FROM COMPARATIVE TO APPLIED LINGUISTICS

Violeta Negrea
Assoc., Prof., PhD, Academy of Economic Studies, Bucharest

Abstract:The article focuses on the language facts analysis and makes references to the evolution of the field from theoretical comparison to its pragmatic application. Its spotlight falls on the comparative linguistics which widens its field through the association to other domains making place to brand-new re-interpretation and re-contextualization of old information through advanced processes of reasoning that reveal different objects of inquiry. The new research paradigms yield insights into the development stages of culture and civilization phenomena and exploit hypothesis of their future evolution. Our research highlights the role of cross disciplinarity for the practical benefit of knowledge and knowledge development in the domain of language study.

Keywords: comparative linguistics, language reconstruction, research algorithms, cross-discipline approach, knowledge development

The field of comparative study of languages was coined in the 19th century as a derivation from the Latin *linguistica* referring to materials or books dealing with language, staking a claim to scholarly, scientific rigor with the Indo-European origins studies. The German *Linguistik* is first attested in 1808 in *Allgemeines Archiv für Ethonographie und Linguistik*[1] edited by Johan Severin Vater[2] and Johan Bertuch[3]. The term was adopted by the French in 1812 and the English in 1827, with reference to a new approach to the traditional grammar study. Up to 1830 the domain was featured by a mixture of (proto) typological study dealing with historical-comparative grammar, glottogenetic[4] speculations and geographical classifications. (Swiggers, 2011:806-821) Comparative method has been used in linguistics for the reconstruction of language families trees based on cognate sets in different languages that are related in meaning and form. (Dunn, Reesink, Foley, Levinson 2005: 2072-75)

It was Wilhelm von Humboldt, the universal spirit, the founder of the University in Berlin who established the *comparative linguistic* study as an academic curricular subject which dealt with the interest in languages as a culture-bound expression of a world vision. The fluctuation of the contents and practices of the domain is mirrored by the English term *comparative philology*[5] which survived in the 20th century.

The development of the academic subject was marked by the publication of Franz Bopp's *Über das Conjugationssystem der Sanskritsprache* (1816) and of Ferdinand de Saussure's

[1]http://zs.thulb.uni-jena.de/receive/jportal_jpjournal_00000043?XSL.view.objectmetadata.SESSION=true
[2]German linguist (1771-1826) and teacher of theology. His works include a Hebrew grammar (1797);*Handbuch der hebräischen, syrischen, chaldäischenund arabischen Grammatik*(1801); a Polish (1807) and a Russian grammar (1809) http://en.wikisource.org/wiki/The_American_Cyclop%C3%A6dia_(1879)/Vater,_Johann_Severin
[3] Friedrich Justin Johan Bertuch (1746-1822) a refined intellectual, highly interested in literature and natural history
[4] Development of speech theories
[5]The study of linguistic changes over time in language, or in a particular language, or language family, sometimes including the reconstruction of unattested forms of earlier stages of a language. (American Heritage® Dictionary of the English Language, Fifth Edition. Copyright © 2011 by Houghton Mifflin Harcourt Publishing Company. Published by Houghton Mifflin Harcourt Publishing Company)

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Cours de Linguistique Générale (1916). The phonological, morphological, syntactical, lexical, semantic ancestral elements and their possible rules, constraints, conditions and the like were recovered in terms of the model of grammar adopted.
The post WWII world-wide development of the linguistic research corresponded to the decolonization process that attuned the politics of language and language planning. The emergence of Chomskyan theory and the framework of complex, interdisciplinary collaboration between the historical comparative studies of linguistics and various other domains of research have generated huge impacts on knowledge in recent years, although the distinct domains exhibit different research patterns compared to the ones in the same domain. Sparse connections of the topic layers of the comparative linguistics have challenged complimentary research algorithms and experimentations of various fields of science and demonstrated effectiveness of consolidated research outcomes. Cross domain correlations have proved efficient in spreading observation from one domain to another. (Tang, Wu, Sun, and Su 2012)

Language study patterns and practices

The comparative study of languages has been objected in the need to acknowledge the historical reconstruction of the languages used by the mankind. The approaches, methodologies and objects used have focused on the large scale and widely distributed aspects of human variation and major language families groups.

