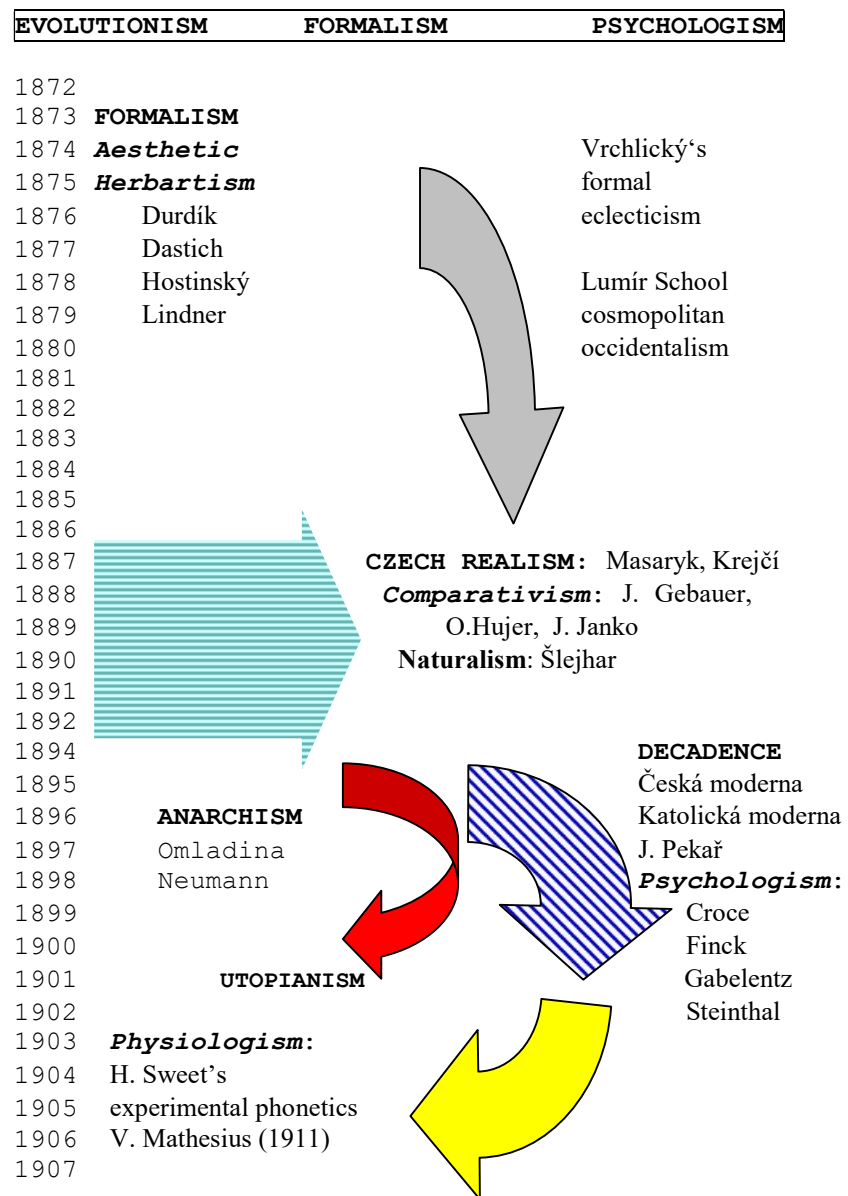


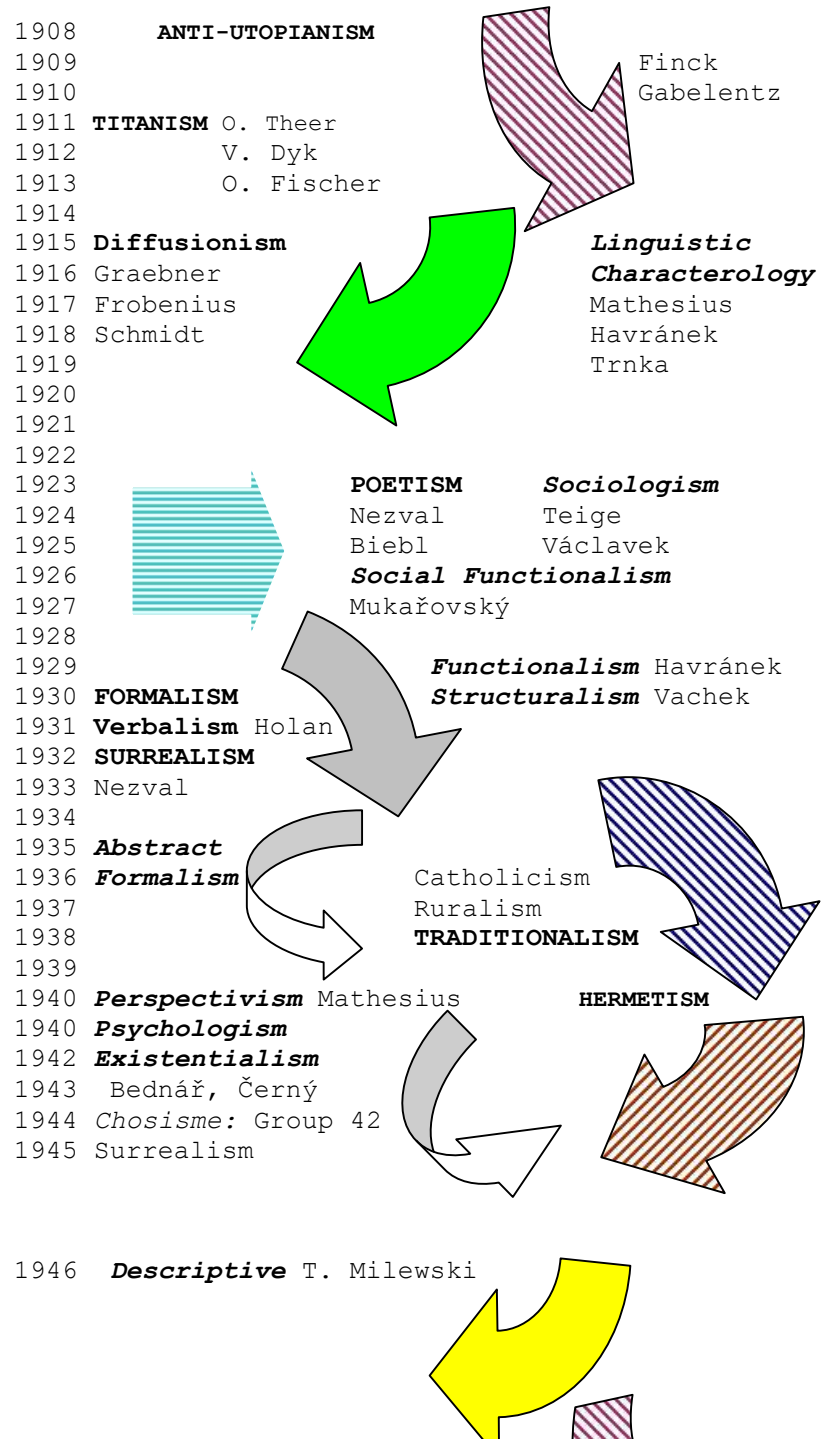
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