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LATIN'S ROLE AND FUTURE PROSPECTS IN MEDICAL TERMINOLOGY

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ABSTRACT

The current paper provides a contemporary perspective on Latin's role as the language of medicine, specifically focusing on its terminological aspect. It delves into the essential terminological vocabularies indispensable for medical practitioners, with particular emphasis on three fundamental categories. Foremost among these is anatomical terminology, which continues to predominantly utilize Latin on an international scale. Clinical disciplines present a more diverse scenario, where alongside Latin terms, expressions from ancient origins, often in ethnic languages, are extensively employed. Additionally, driven partly by the demands of digitization, there have been repeated efforts to promote English as a potential successor in the realm of clinical medicine, owing to its widespread adoption. In pharmaceutical terminology, Latin persists as a vital means of global communication, upheld by the European Pharmacopoeia (2014) and the International Non-proprietary Names corpus (2013, 2017). Nonetheless, future considerations should acknowledge the growing competition from national languages in this domain.

KEYWORDS

Latin; language of medicine; anatomical nomenclature; clinical terminology; pharmaceutical Latin.

INTRODUCTION

Latin has long held a prominent role in various scientific fields, particularly in medicine. Throughout the Middle Ages, medical texts written in Latin were the norm,

with exceptions being rare. However, starting from the 16th century, the dominance of Latin began to diminish as modern languages gained traction. This shift was

particularly noticeable in France, where there was even a court case against a doctor named Rivière, who was challenged for his inadequate command of Latin, signaling the beginning of Latin's retreat from medicine in that region. Italy and later England followed suit. Conversely, in Germany and central Europe, Latin persisted in medical education until the 19th century.

Medical professionals themselves expressed discontent with this reliance on Latin. Renowned figures such as the German doctor L. Schönlein voiced concerns about the hindrance posed by Latin in clinical instruction. They argued that the rapid development of new terms in the natural sciences, which heavily influenced medicine, made the search for Latin equivalents a futile endeavor. This dilemma led to decisions like Schönlein delivering his inaugural lecture for the Berlin Clinic in German in 1840.

Similarly, Viennese clinician J. Škoda found Latin to be burdensome. Despite his intentions to deliver his inaugural lecture in German, he was compelled to translate it into Latin at the last moment in 1846. However, he concluded his lecture by condemning the use of Latin and pledging to free medicine from its burden.

By the 19th century, the demand to liberate medicine from the shackles of Latin gained momentum. Disciplines in medical faculties, such as those in Prague,

ceased being taught in Latin by 1848. Yet, despite its discontinuation as a language of instruction and scientific discourse, Latin persisted in its role as the source of medical terminology, maintaining its indispensable position in the language of medicine.

Despite the evident decline of Latin within medical terminology during the 20th century, professional communication in national languages has predominantly utilized international Latin-Greek terms. This practice stems from well-known advantages: maintaining terminological consistency across geographical boundaries and historical periods, as these terms have remained relatively unchanged for over two millennia. Additionally, Latin and Greek provide a rich source of vocabulary that can be employed when creating new terms.

The inherent incomprehensibility of Latin and Greek to patients has been regarded as advantageous in certain contexts, as understanding the physician's utterances is not always necessary or beneficial for the patient. This phenomenon, termed the "mystery of foreign-language medical communication," suggests that the use of incomprehensible terminology may enhance the perception of the physician's competence.

Historical figures like Pliny the Elder and Montaigne have observed that people often trust what they do

not fully understand, further supporting the use of foreign-language medical communication.

However, the diminishing knowledge of Latin among newer generations of doctors poses a threat to this traditional mode of communication. Some educators have expressed concerns that medical students may no longer comprehend Latin, which could lead to misunderstandings in clinical settings. Furthermore, the emergence of English as a dominant language in modern medicine presents a challenge to the special terminological function of Latin. Opinions vary on the role and future prospects of English in medical terminology, with some suggesting that English has replaced Latin, while others argue that Latin and Greek have endured historical challenges and will continue to do so. Given the prevalence of Latin and Latinate terms in English medical terminology, it is reasonable to consider English as an extension of this tradition rather than a complete departure from it.

