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You say 'putator'
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In the middle of Munich, just a few metres away from the site of Hitler's Beer Hall Putsch in 1923, unnoticed, though not hidden, is a "treasure" that the Bavarian Academy of Sciences and Humanities has quietly overseen for more than half a century.

"The Treasure of the Latin Language", or, in its own tongue, Thesaurus Linguae Latinae (TLL for short), is "probably the most scholarly dictionary in the world" (or so claims the article "Dictionary" in the Encyclopaedia Britannica). It is most probably also the longest-running, and most certainly the longest-conceived. Ever since the fourteenth century, Latin philologists dreamed of a comprehensive Latin lexicon, to contain all Latin words used during the Roman Republic and the Roman Empire with all their meanings.

It was not until the end of the nineteenth century that such a dream could be realized - and then only as a collaborative project.

In the closing decades of the nineteenth century, the great Swiss philologist Eduard Wölfflin recruited colleagues for this dictionary.

And in 1884 he published the first volume of the "Archive for Latin Lexicography and Grammar". Intended as a bait, it presented several specimens of articles which were to be included in the future lexicon. But authorities were slow to bite. It would take another decade until five German-speaking academies of sciences agreed to produce jointly a Thesaurus Linguae Latinae. The schedule anticipated five years for the collection of the materials - that is, all the documentation of all the different words - and fifteen for the writing of the lexicon.

A hundred-and-fourteen years after this plan was conceived, I showed up on my first day to begin work at the TLL as the American Fellow. The first words I would work on started with "p". The visitor, or new Fellow, in the Academy enters the sandstone wing of the Residence through large, wooden double doors. Across the shining marble floor, the porter may, on a good day, mention the elevator.

Otherwise, the circular, open staircase, decorated with portraits of presidents of the Academy, will take you eventually to what seems to be the fourth floor (but was misleadingly said to be the second). And there, at the end of an inconspicuous corridor, behind another wooden door, lies the "treasure": the archive of millions of paper slips, the "material", stored in the second room of the impeccably sorted library of Latin texts and documents. The rooms are light but decidedly stuffy with the smell of old books, which, arranged by the authors' dates as opposed to their names, reach up to the ceiling. Portraits of famous lexicographers, a bust of Eduard Wölfflin, and the first contract for the publication of the Thesaurus remind all who enter of the long history of the project.

The history of the Thesaurus is intertwined with the history of Europe. From 1900, the year of publication of the first fascicle, until the outbreak of the First World War, work progressed comparatively swiftly: the lexicographers published more than 500 "columns", almost three fascicles, annually. But the war and the subsequent recession brought the project to the brink of abandonment. In 1915, in the middle of Volume Five, publication stopped, not to be resumed until 1924. In 1922 an American scholar with close ties to the lexicographers in Munich made an impassioned plea in Boston in front of members of the American Classical League. The salary of the director of the Thesaurus, he complained, was below the average salary of an American high school teacher, and the secretary paid his bills with the help of his retirement allowances; worse still, many of the staff scraped together less than a living. "Is it possible that America, wealthy, unselfish, beneficent America, should willingly allow the Thesaurus Linguae Latinae to perish?" Yet the situation had to worsen before it could improve. At the last minute support from abroad, and in particular Swiss Latin lovers and the Rockefeller Foundation, restored the project to life. In the 1930s, a steady stream of national and international Fellows raised the output almost to the pre-war level. These were the golden years of the Thesaurus: the output was high, higher still its quality. But, like everything else, the Thesaurus

fell victim to the Nazi regime and the Second World War. Several of the Fellows were Jews. The executive board of the Thesaurus, confronted in 1933 with the requirement that government employees provide documentation of their "Aryan bloodline", refused to account for the Fellows' religion, and many were able to keep a low profile and stay. But sooner or later they all had to leave, like Karl Oskar Brink, a Fellow supported by the Rockefeller Foundation, in 1938. Oral history relates that he was accompanied to Munich's central station by Hans Rubenbauer, editor and friend.

Rubenbauer later became a member of the Wehrmacht: the future German soldier saw off his Jewish friend, who would flee to London. When after the war Charles Brink, as he then called himself, recommenced his contributions to the Thesaurus, he would speak only English. He was later to become Kennedy Professor of Latin at Cambridge.

