



Original Article

English Terminologies in Bengali: Origin and Development

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Abstract The formation of English terminologies in Bengali has a long history with its beginning in Bengal during the late middle age in the 18th century. The terminographic practice was initially an individual endeavour encompassing either translation or transliteration of English technical terms in Bengali; and then it started to develop institutionally with a theoretical basis, formulation policies and compilation strategies. The objective of this paper is to explore the origin and development of English terminologies in Bengali within the terminographic practice of lexicography and translation theory. This descriptive study applies historical method based on document analysis and content analysis of Bengali terminologies. The research finding will contribute to reveal the historicity in formation and compilation of terms in Bengali; and envisage the development of Bengali corpora in the field of terminology.

Keywords: Terminology, English, Bengali, Origin and Development

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1. Introduction

English terminologies started to be assimilated in Bengali with the expansion of epistemological space during the 18th century in Bengal. The English colonizers initiated the tradition of terminology formation as a colonial project of cultural hegemony and political control over the territory [1]. The native writers, lexicographers and terminologists have consequently continued its reconstruction to establish correspondence; and encode and decode

the forms of knowledge in Bengali. The terminographic practice has assumed to be problematic for its involvement of concept and meaning in two different languages of diverse demographics, geographies and cultures; as well as for a lack of entries signifying the relevant context and cotext of the translation equivalents within the field of semiotax [2]. The question of definability, monosemy, translatability and cultural turn; and the trend toward specialization with a bewildering array of new disciplines and technologies pose a major

Concern between the source term and the translated term in the process of translation. This historical study aims to explore the origin and development of English terminologies in Bengali based on document analysis and content analysis in the context of the terminographic practice of lexicography and translation theory.

2. Terminology and its basic characteristics

The English word 'terminology' derives from the Latin root 'terminus' meaning a term; and its equivalent in Bengali is '*paribhaṣa*,' a primary derivative from the Sanskrit root '*bhaṣ*' preceded by the prefix '*pari*' meaning a definition [3]. A term is a word or a multiword expression that designates a mono-referential concept within a given subject field; and a word becomes a term by being used to specify a concept in a particular field of study. The basic characteristics of a term include its precision or monosemy, its univocity or absence of synonymy, its semiotic conception of designations, its exclusive interest in the lexicon leaving aside all other linguistics levels, its synchronic treatment and its priority of written registers within a language [4]. When a word or a term is to be transferred or translated from one language to another, the question of equivalence has to be emphasized for the accuracy and reliability of meaning encompassing the principles and techniques applied in a unilingual context pertinent to translation studies.

Terminology is itself etymologically a polysemous misnomer with different specialized senses. It commonly refers to a set of terms within a particular domain of knowledge, technology or any specialized area of human endeavour as a subject field; and the systematic study of the designations of concepts in a given subject field. It is also used to designate the actual application of the theoretical principles of the discipline in order to identify the terms employed in a given field of study. Terminology as a discipline is concerned with the collection, description, processing and presentation of specialized lexical items in specialized dictionary compilation, specialized translation, document indexing or classification, knowledge modeling, language planning, and standardization. It does not concern itself with the etymology of terms, but only with the term used to designate a given concept and its equivalent. International, regional or national terminology organizations, specialized public, semi-

public, or non-profit institutions are engaged in terminological activities applying conscious planning, unification and standardization of designations; exclusive use of the onomasiological approach in contrast with the semasiological approach of lexicography and a preference for systematic ordering. International Information Centre for Terminology (Infoterm), an organization founded by contract with UNESCO in 1971, supports and coordinates international cooperation in terminology policies, strategies and legal issues within the field of terminology [5]. The procedure to be followed in the preparation of vocabularies in terminology is to identify concepts, establish concept systems, formulate definitions, and finally select and form terms. The need to provide a designation for a new concept is primarily met by adopting the source-language word into the target language. Then the need is filled by using a target-language word or a loanword from a common ancestral language; and finally, by creating a neologism or a new term with a word having a parallel in the target or ancestral language in accordance with the linguistic exigencies of the target language.

The first usage of terminology is recorded as referring to a coherent set of terms belonging to a single subject field for ordering, transferring and disseminating knowledge. The concern with terminology and terminological activity can be traced in compiling systematic glossaries within lexicographic practice for the philosophical foundations of terminological studies and the growing internationalization of science in the 19th century. Linguists and lexicographers attempted to organize specialized and scientific knowledge in structures and develop methods of standardization in the field of terminology. However, the structural approach of linguistics was too restrictive towards formal aspects of languages to be able to account for the specificity of the semantic aspects of specialized terms and signs. The twentieth century has a claim to recognize terminology as an autonomous interdisciplinary field of study attributed to Eugen Wüster. Wüster developed his conception of terminology based on his terminographic experience as an engineer involved in national and international terminology standardization and his compilation of plurilingual dictionary of standardized technical terms. His General Theory of Terminology (GTT) was designed to eliminate ambiguity from technical languages by means of standardization of terminology in order to make them efficient tools of