The first perception of the similarity between Semitic languages is shown by the antiquity writings of Eusebiu of Emesa[6], (Winn, R. 2011:37-38) and Basil of Caesarea (327-379) probably based on the sixth century grammarian Eusebius, Julian of Halicarnassus[7] (d. after 518), Priscian of Caesarea[8] and Isidore of Seville[9] (ca. 560-636). (Minkowski, 2010:81-115) But the first systematic scholarly attempt to compare Hebrew, Aramaic[10] and Arabic is considered to belong to Judah Quraysh in his Risālah in the tenth century. (*Maman, Aaaron (2004:180-2*)

Different ideas were promoted in the Middle Ages and Renaissance about a possible unique prehistoric mother tongue that were tolerated by the Christian dogma which considered that Creation operated only once for everything. Robert Bacon (1214-1248) the first Dominican friar preacher in England deduced that the Modern Greek language developed from ancient Greek dialects. The basic similarities between Hebrew and Arabic were revealed by the Jewish physician Yehuda ibn Quraysh in the year 1000 as being the confirmation of the common origin of the two languages. (Van Bekkum, 1983: 71-93) The 13th century brought in the attempt of Giraud de Cambrie to claim that Breton, Welsh and Cornish languages were derived and perpetuated from the Celtic language used by the natives in Great Britain. (Viron, 2007: 41-52)

Dante Aligheri is considered as the first to have scholarly divided the Romance languages into three distinguished groups according to his criteria of the word "yes" *lingue di Si, lingue di Oc, and lingue di Oil* with reference the Italian, the Northern French, and the

[6] Bishop of Emesa; d. about 360
[7]Bishop of Halicarnassus, a city in Caria in southwestern Asia Minor, now the city of Bodrum in Turkey http://orthodoxwiki.org/Julian_of_Halicarnassus
[8]Latin grammarianat Constantinople whose text *Institutiones Grammaticae*was used throughoutmedieval Europe. Random House Kernerman Webster's College Dictionary, © 2010 K Dictionaries Ltd. Copyright 2005, 1997, 1991 by Random House, Inc.
[9] As an archbishop of the town, he ordered the establishment of seminaries in the cathedral cities of Spain along the lines of the school already existing at Seville.Amadó, R.R. (1912).Seville. In The Catholic Encyclopedia. New York: Robert Appleton Company. Retrieved May 27, 2015 from New Advent: http://www.newadvent.org/cathen/13744a.htm
[10] a family of languages or dialects, belonging to the Semitic family.

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language of Provence. His *De vulgaris eloquentia* (On the Vernacular Speech) is a clear-cut circumscription of Greek, Germanic, Romance and Slavic languages with reference to the languages spoken on the Babel tower which was intended to help human beings climb up top Heaven. (Shapiro, 1990)

Giuseppe Giusto Scaligero (Josephus Justus Scalinger) – made the word *god* his criteria to classify European languages in the sixteenth century naming the Germanic tongues *gott*-languages, the Latin and Romance *deus* languages, and the Slavic *boge* languages and made them separate from Greek in which the word for god is *theos*.