The scholarly correspondence that continued during the years of war often carries an eerie tone. Early in 1943 a letter from the TLL informs a Dr Staedler that the form "vinlage" (the Latin "vincus") as an alternative to "village" ("vicus") was not found "in our material". It begs the recipient's pardon for the delay, laconically alluding to the now difficult access to the Thesaurus material. And difficult it certainly was: the millions of slips had left the centre of Munich. Before the Second World War, the Thesaurus was housed in the Maximilianeum, the terracotta palace on the bank of the Isar, now the seat of the Bavarian state parliament. When in September 1942 a flak-station was set up on the high-rise building, Rubenbauer, the acting General Editor, knew that they had to pack up. At the time, there was no copy of the archive; a fire would have annihilated the Thesaurus, its millions of slips, and the valuable books. But the archive went north into safe exile behind the walls of the Benedictine monastery in Scheyern. The library, irreplaceable - as many of the books contain the notes of generations of scholars working on the Thesaurus - soon followed; a German entrepreneur provided his company's vehicles for the transfer.

Several years passed before, in 1949, the International Thesaurus Commission was founded. Today, thirty-one academies from twenty-three countries support the work of the Thesaurus, contributing money or dispatching Fellows, like me, who usually work in Munich for up to three years. To work on the Thesaurus requires knowledge not only of Latin, but of ancient Greek (since Roman high culture was mostly bilingual), German, English, French, Italian and (ideally) Spanish, as translations and commentaries on Latin literature are published in all these modern languages. The staff of over twenty has recently included people from Austria, Denmark, Germany, Great Britain, Italy, the Netherlands, Spain, Sweden, Switzerland and the US. Like its language, the Thesaurus is international.

On my first day as a Fellow I learned that "pruner" was to be my first word: putator - a seven-lettered probe of my limited familiarity with the Romans' horticultural texts and practices. Assistance came in the form of thirty or so paper slips. These, vintage 1890s, patiently waited for me in a grey cardboard box. Tinged with age, grey with a hint of yellow, they carried the passages, sometimes as a handwritten copy, sometimes as a beguiling reference, in which my word figured.

Comprehensiveness is a relative term. The original Commission at the end of the nineteenth century decided that the Thesaurus should contain all Latin texts, literary and non-literary, from the beginnings to the second century ce. From then, the Antonine Age, to the sixth century, a representative selection seemed a sensible compromise.

Later Latin - medieval, humanistic and neo - was to be excluded. Of the first period, every text, however fragmentary, by every author, however obscure, was to be fully excerpted and indexed: classical literature like Cicero, Ovid and Tacitus, inscriptions, ostraca (potsherds used as writing surfaces), Pompeian graffiti - everything that carried a letter. This was a Herculean task in the non-computerized age. Distinguished scholars revised all these texts to ensure accuracy and noted alternative readings. Then all these texts were copied by hand on cards, passage after passage.

These, in turn, were copied lithographically as many times as individual words occurred.

On each slip a different word was underlined in red, and that word was entered as the lemma in the top right corner. Finally, all cards with the same lemma were shuffled into chronological order and filed. When in the autumn of 1899 the initial collection was completed, the Thesaurus counted five million slips. Since then it has doubled its

number: new texts have been discovered (mostly inscriptions and papyri), and texts later than the second century ad have been excerpted more fully. To those ten million slips new ones are occasionally added even today.

When I flipped through my slips to get a first impression, I was not surprised to find my word discussed in an ancient linguistic treatise, repeatedly used in agricultural texts, mentioned in an encyclopedia, and defined in commentaries and scholia (ancient marginal notes). But what was it doing in legal texts so frequently? "Should a putator fail to alert passersby when he throws down a branch from the tree, and should one of them be hit by the branch and die, the putator is sentenced to the mines." Apparently, one fine day somewhere in the far reaches of the Roman Empire, an unsuspecting man or woman was killed by a careless cutter of trees.

A lexicon like the Thesaurus is different from a concordance, which simply lists all occurrences of a word. It should not be confused with the common notion of a dictionary either, the task of which is usually confined to providing translations. Eduard Wölfflin wanted his lexicographers to write the history of a word, "its struggle with competitors, the changes of its meanings, the phases of its decline or continuance". Such biographies will have to be written for all the 50,000 Latin lemmata, which have been written in the top corners of the paper slips and will eventually make up the Thesaurus Linguae Latinae. This number is comparatively small: ancient Greek calls more than twice that number its own, and the vocabulary of modern languages, especially English, exceeds ancient Greek by far. But much writing was lost, and with it words. When the "Edict on maximum prices" was discovered - issued by the Emperor Diocletian at the beginning of the fourth century ad - it revealed fifty lexemes previously unknown.

For Wölfflin, the cardinal virtue of the biographer of Latin words was impartial, patient observation. In this spirit, Claudia Wick, currently one of six full-time editors at the TLL, pointedly writes that "lexicographers do not translate". Rather, they try to establish the significance of a word, and set out to understand its various meanings and their connections. She uses a relatively simple example: pullinus literally means "that which belongs to the hen" - "hennish".