communication, to convince all users of technical languages of the benefits of standardized terminology and to establish terminology as a discipline with the status of a science for all practical purposes [6]. He set three major tasks: the development of standardized international principles for the description and recording of terms; the formulation of general principles of terminology; and the creation of an international centre for the collection, dissemination and coordination of information about terminology under the sponsorship of UNESCO. However, Wüster's traditional theory of terminology has been challenged from the 1990s to supplement its deficiencies; and the critique comes from language sciences, cognitive sciences and communication sciences for the complexity and plurality of terms in their real and varied communicative context and the barriers of linguistic and cultural traditions to mutual understanding in the context of equivalence.

Equivalence is, in terminology, a relation of equal value between a source text and a target text in a given subject field. It determines the common designation of a single concept by two terms in two different languages based on their identity specification. The notion of equivalence forms the crux of terminology research and its actual research method. When an equivalent for a term is to be determined, a set of policy and planning activities such as the choice of language, vocabulary research, background information of a subject field, documentation, preliminary selection through scanning, collation of data, conceptual match, etc. are required to establish the term with its equivalent. The relation between a source text and a target text and the conceptualization of culture and norm can motivate the existence of the three types of equivalent relations: congruence, divergence and zero equivalence in translation equivalent paradigm. The basic idea of equivalence historically appeared in the early research on machine translation in the modern age, and then the concept has consequently become a key element in lexicography, terminology and translation studies during 1960s and 1970s. The conceptual and semantic horizon in terminology is revolutionized with the ideas of Eugene Nida, Peter Newmark, Geoffrey Leech, Gideon Toury and others to ensure equivalence between the source text and the target text. Wüster's GTT represents an attempt to sharpen the distinction between lexicography and terminology to arrive at an autonomous discipline in which terms are no longer considered as units of natural language, rather as concepts of

internationally unified features expressed by means of equivalent signs of different linguistic and non-linguistic systems. The notion of equivalence faces a serious problem inevitably bound up with the definition of meaning leading to enquire what types or aspects of meaning it is expedient to operate with and what facets should or can be retained in transfer or translation of terminologies. The equivalence of a term in its target text is expected to be unambiguous with only one effective meaning in a given context, even if it has more than one sense; as a term is neither a synonym nor an explanatory definition, rather a naming word of a concept.

3. Origin of terminologies in Bengali

The history of terminology in the Indian subcontinent can be traced back to the Vedic period when a rich collection of terminology in *ayurveda*, astronomy, mathematics, etc. was formed in Sanskrit. The terms 'অবতার'/*avatar*/(an incarnation of a deity in human form or an electronic image), 'পণ্ডিত'/*pundit*/(a Hindu scholar learned in a particular field), 'মন্ত্র'/*mantra*/(a motivating chant repeated to aid concentration), 'শূন্য'/*sunya*/(zero or a number representing an empty quantity), 'যোগ'/*yoga*/(a meditation to control body and mind), etc. are the contribution of the ancient India [7]. The Vedic Aryan language and culture started to enter Bengal in the *Maurya* period; and the Aryanization of Bengal is believed to be completed by the 6th-7th century AD. Shilabhadra, the *mahacharya* with unique knowledge in *Sutras* and *Sastras* at Nalanda Monastery, and Chandragomin, the founder of the Chandra school of Sanskrit grammar, hailed from the ancient Bengal; and their contribution in the field of language and literature flourished Brahmanical and Buddhist culture in Bengal [8]. Then the ancient *Charyapada* poets or *siddhacharya* formed a good number of terminologies on tantric tradition in the *Charyapada* composed during the 10th century in *sandhyabhaṣa* or twilight language, a semantic predecessor of modern Bengali. The terms 'নির্বাণ' (নির্বাণ)/*nirvana*/(the ultimate goal of the spiritual journey in Buddhism with the extinction of suffering and its causes); 'মায়াজাল' (মায়াজাল)/*mayajal*/(magical spell); 'চণ্ডালি'/*chanadali*/(a Hindu lower caste woman dealing with the disposal of corpses), etc. are found in the *Charyapada* manuscript [9]. The *Vaishnava* poets in the middle age exercised the