A cursory examination of English anatomical nomenclature reveals the presence of Latin not only in the nominative plural of certain nouns (e.g., fascia – fasciae, sulcus – sulci), but also in the nominative plurals of some adjectives (e.g., chordae tendineae, foramina nervosa, rami communicantes). Additionally, one can observe nouns in both genitive singular and genitive plural forms (e.g., orbicularis oculi/oris, crista galli, levator anguli oris, vasa vasorum, quadratus lumborum), graded forms of Latin adjectives (e.g.,

scalenus minimus, latissimus dorsi, levator palpebrae superioris, longissimus capitis), and even multi-word terms of purely Latin origin (e.g., flexor digiti minimi brevis, levator labii alaeque nasi). When Latin forms are incorporated, there is no consistent pattern observed in English nomenclature. Numerous instances exist where either the English version of the term or its Latin counterpart is used interchangeably (e.g., arteria thyroidea ima – deepest layer of subcutaneous tissue, foramen magnum – mental foramen, major/minor salivary glands – greater/lesser vestibular glands).

A similar scenario is encountered in clinical terminology. Some terms of Graeco-Latin origin are presented in English variation, primarily with Anglicized suffixes (e.g., peptic ulcer, thromboembolic pulmonary hypertension, acute viral gastroenteropathy, congenital omental cyst), while others are retained in their original Latin forms, albeit with English pronunciation (e.g., salpingitis, nephrolithiasis, colitis cystica profunda/superficialis, pseudomyxoma peritonei, tinea unguium/manuum/pedum/capitis). Hence, there is a debate on whether one can effectively grasp English medical terminology without a fundamental understanding of Latin.

Anatomical nomenclature

The forthcoming section of our paper will provide a concise overview of the three principal terminological

corpora and the current role of Latin within them. Foremost, attention will be directed towards anatomical terminology, where Latin holds the most entrenched position. Throughout history, all anatomical nomenclatures have been rooted in Latin. The formal recognition and endorsement of Latin anatomical nomenclature occurred at a congress of the Anatomische Gesellschaft in Basle in 1895, primarily driven by pressing needs of the time. The existing nominative system had become overly complex and saturated, impeding effective communication and threatening both scientific inquiry and medical education. The Basiliensia nomina anatomica (BNA, 1895) emerged from this context and remained in use within anatomical institutions and professional publications until 1935, when German specialists in Jena introduced a new project with significant factual and linguistic deviations from its predecessor. The emergence of the I(J)eniensia nomina anatomica (I(J)NA, 1935) during the fascist era may have presaged its unfavorable destiny. However, it also adhered to stringent linguistic standards, with classicists contributing to the preparatory work through consultations. Following World War II, American and Canadian anatomists proposed rejecting this corpus in favor of reverting to the Basle names, which underwent a conservative, minimally revised approach. Subsequent efforts, coordinated by the newly established International Anatomical Nomenclature Committee (IANC) since 1950, led to a

third standardization known as the Parisiensia nomina anatomica, named after the authorizing congress (PNA, 1955). From then on, the Parisian nomenclature, later abbreviated as Nomina anatomica (NA) from 1965 onwards, underwent six revised editions overseen by the aforementioned committee. Its primary goal was to address current demands, notably by introducing new terms for emerging concepts and rectifying factual and linguistic deficiencies. However, due to significant objections regarding organization and persistent technical disputes between the International Federation of Anatomical Associations (IFAA) and the nomenclature committee, culminating in the publication of the sixth edition in 1989 with minimal consideration for IFAA member feedback, a new committee was established under the auspices of the Federation, known as the Federative Committee on Anatomical Terminology (FCAT). This committee was tasked with developing "the official terminology of the anatomical sciences," based on consultations with all anatomical societies and emphasizing democratic principles in collaboration. The primary objectives involved naming new anatomical structures, introducing alternative terms, including those previously utilized solely by clinicians, and ensuring future versions meet the needs of all users across theoretical and clinical disciplines.

