

Roger Bacon
Opus tertium
[transl. Nikolaus Egel]

Chapter 25
On the languages of wisdom (*Opus maius*, part III)

[132] I will now move on to the third part of my *Opus maius*, which deals with languages or rather the use of grammar in three languages in particular: Hebrew, Greek and Latin. I mention Arabic in appropriate places, but I do not write Arabic anywhere as I write Hebrew, Greek and Latin, because my suggestions can be shown more easily and understandably in these [three] languages. For [Arabic] is of little use for the study of theology, but of great use for philosophy and the conversion of the unbelievers. And I am dealing with two grammatical sciences of the Latins. First of all, I show that it is necessary for the Latin speakers to have a short and useful treatise on the use of foreign languages, and that this treatise should be the first part of the art of grammar, because the whole study of the Latins depends on foreign languages. This is true even of the Latin language itself, as I show in many ways.

[133] I justify the necessity of this matter by arguments concerning the study of [these languages] in themselves, and by their usefulness in guiding the Church and the commonwealth, converting the unbelievers and rejecting those who cannot be converted. In the first part [of the third part of the *Opus maius*] I present about eight reasons for the study of [languages] in itself. For all Latin saints, philosophers and poets knew foreign languages, as did all the sages of antiquity, many of whom we see present up to our own time, such as the Bishop of Lincoln [Robert Grosseteste], Saint David [Thomas Wallensis], Brother Adam [of Marsh] and many other men. Even now there are still old people who know many things, such as the extremely wise man in the study of the Scriptures, who is incomparable since the time of the Saints in correcting the Scriptures and explaining the literary sense.

[134] But we are the successors of the saints, the philosophers and the wise men of antiquity and therefore, just like them, we must know what is necessary about languages – or they were foolish and we are wise, which must not be claimed. Blessed Jerome travelled through the various regions of the Orient to learn about the diversity of languages. He has even changed his teeth to make the [there usual] breath sounds, as is handed down by him. Furthermore, if we do not know certain foundations of the languages used by the saints,

philosophers, poets and all the wise men in their writings, we will certainly be without the wisdom of the saints, philosophers and all the scholars, for we will not be able to read or understand what they treat scattered everywhere. I prove this just as clearly by examples of the saints as by the great error of the multitude of theologians due to ignorance of languages; and I have written there the Greek and Hebrew alphabets to prove my assertion, and many other things necessary for understanding these examples.

[135] The young man John can understand these examples, even if they concern theology, better than all the theologians of the world who are teachers and doctors. Your Glory will also be able to test the boy's knowledge in this regard. I also cite other reasons for this, which I do not perhaps recall in their correct order and in their entirety, but one thing I do know very well: that one of the reasons is that all the theological and philosophical wisdom of the Latins has been translated from these languages. This reason is very remarkable, because already Jerome, in his book *De optimo genere interpretandi*, says that one language cannot be faithfully expressed by another because of the many characteristics of speaking in the different languages. For what sounds good in one [language] sounds absurd and ridiculous in another. This is why Jerome also says in the above-mentioned work that even Homer will seem ridiculous to you if he is translated into Latin; and even the most eloquent of all poets then seems hardly able to speak. Anyone can easily see this for themselves when they want to translate a science known to them into their mother tongue. Surely the logician will not be able to formulate his logic if he were to write it in his mother tongue; for he would have to invent new words for himself and could therefore not be understood by anyone other than himself. The same is true in the other sciences.

[136] We can see this, moreover, by means of the different idioms in the same language. An idiom is a particular property in a language that is different from the same language: like Picardy, Gallic, Provencal and all the idioms from the borders of Puglia to the borders of Spain. For the Latin language is substantially the same in all of them, but it differs according to the different idioms. We can see here quite clearly that something sounds excellent and appropriate in one idiom that sounds ridiculous in another; this is true not only of idioms used by people who are far apart, but also of those who are very close to each other; as in the case of the Picards and the Gauls, who laugh at each other. This was the main reason why all the saints, philosophers and sages of antiquity wanted to know the other languages,

because they wanted to drink the water of wisdom from the same spring, since it tastes sweeter and richer.

[137] The fourth reason may be that in theological and philosophical texts there are countless words from other languages that cannot be written, formed or understood except by those who know these languages. This had to happen because the [various] sciences have been developed in their own language, and because translators have not found adequate words in Latin.