philosophical doctrine of *bhakti*; and formed their own terminologies to spread their epistemology in the field of literature through *Vaishnava padavali*. Vidyapati, Chandidas, Gnanadas, Govinda Das, Vrindaban Das and others used *Vaishnava* terminologies in their poetry to express their philosophical thoughts. Terminologies found in *Vaishnava* poetry are ‘অনুরাগ’/*anurag*/(passion), ‘অভিসার’/*abhisar*/(love tryst or a secret rendezvous between two lovers), ‘লীলা কীর্তন’/*lila kirtan*/(a hymn offered to a deity), ‘রতিভাব’/*ratibhab*/(delightful state of mind), ‘প্রভু’/*prabhu*/(a spiritual lord), etc. The Sufis and the Bauls of Bengal also formed terminologies based on their spiritual and mystic ideologies of Sufism and Baulism; and their common terminologies are ‘দেহঘড়ি’/*dehaghari*/(circadian cycle), ‘মনের মানুষ’/*maner manush*/(soulmate), ‘অচিন পাখি’/*achin pakhi*/(soul), ‘মনবেড়ী’/*manaberi*/(mental bond), etc. In fact, the Vedic, tantric, Vaishnava, Sufi and Baul traditions of Bengal formed, compiled and promoted their own terminologies for transferring knowledge in Bengali.

The contact of Bengali with European languages particularly Portuguese, French and English influenced the lexicographic and terminographic practice in Bengal, introduced loanwords, changed spelling system, affected standardization process, and brought new perspectives on language [10]. The European encounter was central to the development of comparative and historical linguistics and the birth of the concept of the Indo-European language family. The establishment of a permanent settlement in Cochi by the Portuguese in 1500 heralded the beginning of the interaction; and the Portuguese eventually came to Bengal with the view of the expansion of trade and the propagation of the Christian faith in 1517 [11]. The root of English in the Indian subcontinent is customarily traced back to 31 December 1600; and the British East India Company brought English to the shores of India as an extraneous language [12]. The English traders had begun to penetrate into the interior of Bengal in the mid-seventeenth century and James Hart, an agent of the company, appeared to have been in Dhaka in 1658 [13]. The Company attained the political control of Bengal in the Battle of Plassey in 1757 and acquired the legal right of *Diwani* over Bengal, Bihar and Orissa from the Mughal Emperor Bahadur Shah in 1765. The establishment of *Diwani Adalat* in 1772

and Supreme Court in 1774 in Kolkata under the Regulating Act, 1773 and the influence of Kolkata as a colonial capital accelerated the necessity of Bengali for the company officials and English for the native Bengalis to grab administrative and commercial benefits.

Jonathan Duncan’s *Translation of the Regulations for the Administration of Justice in the Courts of Dewanny Adawlut* (1784) was the first individual attempt to form English terminologies in Bengali. Duncan depended on translation strategies for English terminologies in Bengali. He had to face difficulties for the want of an existing translation model from English to Bengali, and the lack of equivalents in Bengali. His formation of terminologies could not rigourously incorporate the convention of Bengali morphology and semantics, no doubt; but some of his terminologies such as ‘jurisdiction’ (সীমাবন্দি), ‘regulation’ (ধারা), ‘officer’ (কর্মকর্তা), ‘suspend’ (স্থগিত), ‘punishment’ (দণ্ড), ‘partiality’ (পক্ষপাত), ‘contempt of court’ (আদালতের অপমান), etc. proved convenient and time-honored in Bengali [14]. The trend of translating company laws and regulations in Bengali continued as far as 1806; and a good number of legal terminologies were formulated in Bengali.

The English and Bengali bilingual lexicographers of the 18th and 19th centuries contributed in creating terminologies in Bengali. Henry Pitts Forster started the practice with his *A Vocabulary, English and Bongalee* in 1799; and then William Carey, Graves Chamney Haughton, William Morton, Ram Comul Sen and others advanced the trend. Forster formed ‘abbreviation’ as ‘সংক্ষেপ’/*songkhyep*/, ‘poison’ as ‘বিষ’/*bish*/or ‘গরল’/*garol*/, ‘signature’ as ‘সহী’/*shohee*/or ‘স্বাক্ষর’/*shwakhor*/, ‘tradition’ as ‘প্রাচীনকথা’/*pracheengatha*/, ‘ইতিহাস’/*itihash*/or ‘পুরাতনকথা’/*poorathankatha*/, etc. [15]. Carey created ‘alphabet’ as ‘অক্ষরমালা’/*aksarmala*/, ‘science’ as ‘বিজ্ঞান’/*bijnana*/, ‘surname’ or ‘nick-name’ as ‘উপনাম’/*upanam*/, etc. [16]. Ram Comul Sen formulated ‘academy’ as ‘বিদ্যাবর্দ্ধনার্থক সমাজ, বিদ্যাভ্যাসস্থান, বস্ত্তবিদ্যালয়,’ ‘equability’ as ‘তুল্যত্ব, সমানতা, সমতা, সাদৃশ্য, একরূপকতা,’ ‘geometry’ as ‘স্বাবৃত্ত বা বিস্তৃত্ত বা বহুত্ববিষয়ক বিদ্যা,’ etc. [17]. This trend continued in the 20th century Bengali lexicography; and Rajshekhar Basu in his dictionary *Chalantika* (1930)