Overall, this approach can be interpreted as a shift towards a regulated yet significantly more liberal

treatment of terms, contradicting previous efforts aimed at deliberately eliminating synonymous expressions. After unsuccessful attempts to establish contact with IANC, the new team selected the 5th edition of NA, published in 1983, as their starting point. Initially, they prepared a working version, which underwent extensive international evaluation, with numerous suggestions incorporated into the final version. Subsequently, in 1998, a new corpus of anatomical terms, known as Terminologia Anatomica, was published. It's noteworthy that FCAT explicitly affirmed Latin as the language of "definitive terminology," a decision previously made only once at the 8th International Congress of Anatomists in Wiesbaden (1965). In presenting the new nomenclature to experts, I. Whitmore, chairman of FCAT, felt it necessary to justify this decision to potential skeptics. He highlighted Latin's attributes as a dead language, devoid of development and not tied exclusively to any country or nation. According to Whitmore, its use in terminology can be characterized as global and "non-secular," intended for worldwide professional application. Among the advantages of classical languages emphasized were constancy, international character, and neutrality compared to national languages. The professional utility of the new nomenclature corpus was positively evaluated by J. Drukker. In conclusion, it's worth noting that all editions of Nomina anatomica, including the latest, lack

the participation of Latinists in their revision, thus potentially diminishing the linguistic quality of the text.

Terminology of clinical medicine

The terminology of clinical disciplines presents a significantly more intricate and less uniform landscape. This complexity is understandable for several reasons. Firstly, the scope of clinical terminology is much broader, estimated to encompass up to 60 thousand terms. Secondly, there exists a distinction between descriptive disciplines like anatomy and histology, and clinical medicine, which undergoes more substantial changes. Some diseases have unknown causes, and new diseases emerge, leading to ongoing development and evolution of their names, therapies, and understanding.

Clinical terms, along with those related to pathological anatomy, are encountered in various contexts such as medical literature, physicians' daily practice in case documentation, diagnoses related to pathological anatomy, and normative medical terminology handbooks. In medical literature, traditional terms of Graeco-Latin origin predominantly prevail, although there is a growing presence of new expressions, particularly borrowed from English. For instance, in Czech, terms like stres, by-pass, and katgut/ketgat have emerged, alongside traditional terms such as gastritida/gastritída, hysterektomie/hysterektómia, hematom/hematóm, encefalopatie/encefalopatia, and

premedikace/premedikácia, often adapting to national language forms. However, this is not an absolute rule, as there are publications that consistently utilize Latin, sometimes in forms that may surprise contemporary readers. For instance, the Slovakian Vademecum medici includes constructions such as "hyperkinesis involuntaris de origine extrapyramidalis," "morbus ex irradiatione," "paralysis nervi facialis peripherica," and even "AIDS" in its Latin form "syndroma immunodeficientiae acquisitae." Similarly, the Czech text does not shy away from Latin, although domesticated terms are more prevalent. For example, terms like "pseudoappendicitis," "acanthosis nigricans maligna," "erythema exsudativum multiforme," "lichen ruber planus," and "mastopathia chronica cystica" can be found.

When documenting case records, doctors in our central European region still often prioritize Latin terms, even though they may resort to abbreviations or restructure sentences to avoid oblique cases. For example, instead of "status post bronchitidem," they may write "bronchitis, status post." While abbreviations can expedite work, they also contribute to the erosion of complete and accurate language usage over time, leading to decreased active command among some doctors.

From a linguistic perspective, the most challenging task lies in diagnoses related to pathological anatomy, where forming lengthy phrases with multiple words in

various grammatical cases is often necessary. It's not uncommon for Latin to be replaced with terms of Graeco-Latin origin in the national language form. These texts, like their predecessors, are replete with abbreviations. In terms of lexical resources, medicine has long relied on the statistical classification of diseases issued by the World Health Organization (WHO), updated every ten years. However, this serves primarily statistical purposes rather than providing comprehensive terminological guidance. The chaotic state of clinical terminology has prompted several standardization efforts, particularly in response to the evolving demands of computerization. Notable projects include SNOMED (Systematized Nomenclature of Medicine) and GALEN. The American edition of SNOMED was first issued in 1979.

The approach taken is not based on a single initial language, such as Latin. Instead, individual languages are expected to develop their own versions. For instance, the German version emerged in 1984. Interestingly, the SNOMED authors seem unconcerned about Latin; the introduction makes no mention of its role in medicine, despite the frequent use of traditional Graeco-Latin terms throughout the text, alongside prevalent Anglo-Americanisms.