The first steps towards the historical perspective of the linguistic study were taken by G.W. Leibniz in some of his works like *Noveau essay sur l'entendement humaine*[11] and *Meditationes de cognition, veritate et ideis*. (Meier-Oeser, 2011:166-168) His amazing empirical references to the language dynamics are forerunning the historical trend of the comparative linguistic study in the 19th century. They are based on the discovery of the differences and the logical mental human structure and the arbitrariness of their linguistic representation identified by comparing language like German, French, Gothic, Gaelic, Spanish, Latin, and Greek that made possible the conclusion of the historical nature of language development. The language families that he identified were called *Japhetic* and corresponded to the European and Semitic languages[12] based exclusively on lexical correspondence. (Swiggers, 2011:807) Leibniz was the one to understand the advantage of *comparative methodology* for the systematic language grouping to reveal major theoretical premises of the linguistic research. He coined adequate terminology such as *source-language* to identify old linguistic roots of modern day languages and anticipated the relatedness to the Indo-European language family and the populations speaking them. He considered German the language to have preserved the genuine character of an original primitive language evidenced by the phonetic symbolism considered by Platon in his dialogue Cratylos and by St. Augustine in his *De dialectica*. He associates sound values and semantic meaning of lexical units, i.e. the Greek sound /r/ in the Greek word δζέw (*to run*) is present in Old German *rüren* and in German names of running waters like Rin, Rhone, Ruhr, which kept the significance of quick movement. Similarly, the Greek sound /l/ meaning *slide, light*, is kept in German in words like *leben* (to live) *lieben* (love) with the same significance. His writing partner, the famous Semitist Job Ludolf (1624-1704) seems to have been one of the first to point out that in order to establish the relation between two languages one must study their grammatical system in addition to a mere comparison of lexemes. In their letters the two scholars debate the principles underlying similarities between languages or *harmonia linguarum*. (Orientalia Lovaniensia analecta, 2003:63-65)

The further historical approach of Gianbattista Vico (1688-1744) on language comparison research was further valued by Benedetto Croce[13] (1866-1952) and Giovani Gentile[14] (1875-1955) and contributed to the opening of the interest for the *global andcross subject integrated approach* of the linguistics which was settled on the cross road of the traditional research domains - philosophy, anthropology, sociology, logic, aesthetics, etc. In his masterpiece *Principi di una scienza nuovo d'intorno alla coune delle nazioni*, which was published posthumously, Vico the forerunner of the Enlightenment, proposed, as the title of

[11] The work was written in 1704 and published in 1765 as a polemic dialogue to the work of John Locke work published under the same title. The work was republished in 1898 and was retrieved at 11.28.2015 from http://www.olimon.org/uan/leibniz-essais.pdf

[12] the term was coined by August Ludwig Schozör based exclusively on the Biblical diffusion of the language families and ethnic groups

[13] Italian idealist philosopher, historian and occasionally, linguist

[14] Influential philosopher of revived Hegelian idealism in Italy. He made significant contributions to the Italian educational system and participated in the formation of the Fascist corporate state.

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his work suggested, a new comprehensive science able to explain humane and human essence which would be brightly twined with philology and philosophy. He sets two hypotheses on the origins and specificity of the human language. He is concerned, as Leibniz, with the unique form of a primary language that made speaking equal to creation, as things and names are fully congruent. He makes reference to three main stages of humankind history and its language.

"At the outset of our discussion, then, we posit as our first principle the philological axiom that according to the Egyptians there had been spoken in their world in all preceding time three languages corresponding in number and order to the three ages that had elapsed in their world: the ages of gods, heroes and men. The first language had been hieroglyphic, sacred or divine; the second, symbolic, by signs or by heroic devices; the third epistolary for men at a distance to communicate to each other the current needs of their lives. Concerning these three languages, there two golden passages in Homer's Iliad, from which it clearly appear that the Greeks agreed with the Egyptians in this matter." (Goddard and Fish 2012: 126)

At the turn of the 18th century, the growing information led to the understanding of the genetic affinity between idioms attested in India and the ones in the German speaking territories for which they were originally called Indo-Germanisch. The term Indo-European was coined later in 1826. (Swiggers, 2011:807) It was Sir William Jones (1746 –1794) the British philologist and scholar that made a new proposition on the relationship among Indo European languages based on the similarities that he noticed in Sanskrit, Greek and Latin that made him think on their further relationship to Gothic and Celtic. The wonderful structure of the Sanskrit language, which he considers "more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either, yet bears to both of them a strong affinity in the roots of verbs and in the forms of grammar than could possibly have been produced by accident". (Auroux, 2000: 1156). In 1786 Jones postulated a proto-language theory rooting Sanskrit, Iranian, Greek, Latin, Germanic and Celtic, in which he erroneously included Egyptian, Japanese and Chinese. Nevertheless, he is considered, the British beginner of comparative linguistics and Indo-European studies.