[138] The fifth [reason] is that many texts - especially philosophical texts - have been badly translated. For a translator must know the science in which he wants to translate a text, as well as two languages: namely the language from which he wants to translate and the language into which he wants to translate. But of all the well-known translators, no one but Boethius really knew the languages; and no one except the Bishop of Lincoln Robert [Robert Grosseteste] really knew the sciences, because he lived a very long time and was very experienced. He was also very eager to learn and very careful. Since he also knew mathematics and [the science of] *perspectiva*, he could know everything; at the same time he knew so much about languages that he could understand the saints, the philosophers and the sages of antiquity. However, it was only towards the end of his life that he mastered the languages so well that he could translate them, namely when he had called Greeks to his home and collected books on Greek grammar from Greece and from other places. But these translated only little. Others, who translated countless texts into Latin, such as Gerhard of Cremona, Michael Scotus, Alfred of Sareshel, Hermann the German and the translator of Manfred (who was recently defeated by King Charles [I of Anjou]), pretended to translate countless things, but they knew neither the sciences nor the languages, not even Latin: for they translated the words into their mother tongue in countless places.

[139] For example, in Aristotle's book *On Plants*, it says: "Henbane [*Belenum*] is dangerous in Persia, but edible if planted in Jerusalem. *Belenum*, however, is a Spanish word, so no one in Paris or England can tell from this translation what *Belenum* is supposed to be; but when I carefully traced this word I found out that it means the same as *jusquiamus* or 'the seed of henbane', because these words mean the same thing. It is similar with countless other words: they have translated the texts badly and quite miserably, thus confusing the whole philosophy because of their incorrect translations. Above all, they have destroyed the books

of Aristotle, which in philosophy are considered to be the ones that take first place. No one can know what he [Aristotle] actually wanted to say; for what one asserts, another denies.

[140] Furthermore, there are still many and serious errors of a different kind in the translations in each part of the philosophical writings. I have already given examples of this above when I spoke about the rainbow and the filling of space by bodies. And even Jerome, who knew the languages and wisdom of God very well, did not dare to translate the text faithfully everywhere according to the Hebrew truth, because it was considered by members of the Church to be a falsification of Scripture. Rather, he sometimes adapted himself to the other translators and left much of what had already been translated, even though he knew (as he himself often says) very well how to translate it better. This is also the case, for example, with his translation in the fourth Book of Wisdom: "False shoots cannot strike deep roots." For Augustine shows in the second book of *On Christian Education* that this translation is wrong. Hieronymus [moreover] translated wrong and against the truth in many places, as he himself admits, because he was confused by the speed of dictating. I have given examples of this both in the *Opus maius* and in the *Opus minus*. This vice is still incomparably more widespread in philosophy and is a great burden on the Latins.

[141] The sixth reason is that the formerly well translated texts are now spoiled because we do not know the languages, as is evident from the Bible and all the philosophical writings. For we can neither read nor write them properly, nor can we transmit them further, and so we inevitably lose their true meaning. This is due to the corruption of the Holy Text, because it is largely corrupt in the Parisian exemplar which is in circulation today; in other places, at least, it is extremely doubtful, and this doubt also affects the wise. That is why, today, it must be condoned as much as one condones the fear that afflicts even the brave man. For no one who knows of these errors and doubts can with a clear conscience use the words that are today in the Parisian exemplar for reading and preaching.

[142] What I am saying here must be considered especially with regard to the study of theology. Because here the harm and insult to the wisdom of God is almost infinite, I have very thoroughly documented [this corruption of the text] in this part of my *Opus maius*, and have given the roots of my evidence of the corruption of the text. In this I have relied on certain grounds, following the proofreaders and the saints - both Greeks and Hebrews. For there are many examples where things have been added or omitted from the text and where the text has been changed. This applies to both connections and separations, as well as to the

manner of speaking, diction, syllables, letters, diphthongs, aspirations and spellings. But not only the letters are spoiled by this, but also the thought is changed.

[143] When I spoke in the fourth part of my *Opus maius* about the relationship of numbers to theology, I also added there some special examples about the falseness of numbers. In the *Opus minus* I also gave a special example with all kinds of proofs, namely the fifth sin of the study of theology, which concerns the corruption of the text. I invoke God and you concerning this corruption of the [holy] text, because only you can find a remedy according to the advice of the wisest and others of whom I have written above. But above all, you can find a remedy according to what I will openly explain in my *remedies for study*. This depravity is made worse by the fact that everyone corrects the text as he thinks fit: for every reader in the Order of Friars Minor changes it as he pleases. It is similar with the Order of Preachers and the secular clergy. Each one changes here what he does not understand, what would not even be permitted in the books of the poets. The Dominicans have been most involved in these corrections, since they have been pretending to produce a corrected text for 20 years and more, which they have been revising again and again in their writings. But then they made another one to replace the previous one: this is why they wander around even more than anyone else and don't know where they are. It follows that their improvement is the worst deterioration and destruction of the text of God, so that it is far less bad to use the uncorrected Parisian exemplar than their corrected text or any of the other corrected texts.