The GALEN project, which ran from 1992 to 1995, aimed to create "a semantically valid model of clinical terminology, represented in a formal language, and associated with sophisticated support for different

natural languages and conversion between different coding schemes." Subsequently, the GALEN-IN-USE project, conducted from 1995 to 1999 in collaboration with the European Federation of Classification Centres, followed suit.

Additionally, both the World Health Organization (WHO) and the Council for International Organizations of Medical Sciences (CIOMS) initiated efforts to develop an internationally unified and recognized terminology for global use. From 1979 to 1992, seven volumes of the International Nomenclature of Diseases (IND) were published. These volumes provided recommended names with definitions and rejected synonymous expressions for various diseases and disorders.

The terminology presented in these volumes is crafted in a unique form of English, often reminiscent of Paracelsian combinations of German and Latin. This linguistic construct, sometimes referred to as "lingua anglatina" or "Englatin," includes terms like "oesophageal web due to dyskeratosis congenita syndrome," "adenocarcinoma of the appendix," "acute/chronic cor pulmonale," "agenesis of the ductus deferens," "congenital stenosis of the urinary meatus," and "leiomyoma of the cervix uteri."

The necessity of adopting this nomenclature is questionable, as many medical professionals seem unaware of it. According to information from the

CIOMS secretariat, work on this extensive project has been halted due to economic reasons. However, there is a recent example from the Czech Republic: the development of a computer program named PFANNENSTIEL in 1998 for the Faculty Hospital in Brno, which opted for the use of Latin names for diseases, injuries, and medical procedures. Drawing from this evidence, one can readily observe that Latin offers a wealth of expression perfectly suited for conveying scientific and factual information in contemporary medical terminology. Consider the following examples: endoresectio endometrii per hysteroscopiam, microabrasio cavi uteri, partus non progrediens, pseudohermaphroditismus masculinus/femininus, fixatio gypsea membri inferioris completa, myringoplastica per prothesim, resectio vesicae urinariae cum reimplantatione ureteris, nephrectomia bilateralis donoris mortui, asphyxia livida intra partum.

Pharmaceutical Latin

In a third domain, Latin has traditionally persisted: pharmaceutical and pharmacological terminology. In some countries, the practice of utilizing prescription-related Latin endures, maintaining fidelity to its original linguistic conventions. To adeptly navigate this crucial aspect of their profession, a physician must grasp not only the specific lexicon but also the grammatical structure of prescription-related text, especially the interplay between the invocation (Invocatio) and the structural components of the prescription itself

(Praescriptio). The names of individual remedies take the form of a genitive with an attributive partitive function, while expressions indicating dose data (typically in grams) are placed in the objective accusative, complementing the imperative form "recipe". The terminology pertaining to subscription and/or signature, detailing the preparation, form, and method of dispensing the drug, as well as other instructions for the pharmacist, remains enduringly consistent; for instance: *Misce fiat solutio modo aseptico*, *Da cum formula*, *Adde guttatorium sterile in capsula*, *Divide in doses aequales No V (quinque)*, *Sterilisetur*, *Ne repetatur*, *Ad usum medici*, *Sub signo veneni*, and similar phrases. Conversely, the official names of drugs, adjuvant substances, medical preparations, and healthcare products—normatively outlined in pharmacopoeias—have undergone significant changes in recent years. In the Czech Republic, the Czech Pharmacopoeia of 1997 and its 1999 Addendum remain in force. These documents were compiled with a view to harmonizing their contents with the European Pharmacopoeia, an internationally recognized standard. This harmonization has facilitated a transition from traditional Latin names, prevalent in Central European pharmacopoeias, to an international nomenclature. While still Latin-based, this new nomenclature differs substantially from its predecessor in formal grammatical and lexical aspects. It is anchored in international non-proprietary names (INN),

augmented by English, French, Russian, Spanish, or German versions.

In the realm of names indicating binary compounds, salts, or esters, a notable transformation has occurred in their formulation. Traditionally crafted as nominal phrases featuring attributive adjectives, these names have undergone a shift whereby the adjectives are transformed into nouns. The substantive element, originally dominant, now assumes the role of an appositional adjunct with explicative significance. For instance, "calcium oxydatum" becomes "calcii oxidum," "ammonium chloratum" becomes "ammonii chloridum," "natrium salicylicum" becomes "natrii salicylas," "kalium nitricum" becomes "kalii nitras," and "natrium nitrosum" becomes "natrii nitris."

