

# Reflections engendered as a practicing translator concerning the language of Anatomy

## *Reflexões de um tradutor na área da Anatomia Humana*

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**Descritores:** Terminologia. Terminologia como assunto.

**Linguagem.** Traduções.

For the last 30 years as a practicing translator I have been worried about the increasing indifference of students, younger teachers, and health practitioners regarding the language of Anatomy. In the early 1980s, when I started translating, translation was far easier than it is currently. I learned by doing and by seeing how others did it. In Brazil at that time, there were a few schools that taught one how to translate. Old typewriters were used to type translated texts into a huge pile of paper. Furthermore, it was easy to keep time. Presently, the translator needs to handle not only a telephone and its derivatives, a fax, a computer, but also a whopping cornucopia of software, e-mails, gadgets, and so. One turns to be less than a translator and more of a communicator [1].

Finally, presently all of us can rely on computer-aided translation that provides translators, students, and health practitioners with tools to smooth and codify their tasks. It seems rather unnecessary to say that, in my view, the human translator will always need to interfere, because what needs to be done is that the language must be adapted to the machine and not the other way around [1].

Students are no more perplexed with the many terms met with in their textbooks, lectures and demonstrations.

Anatomical terminology indicating the various parts and organs of the human body is the most basic vocabulary in medicine and serves as the convenient tools in the anatomical sciences [2]. They just memorize the terms – the current *Terminologia Anatomica* includes near 7000 entries – to forget it next morning and the structure it symbolizes a few days later. This disregard is understandable in recent years, once less than 10% of students, in many countries, have never done one year of Latin. In Brazil, with a language derived and the closest to the Latin, our students have not a single hour of Latin during their high school or college. It is a shame and a pity!

Moreover, you all can verify that in general, in our courses on Gross Anatomy from 500 hours devoted to lectures and lab exercises we barely have 15 minutes dedicated to the language of Anatomy. In many good textbooks with 600 or more pages dealing with the description of the structures of the human body we hardly find more than a page about the language of Anatomy. And this is amazing, because when you want to read a book in the original language that is not yours, the first thing you do is to learn the language in order to understand the text. With Anatomy it should not be different!

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Abbreviations, acronyms & symbols	
AT	Anatomical Terminology
NA	Nomina Anatomica
BNA	Basiliensia Nomina Anatomica
FCAT	Federative Committee on Anatomical Terminology

The anatomy instructors constitute a closed group inside the Medical Sciences, and they have their own language. This language belongs to all, and it is imposed to all in order to raise a reciprocal understanding within the community without geographical or linguistic limitations. Anatomical terminology serves as a basic communication tool in all medical fields and the Latin anatomical nomenclature has been repetitively issued and revised since 1895 [3,4]. It is worth remembering here that Anatomy uses a special vocabulary, but anatomical terminology and nomenclature must distinguished unlike in many other medical fields. According to Kachlik et al. [3], a system of terms used in a certain scientific branch is called Terminology, while a standardized system do precisely defined terms, set according to certain classification principles and containing terms created within the scope of terminology is called Nomenclature.

A name, as a word, is a phonetic-psychological entity, the union of an idea with a sound. The word exists only when the phonetic grouping, represented by letters when written, corresponds to an idea or concept to both the speaker and the listener. Being so, when we do not know the idea or concept linked with a word it becomes meaningless for us and the understanding among people using different names for the same idea is almost impossible.

And this is what I suppose happened in the beginning of Anatomy. The lack or difficulties in communication among the early anatomists led to a disorderly growth, each anatomist trying to create “his anatomy”. The same structure was described in different ways and the name of the author was linked to the name of the structure due to the importance of the fact. The use of the terminology can be international, as it is with Anatomical Terminology (AT). It can be said that the AT is a specific collection of scientific terms. One of its major flaws was that the body structures were described by varying names, while some of the terms was irrational in nature, and confusing [5]. Anatomic terminology has undergone standardization according to a system known as the Nomina Anatomica (NA). Its golden rules of the system are that there should be one term for each structure and that term selected should have some informative or descriptive value [6].

Anatomy began just as a descriptive science and to each incident was given a morphological idea, and so, the anatomists described the structure they saw by comparing

them to common or familiar objects and that best, in their opinion, reflected that morphology, like *escafoides* (like a canoe), *deltoides* (like the Greek capitat letter D), and so on. But this led to the accumulation of 50,000 names by the year 1980 [7,8].

