# The language of eponyms

Eponyms have a long history in English, including medical English. The eponymous origins of those in widespread use are usually obscure, unless sought in reference books. Widely diffused eponyms may evolve into common nouns or adjectives; for example, 'melba toast' honours the stage name of the Australian soprano Dame Nellie Melba (Helen Porter Mitchell). The 'fallopian tube' takes its name from the Italian anatomist Gabriel Fallopius, 1523–62.

The nomenclatures of all scientific disciplines include eponyms, the majority of which are recognisable as such only because they are written as proper names. In general, a medical eponym identifies the practitioner or researcher who first recognised, described or discovered the innovation specified in an accompanying generic noun. It was the Scottish surgeon and neuroanatomist Sir Charles Bell (1774–1842) who described the thoracic nerve called 'Bell's nerve' and the type of facial palsy known as 'Bell's palsy'. The practitioners so honoured do not affix their own names to their innovations; generally their peers do it. Less commonly a patient in whom a symptom or disease was first studied is designated in the eponym. Stephen Christmas was the first patient examined in detail for the genetic disorder of blood coagulation that the original describers labelled 'Christmas disease'.

Hundreds of eponyms are used in medicine, but their forms alternate between the possessive and non-possessive; the variation is arbitrary, not governed by rule. Some concepts have been accepted as non-possessive, eg 'Christmas disease', the 'Petri dish' (invented by the German bacteriologist Julius R. Petri (1852–1921)). On the other hand, numerous eponyms occur chiefly in the possessive, eg 'Bowman's capsule', and 'Cullen's sign'. However, many eponyms alternate randomly between possessive and non-possessive, particularly in American English: 'Bell's (or Bell) palsy', 'Down's (or Down) syndrome', 'Graves' (or Graves) disease'. Most standard references distribute the forms arbitrarily; see for instance *Dorland's Illustrated Medical Dictionary* [1]. A few, eg Firkin and Whitworth [2], prefer non-possessives. The editorial practices of medical journals are inconsistent. Medical practitioners have debated whether or not eponyms should be standardised; and if so, in what form—possessive or non-possessive. It is interesting that policies that encourage adoption of non-possessive forms evoke the most spirited opposition.

The purpose of this paper is to clear the path towards consensus by casting light upon the linguistic terrain on which the question rests: the semantics and structure of English noun modifiers. Until now, medical commentaries have regarded eponyms out of context, that is, isolated from the larger set of modifying constructions to which they belong, and discussion has been obscured by linguistic misconceptions. This essay attempts to correct these limitations. My approach is descriptive, not prescriptive; I do not dictate what medical writers and editors should do. I aim to clarify the structure and meaning of the lexical set to which medical eponyms belong. The following facts must inform the debate.

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### Etymology and meaning are distinct

The proper name in an eponym belongs to its etymology. Etymology is historical whereas the meaning of a word or phrase in use is bound to a particular time and to the context in which it is used. The origin of a medical term does not influence present understanding, teaching or clinical practice; the sense of the term does affect all of these. Medical practitioners are (or should be) judged by their understanding of medical senses, not medical etymologies. It is important to know the aetiology, clinical features, prognosis and treatment of Looser-Milkman syndrome, not its eponymous etymology (the Swiss surgeon Emil Looser (1877–1936) and the American radiologist Louis Arthur Milkman (1895–1951)). Doctors are fully aware of this but must be reminded of it when they debate medical eponyms since the meaning of a word can affect its grammatical form, including whether or not that form is possessive.

Etymology and meaning drift in different ways. The true origin of a term does not change but etymological interpretations of origin often do. It is not uncommon for the discoverer of a disease, procedure, or test to be misascribed. Once the error is discovered, the name of an earlier discoverer enters the etymology; competing eponyms may be assigned or international accord may be reached with a compound eponym such as Osler-Rendu-Weber disease or Laurence-Moon-Bardet-Biedl syndrome. Sense, on the other hand, changes constantly. Medical eponyms are therefore vulnerable to change in meaning, even if the eponym remains unchanged.

### Grammatical and non-grammatical meanings are distinct

Accordingly, a construction that is grammatically possessive need not indicate possession in the literal sense. Montgomery did not own his tubercles, Austin Flint his murmur nor Ranvier his nodes. This applies whether the possessive is synthetic (formed with a

suffix or/and apostrophe) eg Montgomery's tubercles, or analytic (formed with an 'of') eg nodes of Ranvier. A particular eponym is used in the synthetic or analytic form, not in both; we do not speak of 'Monro's foramen' or 'the spots of Koplik'. The problematic eponyms are the synthetic ones, ie those formed with an apostrophe.

One argument against the use of possessive eponyms is that the grammatical and non-grammatical meanings of the genitive are distinct [3]. 'This is a case of Addison's disease' would answer the question, 'What disease has been diagnosed?' It cannot answer a possessive question such as 'Whose disease is this?'—an odd question, in any case.