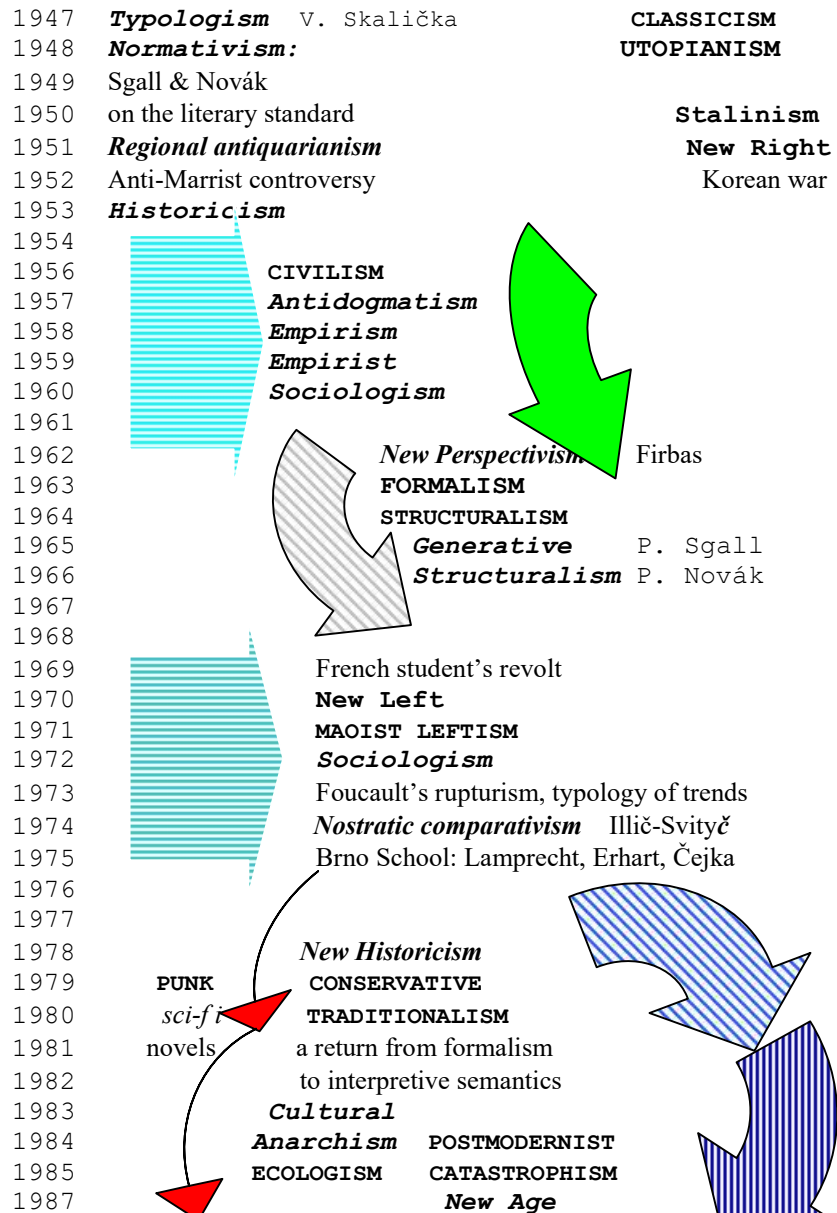




Supl. 2. *A map of British cultural, literary and linguistic trends*







Suppl. 2 A map of Czech Literary and Linguistic Trends