and Kazi Abdul Odud in his dictionary *Baybaharik Shabdakosh* (1953) appended a list of compiled terminology. The institutional formation of terminology in Bengal was initiated by the British textbook writers with the establishment of the Calcutta School Book Society. The Charter Act of 1813 compelled the East India Company to accept responsibility for the education of the mass, and open educational institutions under their control. The initiative set the foundation of Calcutta School Book Society in 1817 for the preparation, publication and distribution of books useful in schools and seminaries with the help of missionaries, colonial administrators and local intelligentsia. The Society commissioned and published textbooks in Bengali with an emphasis on arithmetic and geography. *Ankapustakang* or *Ganita*, an arithmetic textbook by Robert May in 1817; *Ganitanka*, a book on arithmetic by John Herle in 1819; and *Bhugol Brittanta*, a geography text by W. H. Pearce in 1819 were produced by the Society as its early publications for the use of students in schools.

Felix Carey, a Baptist missionary and son of William Carey, is credited to pioneer the conventional terminology formation in Bengali with the addition of a list of terms entitled “Glossary of Words Used in the History of England” in his Bengali translation *Britts Desiya Bibaran Samuccay* based on Goldsmith's *History of England* in 1819 [18]. He compiled *Baybacched Bidhyabhidhan* [A Dictionary on Anatomy]; and began to work on *Vidyaharabali*, a Bengali encyclopedia translated from the fifth edition of *Encyclopedia Britannica*. Felix's linguistic trend substantiated that he utilized the ancient glossaries; accommodated a Sanskrit or Bengali single word; and compounded vernacular words instead of English to coin a new term in Bengali about two hundred years ago. His formation of ‘anarchy’ as ‘অনাধিপত্য’/anadpatya/, ‘bachelor’ as ‘বিদ্যালঙ্কার’/bidyalankar/, ‘engineer’ as ‘কলপ্রজ্ঞ’/kalprajna/, ‘cabinet’ as ‘মন্ত্রীসভা’/mantrisabha/, ‘chairman’ as ‘সভাপতি’/sabhapati/, etc. shows his endeavour to determine semantic characteristics of equivalence in Bengali terminology [19].

Raja Rammohun Roy advocated the vernacularization of western knowledge in Bengal emphasizing on terminology creation in Bengali for making knowledge accessible to the native masses. He authored the first complete Bangla grammar

Gauriya Vyakaran published by the Calcutta School Book Society in 1833 based on his 1826-text *Bengalee Grammar in the English Language*. John Mack, a Scottish missionary in the Serampore Mission, composed an elementary treatise on chemistry titled *Principles of Chemistry* or *Kimiyabidya Sar* in 1834; and translated the concept of chemical knowledge in Bengali with the help of Felix Carey [20]. Mack was confused about the use of Sanskrit, English and Bengali words in the process of translation as well as the accuracy of equivalence in terminology formation. He translated the term ‘chemistry’ as ‘কিমিয়াবিদ্যা’; ‘movement’ as ‘সংলড়ন’; ‘cohesion’ as ‘সংলাগাকর্ষণ’; etc. in his Bengali version of *Principles of Chemistry*. Mack's formation of ‘atom’ as ‘পরমাণু’; ‘combustion’ as ‘দহন’; and ‘vapour’ as ‘বাস্প’ displays the semantic characteristics of terms; and the terms are eventually accepted by the Bengali speech community. Then William Yeats composed *Padarthabidyasar*; and contributed in scientific terminology formation on physics. Rev. Krishna Mohan Banerjee formed terminologies on history, geography, mathematics and ethics in his *Vidyakalpadruma* or *Encyclopaedia Bengalensis*, a thirteen-volume English-Bengali adaptation of *Encyclopedia Britannica* in 1846. Banerjee formed ‘algebra’ as ‘বীজগণিত’; ‘arithmetic’ as ‘অঙ্কগণিত’ and ‘geometry’ as ‘ক্ষেত্রতত্ত্ব’ in his *Vidyakalpadruma*. Then Madhusudan Gupta translated Robert Hooper's *The Anatomist's Vade-mecum: Containing the anatomy and physiology of the human body* in Bengali; and rendered ‘anatomy’ as ‘এনাটোমী’, ‘cellular tissue’ as ‘কৌষিক ঝিল্লী’, ‘glands’ as ‘গ্রন্থিগণ’ in his translation. Akshay Kumar Datta wrote *Bhugol* (1841) and *Padarthavidya* (1857); and translated George Combe's *The Constitution of Man Considered in relation to External Object* in the *Tattvabodhini Patrika*. He attempted to promote science as an integral part of the Bengali culture in the 19th century; and formed a good number of scientific terminologies in Bengali. Mack, Banerjee, Gupta and Datta created new terms to transfer the European scientific concepts in Bengali for the absence of equivalents in Bengali epistemology.