You can imagine a Symposium being held with papers like “The anatomy of *pars nasalis* of the *inverecundum*”, “The morphology of the mucosa of the *cannus*”, “The blood supply of the *coles femininus*”, “The epithelium of the *morsus diaboli*”, “The function of the *ganglion cerebri arterius*”, “The fate of the *liquor scarpae*”, or “The innervation of *musculus deprimens*”, and so on. I know that those names are not familiar to most of you but they were largely used many years ago. But now if I used the names *os frontale*, *vagina*, *clitoris*, *tuba uterina*, *corpus striatum*, *endolympha*, and *M. rectus inferior* everybody would know what I was talking about because I would be using a common language.

How, then, names were formed? In the first place we must remember that Latin was the universal scientific language when Anatomy began as a science. So, it was natural that the names were described in that language even borrowing terms from the early Greek and Arabic masters [7]. Latin is a universal scientific language because it is not used anymore by any country and that is very important [9]. A question arises as to how and when the anatomical terms were invented and developed. The literature tells us that many of the anatomical terms for muscles, vessels and nerves were coined in the 16<sup>th</sup> and early 17<sup>th</sup> centuries [2]. The first traces of the nomenclature go back to the time of Hippokrates of Kós (circa 460-370 BC) in Greece; Aristotle (Aristoteles, 284-322 BC); Rufus os Efesos (late 1<sup>st</sup> century AD); Aulus Cronelius Celsus (25 BC – circa 50 AD); Claudius Galenos of Pergamon (129 or 130-199 or 200); Andreas Vesalius Bruxellensis (Andreas van Wesel, 1514-1564); Jacobus Sylvius (Jacque Dubois, 1478-1555); Gabrielle Fallopio (1523-1563); Bartholomeo Eustachi (1513?-1574); Gaspar (Gaspard) Bauhin (1560-1624); Johannes Jessenius (Ján Jesenský, 1566-1621); and Caspar Bartholin (1655-1738) [3,10].

The spread of science was possible due to the invention of the press with movable letters and the adoption of Latin as a scientific universal language. According to Whitmore [11], Latin as a dead language no longer develops. Its use in terminology can be characterized as global and “non-secular”, i.e., destined for the whole world and professional layers. Whitmore states that out of the number of advantages classical languages offer, it is constancy, international character, and neutrality – unlike national languages – that ate highlighted. These two facts broke the walls among the ancient masters and made it possible to every student to gain access to the papers formerly well protected and accessible to a few scholars.

We have to admire the great imagination of the early anatomists when giving a name to a new structure. Today, many names sound ridiculous, but we persist in using them because we are not worried with their meaning; we became indifferent with a false name or false idea. This is disturbing to the beginner when he follows our advice and tries to discover the meaning of every new term.

A few terms of the old languages in spite of its imaginative etymology, are still in use. But this does not invalidate the other 6,000 terms that now make the bulk of our language. We are not only using the common shape but the position and the function of the structure in order to build a better name, names with meaning and soul not only with a body. It seems to me that it would be better for the understanding of the students, health practitioners, and translator for instance, to say *vena superficialis lateralis branchii* and *vena superficialis medialis branchii* instead of *vena cephalica* and *vena basilica* that are meaningless.

You take for instance the *musculus sartorius*: it is meaningless; in the first place it should be *sartoris* and not *sartorius* because the muscle, as far as I know, does no needle work but it is supposed to be used by the tailors and everybody when crossing the legs when sewing. Why not call it *musculus diagonalis femoris* since we have a *rectus femoris*. I think it is a better name and in spite of the large use of *sartorius* the name should be changed. A very hard work has been done but we still have much to do [12].

We are really indebted to the German anatomists because of their courage and determination in transforming a pile of names in an orderly and understandable language. The society of German-speaking anatomists (Anatomische Gesellschaft) issued the first Latin anatomical nomenclature in 1895 as the *Basiliensia Nomina Anatomica (BNA)* [2,3,9,10]. The list of approximately 4,500 anatomical terms cut through much the redundancy and was quickly accepted in the United States and in many countries in Europe. The BNA was revised in 1933 by British anatomists to include English equivalents for many of the original German terms. In 1955, the International Congress of Anatomists made a few further revisions and the resulting *Nomina Anatomica* is now accepted as the official source of anatomical terms by the professional medical and anatomical societies of over 30 countries [10].

The eponyms – this is another cause of misinformation among young students because an eponym is meaningless. The vein of Galen, the ductus of Arantius, the fascia of Cooper, the ligament of Hesselbach, the valvula of Heister, the gland of Cloquet, the bone of Vesalius, the muscle of Klein, the sucking muscle of Krause, the Poupart's ligament, the Bartholin's gland and one hundred more names are completely nonsense and means nothing to a student. To maintain those eponyms in order to honor the old master is an aberration and we fail twice; we do not give the structure

an understandable name and we add nothing to the author's name. I agree that students should have some knowledge of the history of this science and to know a little of the men who have contributed to its progress but this is attained in a course of history of Anatomy and not with eponyms.