The French movement of the encyclopedic studies in the 18th century enhanced the linguistic research and its social and cultural complexity. Johan Christoph Adelung (1732-1806) compiled the first languages compendium which gathered information about several hundred languages[15]. The historical times of discoveries and research made Sanskrit turn into the study focus of the learned European circle due to the work of the Christian missionaries in India that revealed the need of an explanation of the existing similarities with the European languages. The research carried out by the French priest Pierre de Coeurdoux and the Croat-Austrian Filip Vezdian (a.k.a. Paulinus a Sancto Bartholomaeo) who published the Sanskrit European grammar, revealed the unexpected similarities between the Sanskrit *pitar* (father) *mātar* (mother) and *bhrathar* (brother) with the Latin *pater*, mater and *frater* that could not be the result of linguistic borrowing as long as the two languages did not contact each other. It was not long to the first step to making a linguistic a common connection between Sanskrit, Latin and Greek and some other European languages made by William Jones (1746-1794) who imagined that they had sprung from a common source, which, perhaps, did not exist anymore. His lecture delivered in 1786 in front of the Asiatic Society in Calcutta became widely known in Europe as it made astonishing references to the similarities between

[15]Mithridates, oder allgemeine Sprachenkunde, "Mithridates, or General Linguistics" in which the author affirms the relation of Sanskrit and the major European languages.

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Sanskrit and some European classical languages which he noticed not to characterize only the shapes of words but also their grammar[16].

But it was not until the 19th century that the evolutionist theory claimed that none of the Indo-European languages were the mother of all others. *Wilhelm von Humboldt connected the picture of the world to the structure of the language and favored comparative language study in the newly founded University of Berlin, kno*wn today as *Humboldt Universität* where he called attention to the study of comparative linguistics by which the link between word, world and individual can be located. He vehemently claimed that national features could be understood through the study of language leading to the conclusion that human speech structure influences the spiritual development of human race[17].

The impressive work that developed the academic subject of historical comparative linguistics expanded into the scientific study of dialects and onomastics which ripened into the structuralist approach. The maturation of the European linguistic view produced new ingenious accounts in mathematics and formal logic in U.S. developed by George Boole (1815-1864) and Gottlob Frege (1847-1925). (Swingers, 2011:805-821)

Karl Brugmann[18], a vastly influential historical scientist, belonged to the third generation who found linguistics a relatively mature discipline. He was a leading member of the neogrammarians[19] who revolutionized the diachronic study of the language and contributed substantially to the reshaping of the Indo-European phonology by reinterpreting its inventory of vowels.

After a period of overlooking, interest in comparative linguistic studies re-emerged and extended to cross-field research by redefining its methodology and approaches. The contribution of the Swiss Ferdinand de Saussure had an important impact on the development and view of the newly born field. His early studies on Indo-European ablaut system were confirmed by the phenomena in the Hittite, the last discovered Indo-European language. His far reaching ideas, collected and disseminated by his students after his death, were consonant with Claude-Levi Strauss, Emile Durkheim who pioneered the new field of sociology. Saussure's focus on the nature of the form-meaning pairing inter-relational dimension of language was developed by the American Structuralist Bloomfield and Hockett and by the Generative time of Chomsky and Bresnan and introduced theories like Head-Driven Phrase-Structure Grammar[20] (Pollard&Sag 1994) and Construction Grammar[21]. Modern Functionalist theories have integrated diachronic study of language, and the cognitive sciences, notably psychology and neurosciences, have developed the focus on synchronic study of language.

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[16] http://www.eolss.net/Sample-Chapters/C04/E6-20B-05-00.pdf

[17] His conclusions are developed in his essay, "Über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die geistige Entwickelung des Menschgeschlechts" ("On the Difference of Human Speech Structure and its Influence on the Spiritual Development of the Human Race"1836) In his "Über den Dualis" ("On Dualism," 1827/30) he defends the concept of cultural relativism by arguing against the qualification of African and some south American cultures as "primitive"

[18] German linguist (1849-1919) lecturer at Leipzig University; professor at Freiburg, then professor of Indo-European linguistics at Leipzig.