It is used in expressions ranging from a hen's egg (ovum pullinum) and chicken soup (ius pullinum) to chicken dung (fimus pullinus). Contrary to what one might like to think, the egg is closer to the dung than to the soup: the two former are produced by the hen, whereas the latter is made from the hen as an ingredient.

And if there were the Latin equivalent to chicken fodder, it would belong to a third category. For chicken fodder is not made of, but provided for, chickens. The three English prepositions - "by", "from", "for" - neatly represent the differences in meaning of the three usages of the Latin "pullinus". At the TLL, the word-biographer always starts with the name. And so, in writing down my results, I started with my word, the lemma, set in bold in its most common spelling, with its long vowel marked: putàtor.

Then follows a section lexicographers refer to as the "head". There the reader will learn about the word's origin, ancient comments on its etymology and meanings, sometimes in the form of a Greek gloss (an explicatory, often marginal, annotation), alternative forms and spellings, and alia similia or "other things of a similar kind"). Since two ancient authors define "putator", and it is glossed in Greek, this is what I put up front. Then comes the history of the word: its meanings, literal and metaphorical, general and particular, normally presented in chronological order. Here before the reader's eyes a life unfolds: when is the word attested for the first time? When, if at all, is it used metaphorically? Which meanings occur, which dominate? Does it simply vanish from the records at some point (which would be indicative of its disuse, maybe even death)? "Putator" led a relatively simple life: it enters the scene during the first century BC in its literal and general use as "one who cuts branches." But soon it is further specified: the putator cuts either trees or vines. Both the general and the particular usage can be traced into late antiquity. But there was more: for in inscriptions we find two men, father and son, the former most likely a slave, who upon his manumission had taken as his name his former profession: and so the putator became Putator.

The lexicon is as good as its lexicographers.

Neither speed nor sensation is their business. Though less studied texts, such as inscriptions and medical or botanical treatises, still yield the occasional surprising discovery of a word or an unknown meaning, it is rather the

painstaking, slow-footed, elementary, foundational research that is their daily bread. The articles go through various editorial stages to ensure quality. Fellows work under the supervision of the editors.

Together they discuss particularly difficult passages, possible structures of the article, which passages to include, which to leave out. Once a Fellow has written the article, the editor edits it, sometimes rather heavily. The revised version is read by another editor, whose suggestions are also taken into account. In the next stage, external readers, mostly senior Latinists, comment on it. But the fascicle in which it appears does not go into print before all its articles have met the approval of the General Editor. All of this takes time, and the actual writing of the articles will probably take ten times longer than anticipated. This gross underestimation has raised the eyebrows of observers and funders more than once. When questioned in the past, the staff of the Thesaurus have explained that when Wölfflin and his collaborators drew up the plan, they simply did not know what they were getting into. And most often, whenever articles were rushed, they fell short in quality. As every reader of biographies knows - and those on words are no different - good ones require not only careful research, but also circumspect arrangement and diligent writing. Before I started, my editor, John Blundell, asked at the end of our first meeting whether I had any presumptions about the putator. Now, putator was not a word that I actually had thought much about before.

Nevertheless, I ventured that I expected to find the division of the verb "putare", which can mean "to prune" and "to believe", in the noun as well as the verb. Two days later I had learnt that I had been (almost) entirely wrong. I further suggested that, given the widespread metaphorical use of agricultural terms in Roman culture, such was certainly to be expected in this case, too; again, if it had not been for a late Christian writer, I would have been completely mistaken. But in one Christian text, God is the "most knowledgeable putator", a metaphorical use, and in one passage in Augustine the putator is a believer. Why it took the putator some 600 years to discover this other aspect of his personality is beyond the reach of inquiry; at least for now, because maybe one day a newly discovered fragment somewhere in the sands of Egypt will reveal an earlier instance of it.

The TLL remains a work in progress. On the one hand, about one third of the alphabet is still waiting in cardboard boxes to be studied and transformed into articles. Deadlines have been missed so often that predictions for the conclusion are expressed tentatively. But 2050 seems reasonable. On the other hand, the slips are safely stored even after the fascicle with their word, "putator" say, has been published (once the word biography has appeared in a fascicle, no changes are possible). References to the latest scholarly articles that deal with the word in question are added to the slips, and new conjectures noted. Thus the archive continues to be updated, so that a future scholar, maybe interested in trees, will be able to take advantage of its riches, or perhaps one day, after the last volume has been completed, a supplement will be produced.

In any case, it will remain a treasure.