4. Development of Terminologies in Bengali

The preliminary theoretical framework of Bengali terminology was developed by Rajendralal Mitra;

and his *A Scheme for Rendering European Scientific Terms into Vernaculars of India* was the first theoretical work to standardize European terminology in Indian languages. The 1877 scheme contained ideas for the vernacularization of scientific discourse for the enrichment of Bengali. Mitra suggested that all European terms except the names of objects, equipment, devices and binomial names should be translated into Indian languages. Mitra's theoretical framework was subsequently advanced by Ramendrasundar Trivedi, Rabindranath Tagore, Rajshekhar Basu, Gyanendralal Bhaduri, Suniti Kumar Chatterji, Muhammad Shahidullah and Muhammad Enamul Huq. They composed a huge number of terminologies in Bengali; tried to formulate a scientific formula for the formation of Bengali terminologies; and their directions are consciously or unconsciously followed by succeeding Bengali terminologists.

Terms and scientific terms assumed to be synonymous in early terminology formation in Bengali; and therefore, humanistic subject fields drew less attention. However, major writers of Bengali language and literature formed new terminologies on literature, history, philosophy, politics and even science in their writings; and provided a theoretical structure for the compilation of correct and verifiable terminologies. Ishwar Chandra Gupta, Mrityunjay Vidyalankar, Ishwar Chandra Vidyasagar, Bhudev Mukhopadhyay and Ramkamal Bhattacharya contributed to standardize Bengali in the early stage of terminology formation. Vidyasagar translated Marshman's *Outline of the History of Bengal* in Bengali, and formed a good number of terms in his writings to enrich Bengali terminology. Vidyasagar formed 'colony' as 'উপনিবেশ', 'elasticity' as 'স্থিতিস্থাপকতা', 'microscope' as 'অণুবীক্ষণ', 'telescope' as 'দূরবীক্ষণ', 'university' as 'বিশ্ববিদ্যালয়', etc. [21]. Vidyasagar prioritized Sanskrit and stressed on translation strategy instead of transliteration strategy in his terminology formation.

Ramendrasundar Trivedi was an innovator in theoretical and practical terminology in Bengali. His two articles titled 'Baiggyanik Paribhasha' [Terminology of Science] and 'Rasayanik Paribhasha' [Terminology of Chemistry] set the basic principle of Bengali terminology formation; and formulated a three-point principle for scientific terms in Bengali.

"A terminology in Bengali is to possess," said Trivedi, "a specific, restricted and distinct meaning without a specific, restricted and distinct meaning without any connotation in its application [22]." He formed 'mass' as 'বস্তু', 'lens' as 'পরকলা', 'oxygen' as 'অক্সিজেন', etc. in Bengali; and stressed on the referentiality and convenience of terms. Trivedi opted for the use of an original English word or a loanword from Sanskrit or a native Bengali word in terms of its competitive advantage, utility and convenience for Bengali terminology formation.

Rabindranath Tagore popularized the concept of *paribhasaha* in Bengali; and contributed in formulation, compilation, standardization and harmonization of terminologies in Bengali. He emphasized on the simplicity, expressiveness and credibility of terminologies without any bias towards English, Sanskrit, Arabic-Persian or native Bengali words. Tagore created terms on humanities, sciences and social sciences; and he obstructed the use of terminologies deemed inappropriate to him on the ground of verbosity. Tagore's use of 'apparatus' as 'উপকর', 'baptism' as 'অব্ধুদীক্ষা', 'culture' as 'সংস্কৃতি', 'deficiency' as 'উনতা', 'grandiloquence' as 'বাগ্‌ডম্বর', 'institution' as 'প্রতিষ্ঠান', 'juvenility' as 'তরুণিমা', 'lithograph' as 'মুদ্রালিপি', 'misogynist' as 'স্ত্রীদ্বেষী', and 'tradition' as 'ঐতিহ্য' shows his perceptivity and concern for the semantic aspects of Bengali terms [23].

Bangiya Sahitya Parishat and its *Sahitya-Parishat-Patrika* set a systematic, continuous and institutional foundation of Bengali terminology during 1894-1923. Apurbachandra Dutta, Ramendrasundar Trivedi, Yogesh Chandra Roy, Madhab Chandra Chattopadhyay and Kalidas Mallik wrote on terminologies in the *Patrika*; and a good number of scientific terms were formulated in Bengali. Then a science journal named *Prakriti* spearheaded the effort from 1924; and Ekendranath Ghosh, Umapati Bajpayee, Gyanendranarayan Roy, Gyanendralal Bhaduri and Manindranath Bandopadhyay compiled Bengali terminologies. Gyanendralal Bhaduri's *Pranibiggyaner Paribhasha* is a major text and a classic of scholarship in Bengali terminology. Bhaduri categorically documented a European terminology with its definition, then listed its Bengali equivalents with their historicity and acceptability, and finally selected the best equivalent with its meaning. A specimen is given below to show Bhaduri's procedure in comp terminology:

Metamorphosis- [Gk. *meta*, beyond; *morphe*, form] Change of form and structure undergone by an animal from embryo to adult stage, as in insects; interference with normal symmetry in flowers; internal chemical change. [I. F. Henderson, and W. D. Henderson, *A Dictionary of Scientific Terms*, 2nd Edition (London: Oliver and Boyd, 1929), 188.]