**The genitive form permits of more than one sense in relation to the noun it modifies**

The sense that holds in a particular utterance can be determined only from context. Possession in the literal sense is one possible meaning, as in the phrase 'the physician's reference books', which could denote books that belong to the physician. But other meanings are possible. In 'the patient's release from hospital', patient is objective in relation to the modified noun release; in an active sentence it would be the object: 'The hospital released the patient yesterday'. In 'the surgeon's decision to operate', surgeon is subjective in relation to the modified noun decision. In a sentence it would be the subject: 'The surgeon decided to operate'.

Closely related to this subjective sense is the authorial, in which the possessive noun designates a person who created something or brought it about, eg 'Shakespeare's plays'. Medical eponyms were originally authorial. In their earliest use, these expressions highlighted the names of inventors, discoverers, or theorists associated with various innovations. They were assigned when the innovation elicited considerable medical interest, and hence much written comment. 'Bright's disease' (after the English physician Richard Bright, 1789–1858) was first cited in 1831 [4]. The author, writing for the short-lived *London Medical Gazette*, described the condition as the 'obstruction of the glandular tissue *to which the name of Bright's disease has been attached*' (my emphasis; see [4], s.v. Bright's Disease).

The etymology of 'Addison's disease' and numerous other long-lived eponyms reveals that when a discovery was new and the innovator's name was prominent, at least some attention was accorded the proper name or its owner. This is understandable, for innovators generally address their contemporaries, who recognise them as living persons.

This recognition is missing from the older eponyms, which are the majority. Indeed, without consulting medical references, most physicians would be hard pressed to identify the individuals whose names are immortalised even within their own specialties. Moreover, they would have to consult the right references in order to find out, for many textbooks now omit biographical details altogether. The innovators honoured in traditional eponyms have semantically receded; the proper names are no longer significant as designations of persons.

**The authorial sense is disappearing from eponyms; an adjectival sense now dominates**

An adjectival, attributive meaning is one of the most widespread senses of the genitive. The language system as a whole provides abundant evidence of the adjectival sense of the genitive. Children do not own a 'children's hospital'; this is an establishment built to provide medical treatment for them. Similarly, 'Addison's disease' belongs to the set of diseases; but it delimits disease to just that one caused by chronic insufficiency of the adrenocortical gland. Although Thomas Addison was the first to describe the condition (in 1849), his name is now strictly a noun modifier. Moreover, the sense of the modifier is clearly non-possessive, despite the presence of the possessive marker on the proper name. Likewise in 'Kjelland's forceps', the proper name is adjectival in relation to forceps; it denotes a particular type of obstetrical forceps, one whose curvature and articulation allow the blades to adapt to the fetal head. That the eponym honours the Norwegian obstetrician-gynaecologist Christian Kjelland (1871–1941) is probably not known to most obstetricians today; but even if they know it, the information is irrelevant to the meaning of the phrase.

All the foregoing examples, as well as those to be cited subsequently, reveal an interesting property of the genitive suffix: it articulates a relation between the noun to which it is affixed and a following generic noun. Analytic possessives, ie those employing a prepositional phrase with of, are different only structurally; for they too exemplify an internal relation between constituent nouns. Medical eponyms encompass scores of generics following or preceding a modifier; among them are disease, syndrome, valve, nucleus, body, pulse, forceps, manoeuvre, joint, crisis, incision, respiration, ulcer, palsy, rule, sign, test, postulate, classification and factor. In all eponyms the relation between the possessive noun and the noun it modifies is adjectival. Eponyms occur in subgroups that also incorporate true adjectives; 'coeliac disease' and 'communicable disease' occur with 'Addison's disease' in the set of diseases. 'Haemostatic forceps' and 'Kjelland's forceps' are members of the set, forceps. 'Bell's palsy' and 'cerebral palsy' share the identity, palsy. That eponyms belong to the same sets as do true adjectives proves that eponyms are structurally adjectival, besides being semantically so. The historical shift of some possessive eponyms into derived adjectives strengthens this evidence: 'Addison's crisis' is now known as 'Addisonian crisis'.

**When a noun functions attributively, the English language is hospitable to unmarked attribution**

Unmarked noun modifiers are inescapable in everyday speech and writing. The owner or manager of a small shop is called the 'storekeeper' or 'shopkeeper'. The language permits omission of case (genitive) or number (plural). A 'skill centre' trains young people in more than one skill; an 'office building' comprises many offices; a 'toothbrush' brushes all the teeth; a 'body-scanner' scans many bodies and an 'electron microscope' uses many electrons. A patient in surgery might undergo an 'eight-hour operation'. Such unmarked noun modifiers resemble true adjectives, which are not inflected for case or number in modern English.