[19] A German school of linguists based at the University of Leipzig in the late 19th century. Its principle of sound change regularity claims to affect simultaneously all words in which its environment is met. Its famous example is Verner's Law which resolved an apparent exception to Grimm's Law. Today this hypothesis more a guiding principle than an exceptionless fact, as numerous examples of lexical diffusion have been attested as the sound change affects only a few words first and spreads gradually to other words.

[20] A conception of grammar as a setoff declarative and order-independent constraints which is suited to modeling human language processing. It integrates keys ideas on cognitive sciences and draws on results from syntactic theories, situation semantics, data type theory, knowledge representation. (

[21] Usage-based language framework committed to equal capture of grammatical patterning and viewing all dimensions of language as equal contributors to shaping linguistic expression.

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Mathematical techniques in language study

Evolutionary relatedness of languages has been proved to result from a development process which is similar to speciation in biology. The process is commonly represented graphically as a rooted tree in which internal nodes represent the growth of ancient languages from a common ancestor. The representativeness of the tree model serves language evolution successfully except for the languages which have not been discovered to have shared a common origin. Inference of statistical information was added to the critical evaluation o linguistic features and patterns of the related languages to establish their relatedness: idiosyncrasies in grammar, shared idiosyncratic sound changes, patterns of sound correspondences deepened the historical study of comparative linguistics and the sub-grouping process through shared innovations. The statistical techniques have contributed to the establishments of most of the 300 well attested linguistic families and subfamilies, as they are applicable and are the basis of historical scholarship of languages whose most recent common ancestor does not lie more than 6,000-8,000 years in the past. (Warnow, 1997:6585-6590)

Recent mathematical scholarship methods have been recently developed by two different teams from the University of Pennsylvania for the inference of evolutionary tree for languages known to be related, and from the University of California, Berkeley that developed a reliable inference to the languages that are not necessarily known to be genealogically related. (ibidem) The first method is largely based on a polynomial time algorithms type that detects compatibility between codification of linguistic features appropriateness and the evolutionary tree model which was developed for various fixed parameters. (Kannan&Warnow 1994:713-737). The mathematical methodological and instrumental approach resisted linguistic analysis of accomplished phylogenetic compatibilities of the Indo-European tree, except for the Germanic family, suggesting its affinity to it. The research concluded the possible development of the Germanic family within the Satem Core evidenced by its morphological features, and its further split away before the final Satem innovations. A second split placed the Germanic language family into contact with the Celtic and Italic that explains its distinctive vocabulary. A second option for a different place of the Germanic languages in the Indo-European phylogenetic tree is outside the Satem Core which makes it escape the need to assume an early geographic movement, but does not explain its languages characteristics incompatibility to the genealogical Indo-European tree. The research suggests the best location for the Germanic next to its sister Balto-Slavic family. (Warnow, 1997:6585-6590)

Linguistics has been recently supported by mathematic methods in indicating significant contact between language communities and making human migration understandable for the historians and anthropologists. Their scholarly research is based on mathematical detection of the mechanisms by which languages sharing features acquired by borrowing or by inheritance are marked genetically or historically. The linguistic patterns that were searched for their incidence revealed striking patterns in their geographic distribution. The findings point out strong affinities between Australia and the western Old World and also strong affinities all around the Pacific Rim. The linguistic distributions point to coastal spread around the Pacific beginning in very early times and to an earlier expansion from Africa via southern Asia to Australasia. Both expansions are widely assumed by archeologists and human geneticists, but the linguistic distributions seem to provide the clearest evidence of them. (Warnow, 1997:6585-6590)

Conclusions

The attempt to present a critical assessment of some current approaches in theoretical and applied linguistics aims at the restoration of the discipline to a central position and for its

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cross discipline networking. The impact of linguistics studies is given by the language centrality to life development which is acknowledged as the power of universals, the basic expression of man's ability to transcend environment and break through the limits of his power.

The re-emergent linguistics in the 21st century redefines research methodologies and approaches in terms of cross-national cultural, social, political and economic boundaries targeting the equipment of the new generations with the needed skills and knowledge for adding their contribution to the understanding of global research markets in social sciences and humanities.

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