Metamorphosis-(Gk. *meta*, change; *morphe*, shape) a marked change in form or function. [R. W. Hegner, "Glossary," in *An Introduction to Zoology* (London: Macmillan and Co., 1926), 331.]

1851 রূপরিণামঃ, রূপান্তরঃ, দেহান্তরঃ, আকারপরিণামঃ, রূপবিকারঃ, রূপভেদঃ, শরীরবিকারঃ, পরিণামঃ, বিকারঃ, বিকৃতিঃ [M. Williams, *A English-Sanskrit Dictionary* (Oxford: Clarendon Press, 1851), 497.]

1893 রূপরিণামঃ, রূপরিবৃদ্ধিঃ, রূপভেদঃ রূপান্তরং, রূপ-শরীর-বিকার [V. S. Apte, *The Students English-Sanskrit Dictionary* (Delhi: Motilal Banarsidass, 1893), 265]

1903 রূপান্তর [যোগেশ রায়, সাহিত্য-পরিষৎ-পত্রিকা ১০, ১ম সংখ্যা (১৩১০): ৪৪।]

1917 দেহান্তরায়, শরীরপরিবৃদ্ধি, রূপান্তর, আকারপরিবর্তন, রূপভেদ, রূপপরিণাম, দেহান্তর, স্বরূপভেদ [C. Guha, *The Modern Anglo-Bengali Dictionary*, Vol. II (Kolkata: Nabapatra Prakasan, 1916), 1317.]

1927 রূপান্তর, শরীরপরিবৃদ্ধি [একেদ্রনাথ ঘোষ, প্রকৃতি ৩, ৬ষ্ঠ সংখ্যা (১৩৩৪): ৫০৯।]

1928 আকৃতি পরিবর্তন [চিন্ময় রায়, ভারতবর্ষ ১৪, ৪র্থ সংখ্যা (১৩৩৪): ৭৫৯।]

1934 রূপান্তর [রাজশেখর বসু, চলচ্চিত্র, ২য় সংস্করণ (১৩৩৪), ৬৪৫।]

Metamorphosis- রূপান্তর [জীবের পরিস্ফুটনে আকৃতি ও গঠনাদি পরিবর্তন হইয়া বর্জিত হওয়ার ধারা [24]]

Bhaduri accepted the equivalent of 'metamorphosis' as 'রূপান্তর' formed by Yogesh Chandra Roy based on Monier Williams for its better claim. Bhaduri's terminological research is unique in the context of scientific terms; and is applicable to any subject field for correctness and verifiability.

University of Kolkata undertook the initiative of terminology compilation in line with *Bangiya Sahitya Parishat*, *Sahitya-Parishat-Patrika* and *Prakriti* during 1930s. The *Paribhasha Samiti* of University of Kolkata compiled terminologies in Bengali and published glossaries of scientific terms on mathematics, physics, geography, botany, economics, physiology, chemistry, zoology, psychology, geology, etc. from 1935 to 1943. The university compiled 'acid' as 'অম্ল, অ্যাসিড,' 'bacteria' as 'ব্যাকটেরিয়া,' 'gall-bladder' as 'পিত্তাশয়, পিত্তস্থলী,' 'observation' as 'পর্যবেক্ষণ, নিরীক্ষণ, অবক্ষণ,' 'nucleus' as 'নিউক্লিয়াস,' 'physiology' as 'শারীরবৃত্ত, শারীরবৃত্তি,' 'zinc dust' as 'দস্তা-রজ,' etc. The *Paribhasha Samiti* established by West Bengal Government in 1948 has endeavoured to compile technical terms for public services, particularly administration, judiciary, legislature, etc. The West Bengal Government compiled 'academy' as 'পরিষদ,' 'census' as 'জনগণনা, আদমশুমার,' 'democracy' as 'গণতন্ত্র, লোকতন্ত্র,' 'executive officer' as 'নির্বাহক,' 'jurisdiction' as 'অধিকারক্ষেত্র, অধিক্ষেত্র,' 'penal code' as 'দণ্ডসংহিতা,' 'syndicate' as 'নিষদ,' 'warrant' as 'আধর্ষপত্র; বরণপত্র, অধিপত্র,' etc. in its public services.