The system does not exempt proper nouns from being unmarked when attributive, eg 'Barclaycard', 'Nobel Prize', 'Booker Prize', the 'McNaughten (McNaghten) Rules', and 'Mach number'. Typically speakers do not know the biographies underlying the origins of these eponyms. They do, however, know what the expressions mean. The presence of unmarked, non-possessive, medical eponyms is thus entirely consistent with the system; hence 'Aschoff bodies', 'Kocher forceps', 'Heimlich manoeuvre', 'Brenner tumour', and others. Unmarked eponyms alternate at random with possessives, which is confusing, so how did the unmarked forms arise? If non-possessive forms were systemically illegitimate, the English language could not accommodate them. They are controversial; nevertheless, practitioners use them. There is a historical reason for this paradox:

**The English language has been losing case endings for centuries**

Non-possessive eponyms are consistent with this drift. Speakers are rarely aware how much their use of language embodies historical change, but language evolves from generation to generation. Of the original Old English system of cases (nominative, genitive, dative, accusative and instrumental), only the genitive remains, but this case is unstable at present, especially when it functions attributively. Widespread fluctuation in usage provides some of the strongest evidence of language change in progress, not yet completed.

Non-possessive eponyms (the 'innovative forms', from an historical linguistic viewpoint) have been creeping into medical English for some time. Once a non-possessive becomes widely diffused, its possessive past is altogether forgotten and it is accepted without question. Nowadays medical laboratories do not order 'Petri's dishes'. Yet in the 19th century, this possessive was used, occasionally replaced by the non-possessive 'Petri dish/dishes' (see [4], s.v. Petri). Today one refers only to a 'Petri dish'. The noun is evolving further by shifting to a common noun modifier: many writers now spell it 'petri'.

**Medical English has already standardised non-possessives in two lexical sets: compound eponyms and toponymous terms**

Compound eponyms, usually hyphenated, are firmly non-possessive: eg 'Epstein-Barr virus', 'Cheyne-Stokes respiration', and 'Klippel-Feil syndrome'. However, if the same or another concept bears the name of only one of these innovators, the single name is sometimes possessive. 'Cheyne-Stokes nystagmus' is also called 'Cheyne's nystagmus' (after the Scottish physician John Cheyne (1777–1836)) and among syndromes is included 'Stokes' syndrome' (after the Irish physician William Stokes (1804–78)). The English language accepts unmarked compound eponyms in other contexts, as is evident in 'Heriot-Watt University', the 'Mason-Dixon Line' and the 'Mach-Zehnder interferometer' (optics).

Toponymous modifiers (those formed from a place name) are also generally unmarked in English and are singular unless plurality is an inseparable part of the name (eg the -s cannot be dropped from 'the United States' even when it functions attributively, as in the 'United States Survey foot'). Non-medical examples are 'Scotland Yard', 'Greenwich Mean Time', 'Canada goose', 'Bermuda triangle', and 'Fiji disease' (plant pathology). Examples are also common in medical English, although they are not as numerous as eponyms. The place name is typically associated with the locality in which a disease was first discovered or in which it is or was endemic, the place where a virus was isolated, a treatment developed, and the like. Medical toponyms are firmly standardised as non-possessives, eg 'Iceland disease' or 'Royal Free Disease' (= chronic fatigue syndrome), 'Murray Valley disease or encephalitis' (Australia), 'Stockholm syndrome', 'Colorado tick fever' and 'Newcastle disease'. The relatively few toponyms based on a plural place name are used in the singular, eg 'Rocky Mountain spotted fever' and 'Balkan frame'.

**English will continue to lose case endings**

On structural, semantic and historical grounds, non-possessive medical eponyms find support, since the language is hospitable to unmarked noun modifiers functioning attributively. At present, English accommodates both possessive and non-possessive eponyms but speakers are uncomfortable with equality in language. This reflects a universal attitude to language which is inherent, not taught, since it is evident even in societies that lack grammarians and a distinctive literary tradition. If two or more forms have the same meaning or express the same idea an eventual resolution of some kind is predictable. Motherhood/motherly and maternity/maternal have developed different meanings or are used in different social contexts and the prefixes 'heart' and 'cardiac' occupy subtly different slots in medical discourse. It is there-

fore to be expected that the coexistence of possessive and non-possessive eponyms will trouble doctors.

Resolution of competing variants is achieved in a number of ways: phonological (eg use of 'a' vs 'an'); morphological; syntactic; semantic; social (relationship between speakers); situational; stylistic (formal vs informal, spoken vs written) and in context, eg 'aetiology' in medical discourse and 'cause' elsewhere. Resolution of competing medical eponyms is already under way. Non-possessives have already been standardised for compound eponyms and for toponyms, as I have shown. It has also been suggested that non-possessives should be used for concepts based on the name of a family or patient (eg Christmas disease). For some suggested differentiations see Huth [5] and American Medical Association [6]. At the same time, however, a considerable number of practitioners is anticipating, consciously or unconsciously, the future drift of the language by deleting the possessive marker altogether. This is also happening in non-medical language at an accelerating rate in newspapers, journals, letterheads and government publications—sometimes consistently, more often haphazardly.

Doctors who wish to standardise the forms are supported by the communicative and sociolinguistic capabilities of the English language. However, if differentiation is to be systematic, not arbitrary, all relevant aspects should be taken into account, including the considerable number of medical terms in which common nouns function as modifiers (eg 'legionnaires' disease', 'welder's conjunctivitis', 'farmer's lung').

## References


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