This transformation has also extended to the word order of pharmacopoeial names for plant-based drugs, which were traditionally realized through noun phrases with appositional genitival adjuncts. For example, "Uvae ursi folium" becomes "Uvae ursi folium," "Valerianae radix" becomes "Valerianae radix," "Anisi stellati fructus" becomes "Anisi stellati fructus," and so forth. Similarly, formally identical names of other drugs and preparations have been modified, such as "Sesami oleum," "Belladonnae folii extractum siccum normatum," "Citri etheroleum," "Glyceroli suppositorium," and "Iodi solutio aquosa."

This shift marks the first instance of anteposition of an appositional substantival adjunct instead of the current postposition. However, the adjustment in word order is not consistently applied, and the original ordering is often retained. For example, "Spiritus saponis kalini" retains the original order, while "Camphorae spiritus" does not. Similarly, "Lana cellulosi regenerati" maintains the original order, but "Cellulosi pulvis" does not. These modifications reflect a transitional phase and pose significant challenges in their adoption into professional and educational practice. Despite some European Union countries favoring national languages in prescription dispensation, Latin remains preferred in the central European area. Moreover, the standard international nomenclature of drugs and auxiliary substances predominantly relies on the Latin version. Notably, the Latin version of the pharmacopoeia is utilized in Germany, Switzerland, Yugoslavia, the former Soviet Union countries, and even in Japan and China.

Phraseological collocations in medical Latin

Phraseological expressions containing medical content constitute a distinct category. While their quantity may not be significant, their practical utility is considerable and an integral part of technical language. Formally, they typically consist of noun phrases, with at least one element constrained in meaning and function to its specific collocation. These expressions remain a vital component of modern medical communication, valued

for their ability to convey complex concepts economically and succinctly, akin to terms. In national languages, they often correspond to multiple periphrastic expressions.

Examples include:

"Facies Hippocratica" (Hippocratic face): Describing the critical state of a disease or the expression of a patient's face before death.

"Signum mali ominis" (Sign of ill omen): Referring to an unfavorable sign regarding prognosis.

"Vitium artis" (Defect in medical art): Designating a defect subject to a doctor's criminal or civil liability.

"Excisio probatoria" (Tentative excision): Referring to the removal of a morbid focus for histological examination.

"Circulus vitiosus" (Vicious circle): Describing the simultaneous occurrence of morbid processes that adversely affect each other.

"Experimentum crucis" (Crucial experiment): Denoting a decisive test intended to confirm which of several hypotheses is correct.

"(Prognosis) quoad vitam" (Forecast regarding life): Concerning the preservation of life or the quality thereof.

"Intervalla lucida" (Lucid intervals): Referring to clear moments or brief returns to consciousness.

CONCLUSION

As evidenced by the preceding discussion, Latin has entrenched itself deeply within medical terminology and, consequently, within the field of medicine itself. Its enduring productivity over time has rendered its presence in medical discourse as entirely natural, albeit with certain geographical variations across different regions. While earlier publications explicitly acknowledged this fact (see [27]), more recent ones often implicitly presuppose it while avoiding explicit mention (see, for example, [28] and [29]). Nevertheless, it is undeniable that over the span of more than two millennia, Latin has established an exceptionally influential and resilient tradition within medicine, surpassing any potential competitor. Hence, doubts regarding the continued relevance of Latin in medicine can be considered unfounded. In this context, it is fitting to recall a contemporary Neo-Latin maxim: "In via est in medicina via sine lingua Latina" (The path in medicine is impassable without the Latin language), succinctly encapsulating the essence of the situation described in this article.

This underscores the necessity and legitimacy of teaching Latin terminology within medical faculties (see [30]), aimed primarily at equipping students and future clinicians with the necessary skills for precise

and linguistically correct usage of medical terminology. It could be argued that Latin's "continuation" within English medical terminology serves as a fortuitous solution, maintaining its unique status within the field while simultaneously accelerating and facilitating the dissemination of English medical terminology.

To offer a broader perspective, it is worth recalling the aphoristic insight of the German historian Schipperges [5], who contextualized the issue of Latin versus English in medicine through the lens of an enlightened expert: "The old doctor spoke Latin, the new doctor speaks English, the good doctor speaks to the patient."

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