Bangla Academy and Central Board for Development of Bengali initiated terminology compilation in pre-independence Bangladesh in 1959 [25]. They brought out several glossaries of terminology on science, humanistic, social science

and business disciplines. The preliminary compilation lacked a solid theoretical foundation and policy framework; and was somewhat based on terminologies compiled by University of Kolkata and West Bengal Government [26]. However, the scenario changed with the independence of Bangladesh; and Central Board for Development of Bengali merged with Bangla Academy in accordance with the Bangla Academy Order, 1972. Bangla Academy formed a central committee on terminology in 1976. The committee formulated a policy how to collect English terminologies in Bengali, select Bengali equivalents or synonyms for terminologies, categorize and order terminologies, and finally compile terminologies in Bengali. University of Dhaka, National Curriculum and Textbook Board (NCTB) and Ministry of Public Administration have also contributed in creating and compiling terminologies in Bengali. Bengali Language Implementation Cell under the jurisdiction of Ministry of Public Administration compiled a terminology of administration in consultation with Bangla Academy in 1987 when the government legislated *Bangla Bhasha Prachalan Ain*, 1987 to enact Article 3 of the Constitution.

Bengali is recognized as the state language in the Constitution of Bangladesh; and is incorporated in the eighth schedule of the Constitution of India. Bangla Academy is entitled to compile dictionaries, encyclopedias and terminologies in Bangladesh in accordance with Bangla Academy Act, 2013 [27]. Paschimbanga Bangla Akademi is similarly the official regulatory body entrusted with the responsibility of compiling dictionaries, encyclopedias and terminologies to promote Bengali

language and culture in India. They institutionally form, compile and promote terminologies on a consideration of theoretical and methodological issues. Bangla Academy has tried its best within its capacity to perform its statutory responsibility of

compiling terminologies with the help of the leading academicians and professionals in a given field. However, a list of terminologies compiled and published by Bangla Academy will show the dimension of terminological research in Bangladesh:

Table 1: A list of terminologies by Bangla Academy

Terminologies/Glossaries/Dictionaries	Year of Publication
<i>Padartha-Vidya Paribhasha</i> [Terminology of Physics]	1959
<i>Arthanitik Paribhashakosh</i> [Terminology of Economics]	1966
<i>Rashayan Paribhashakosh</i> [Terminology of Chemistry]	1967
<i>Padartha-Vidya Paribhashakosh</i> [Terminology of Physics]	1968
<i>Tathya Ganit Paribhashakosh</i> [Terminology of Statistics]	1970
<i>Ain Paribhashakosh</i> [Terminology of Law]	1970
<i>Antarjatik Ain Paribhashakosh</i> [Terminology of International Law]	1970
<i>Bhasha O Sahitya Paribhashakosh</i> [Terminology of Language and Literature]	1970
<i>Bhashatattya Paribhashakosh</i> [Terminology of Linguistics]	1970
<i>Ganitshashtra Paribhashakosh</i> [Terminology of Mathematics]	1971
<i>Rastrabigyan Paribhashakosh</i> , Vol. I & II [Terminology of Political Science]	1974
<i>Prashasanik Paribhasha</i> [Bengali Equivalents of English Terms Used in Administrative Work]	1975
<i>Bhougolic Paribhashakosh</i> [Terminology of Geography]	1976
<i>Itihas Paribhashakosh</i> [Terminology of History]	1976
<i>Darshan O Monovidya Paribhashakosh</i> [Terminology of Philosophy and Psychology]	1978
<i>Baiggyanik Shabdakosh</i> , Vol. I & II [Glossary of Science]	1979, 1982
<i>Granthagar Bijnan Paribhasha</i> [Terminology of Library Science]	1984
<i>Shikhsya Paribhasha</i> [Terminology of Education]	1985
<i>Pranibijnan Paribhasha</i> [Terminology of Zoology]	1985
<i>Udbhid Bijnan Paribhasha</i> [Terminology of Botany]	1985
<i>Samajbijnan Shabdakosh</i> [Glossary of Sociology]	1985
<i>Puratattva Paribhasha</i> [Terminology of Archaeology]	1985
<i>Udbhidbidya Shabdakosh</i> [Glossary of Botany]	1986
<i>Pranrasayan Shabdakosh</i> [A Dictionary of Biochemistry in Bengali]	1990
<i>Ainkosh</i> [A Dictionary of Law]	1991
<i>Baboshaya Paribhasha</i> [Business Terminology]	1993
<i>Janasangka Shabdakosh</i> [A Glossary of Population]	1995
<i>Parliamentary Shabdakosh</i> [A Dictionary of Parliamentary Terms]	1998
<i>Jotirbijnan Shabdakosh</i> [Dictionary of Astronomy]	1998
<i>Nribijnan Shabdakosh</i> [Glossary of Anthropology]	1991
<i>Koulitattya O Udbhid Prajanon Shabdakosh</i> [Genetics and Plant Reproduction Glossary]	2001
<i>Padarthabijnan Shabdakosh</i> [Glossary of Physics]	2009
<i>Jiboprojukti Shabdakosh</i> [Glossary on Biotechnology]	2011
<i>Byabaharik Computer Shabdakosh</i> [Practical Computer Glossary]	2013
<i>A Glossary of Folklore</i>	2018
<i>Banking Shabdakosh O Banking Paribhasha</i> [Glossary and Terminology of Banking]	2020
<i>Prakawshal Paribhashakosh</i> [Terminologies of Engineering]	2020
<i>Pratibandita Shabdakosh</i> [Glossary of Disability Terminologies]	2021