Besides that, many eponyms are not right. In many instances the real name of the first author is omitted and the name used is of an author with larger influence in his time. We can note another failure in the eponyms: different structures and shapes with the same name: Eustachium and Fallopian tubes; Alcock, Hunter, Arantii, Fontana and Schlemm canals; gland of Blandin, Nuhn; gland of Bartholin, Duverney, Tiedemann; Bundle of His and Kent's bundle; Node of Keith-Flack and Koch's node to only cite some of them [10,13]. It is not difficult to link the name of Paganini to the violin, or Bach to the harpsichord but one cannot find it easy to link the name of Fallopio to a tuba!

To insist on the use of eponyms is an absurd but it is understandable when you do not know and do not want to explain the ethnology of the real term but it is almost a crime because you withhold an important information to the students that will be unable to understand other books with the good terminology and I have seen, as a practicing translator, good new books full of eponyms! How can we expect to see our students learning the anatomical terminology in Latin when we do not use it. I strongly appeal to you all to use the correct Latin terminology in your papers and books and also to use the correct Latin pronunciation like *epithelium* and not *epaitilium*, *extensor digiti quint*: and not *digitai qnintai* as I have heard many times [12].

Among the nearly 7,000 terms of our actual *terminologia Anatomica* we still have some terms that should be changed to make our language as perfect as possible and having in mind the didactic importance of the list. The students were perplexed few years ago when they saw in the *Terminologia (Nomina) Anatomica* three or four aortas (ascendens, descendens, thoracica and abdominalis) and found only one in the cadaver; three nervous systems (central, peripheral and autonomic) and found only one in the dissections. I know that we will meet resistances from many sources. The older teachers do not want to change their minds and to set aside a term they are using for so many years and they will support the errors with fantastic and amazing arguments. It took hundreds of years to change the concepts devised by Galen. But a man can be a sinner for seventy seven years and become saint one minute before his death.

The small success of the anatomical language may be due to the lack of knowledge of Latin, to the lack of uniformity in the numerous textbooks and a poor diffusion of the *Terminologia (Nomina) Terminology*. But the teachers are responsible for our language and if we do not believe and do not use it we cannot expect our students to behave differently. If we do not emphasize the use of our language

we will come, in few years, to the same position of our colleagues 200 years ago.

There is no consensus regarding the use of official anatomical terms. Usual or nonofficial technical terms which lead to terminology or translation misunderstanding is often a source of confusion to practitioners and translators worldwide. Because anatomical terminology is the foundation of medical terminology and language, it is important that physicians and scientists, as well as all the Allied Health Sciences practitioners throughout the world use the same name for each structure. Physicians must be aware of the new Terminologia Anatomica, which is the joint creation of the Federative Committee on Anatomical Terminology (FCAT). They all must learn the correct nomenclature that enables precise communication among practitioners worldwide, as well as among scholars in basic and applied health sciences [14].

Should eponyms be abandoned? Of course not, once they remain a useful reflection of medical history. We just want to alert the Health and Allied Health Sciences Professional and students that we 'strongly recommend' not to use an eponym when it is made at the expense of an anatomical structure [15].

Can you imagine if the musicians did not stick to their norms and notation, to their language? Today it would be impossible to read Bach or Mozart and one musician would be unable to play the music written by another. I agree with my father (Professor Werneck, MD, PhD) when he says that "a better understanding of the language of Anatomy will help in turning its study from a collection of incomprehensible terms and dry facts into an intelligible and interesting science". We have a language; let us help to improve it; let us believe in it; let us give to it the attention it deserves because in doing so, we are not defending only a language, we are defending our survival as a group, and we will be dignifying the old masters who devoted their lives to the progress of Anatomy.

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## Erratum

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In the article “Reflections engendered as a practicing translator concerning the language of Anatomy”, published in issue 27.3, pages 453-6, the name of co-author Fernando Batigália, MD Human Anatomy Tutor, Health Sciences Stricto Sensu Post-Graduate Programme; São José do Rio Preto Medical School (FAMERP) was not included.

## Errata

No artigo “Reflections engendered as a practicing translator concerning the language of Anatomy”, publicado na edição 27.3, páginas 453-6, não foi incluído o nome do coautor Fernando Batigália, M.D. Human Anatomy Tutor; Health Sciences Stricto Sensu Post-Graduate Programme; São José do Rio Preto Medical School (FAMERP).