Source: The list is developed based on Bangla Academy, *Bangla Academy Prakashana* [Bangla Academy Publications] (Dhaka: Bangla Academy, 2019-2024).

Bengali terminology has seen a widespread extension over the last decades with its strengths and pitfalls. The British colonialism, Bengal Renaissance, the statutory recognition of Bengali and the independence of Bangladesh paved the way of terminology formation in Bengali. The major controversies in Bengali terminology formation are a debate whether to use Bengali, Sanskrit or English as a target language; and the question of equivalence in terms of monosemy, univocity and unambiguity. A number of terminologists prefer Sanskrit to English, one group prioritizes English and another group opts for Bengali. The problem has accelerated with the geographical and political division of the Bengali speech community, the diverse status of Bengali in Bangladesh and India; the fluctuation in terms of policy and planning dynamics; and the expansion of Bengali-speaking diaspora. Moreover, there has been a sort of incoordination in Bengali terminology since its inception. Individual writers, lexicographers and terminologists primarily formed terminologies without any coordination and theoretical basis; and then organizations preliminarily involved in terminology formation worked without any policy, planning or strategy. As a result, terminologies formulated by Ramendrasudar Trivedi are somewhat different from Rabindranath Tagore; or terminologies compiled by University of Kolkata sometimes differ from Bangla Academy. Administrative terminologies compiled by West Bengal Government, Bangla Academy, Paschimanga Bangla Akademi and Ministry of Public Administration, Bangladesh differ in their Bengali equivalents; and the term 'territory' has become "রাজ্যক্ষেত্র, ক্ষেত্র, স্থান, কেন্দ্রচালিত প্রদেশ, রাষ্ট্রীয় সীমানা, ভূ-খন্ড, এলাকা/অঞ্চল" in their compilation. The Constitution of Bangladesh has used the term 'territory' in its English draft; and formed its Bengali equivalent as 'রাষ্ট্রীয় সীমানা' in Article 2 [28]. The Constitution tried to maintain monosemy, univocity and unambiguity in forming terminologies whereas organizations assigned with terminology compilation used equivalents with synonyms to designate a concept in a given subject field.

The formation of English terminologies in Bengali was initiated with a colonial project, then it expanded with the necessity of communication and finally it has become a tool of knowledge dissemination. The qualities of monosemy and univocity; and the characteristics of unambiguity and functionality are somewhat violated in Bengali

terminology formation. There was always scope to settle down a single equivalent for homogeneity and harmonization; but the opportunity of uniformity was somehow missed in terminology compilation. The conflict of language preference overshadows efficacy and simplicity; and violates equivalence in Bengali terminologies in the context of qualities and characteristics of a term. Moreover, the mono-referential concept of a term in a given field of study was sometimes compromised for the sake of the multilevel meaning of a word. A term is not merely formed and compiled to be preserved in a glossary rather a term demands an elaboration of function and a wide acceptance by the speech community for its sustainability. A strategic coordination in the level of policy and planning is expected to accommodate new terminologies and avoid inconsistencies in formation and compilation of Bengali terms for the convenience of the Bengali stakeholders.

5. Conclusion

Language is in perpetual change within the general framework of specialized communication for its enrichment; and terminologies are a necessity to standardize and harmonize a language in order to be able to cope with the fast development of science and technology. The construction of new knowledge and access to scientific know-how are necessary for a country for its epistemological expansion. The necessity has increased in the last couple of decades with a heavy influence by electronic revolution and rapid expansion of global knowledge to meet the challenges of the new century. However, the Bengali language has evolved through a complex linguistic background with a somewhat anomalous linguistic situation of its 200-year-old British colonialism and an exposure to European knowledge. Bangladesh is to depend historically and functionally on English for its control over knowledge and technologies. English terminologies in Bengali must account for the cognitive, communicative and functional aspects of language beyond the limits of structural linguistic framework and the standard generative models of terminology. Bengali lexicographers and terminologists should ensure unambiguity and functionality of terms in their formation integrating basic justifications, principles and processes to describe the intrinsic components of terminological units and their equivalents.

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