[144] Man must therefore know enough Greek and Hebrew and the grammar of the Latins, as it has been presented in the books of Priscian. He must also have thought at length about the different ways of correcting and know the ways in which a true improvement can be made, so that he can correct wisely – something that no one has succeeded in doing except the wise man I spoke about. But I am not surprised about this, for he has spent almost 40 years correcting the Scriptures and interpreting the literal sense. All the others are ignorant compared to him and know nothing about it.

[145] The seventh reason for the necessity of knowing the languages is that it enables us to recognize the literal sense and thus also to derive the spiritual sense more easily from the literal sense. This reason could be divided into two [different reasons], but this is not usual. It should also be noted that this seventh reason and the sixth reason must be considered together, and even more so than the sixth reason [alone]. Because if the letter is wrong, the sense of the word and the spiritual sense are also wrong. Therefore, the other languages are

necessary to correct the letters for the correct rendering of this sense. Furthermore, languages are especially necessary for the understanding of the two senses, even if the letter has already been optimally corrected. I show this clearly both in the *Opus maius* in the place designated for it and in the *Opus minus* by excellent examples in the place where I treat the sixth sin in the study of theology. And there are countless other true examples of this corruption of the text.

[146] I think the eighth reason is rooted in the Latin language itself: for I show how it is composed of Greek and Hebrew, both in terms of ecclesiastical words and in terms of words in common usage. And this consideration is extremely useful.

Chapter 26

On the benefits of languages for the Church

[147] After that I treat the usefulness of languages for the Church of God; both for worship and for the consecrations of churches and the like, and for other mysteries of the whole Church and its statutes from the beginning to the end of time according to the power of the words. For here no *iota* and no point may be taken away from the law until all is accomplished. This consideration is also very valuable in view of the many future dangers posed by the Antichrist and other things that need to be considered, as is taught in the book *On the Seeds of the Scriptures* and as I also explain in this place. As far as the community of believers is concerned, the benefit [of languages] is obvious, both for the public peace between us and others, and for the merchants and the manifold trade relations with other countries, as well as for many other things. The benefit of languages is also useful for the conversion of the unbelievers and the schismatics. But for the repulsion of those who cannot be converted, it is not so obvious. For here lies hidden one of the secrets of all secrets, which is rejected by the crowd as magical and false. Yet it is a philosophical consideration as well as a consideration of the saints, even though the magical practice and the practice of the crones can be similar [to philosophical considerations]. For the same thing can be good and bad, and through the same thing good and bad things can arise. For example, one judge acquits a person according to the law, another condemns him to death against the law; with a knife I can cut bread and injure a person. In the same way, the wise man can also produce wise works by words, but the

magician can produce magical works, although in these cases a different reason and a different execution prevail. For the one does something by the power of nature, the other either creates nothing at all or the devil is the author of the work.

[148] Therefore, I will now turn to other roots about this, which I have discussed in detail in the second work, where I have covered the things in connection with the heavens. For we must remember that words have an extraordinary power: almost all the miracles that have been performed since the beginning of the world have been performed by words. For the most excellent work of the soul is the word, in which it also has the greatest joy. When words are spoken with deep insight, with great desire, with sincere intention and with strong trust, they have great power. For when these four things come together, the essence of the rational soul is led with great power to work its own *species* and power in its own body and in external things. This happens mainly through the soul's words, as they are formed within, whereby they receive more of the power of the soul. For Avicenna teaches in the eighth book of *On Animals*, using the example of a hen that has grown a horn on its leg out of joy at the victory over a cock, that nature obeys the movements of the soul. From this we have realized that nature obeys the movements of the sensitive soul. But it obeys the movements of the intellectual soul even more, which, just after the angels, is nobler than anything else created. Depending upon whether a soul is holy or sinful, the emergence of the *species* and the voice is changed; it also depends upon whether the soul is benevolent or malevolent. Thus the power of a good or bad soul, greatly multiplied, is strongly embodied and impressed in the voice and in the air surrounding it. In this way, the air is formed by the voice and carries with it a strong *species* of the reasonable soul that can change [the environment] through this power. In this way, the air also changes the things it contains in many ways and produces various effects.

[149] Likewise, a body produces an even stronger *species* from the considerations, desires, intentions and self-confidence of its soul. Since the same *species* is essentially born of body and soul, the nature of the body obeys the soul's reasoning and creates a stronger *species*, which is then transmitted to the air formed by the voice: thus the air is changed by both the physical *species* and the *species* of the soul, and in turn changes the things it contains. But the effect in the air and in the various things depends on whether the soul has a good or a bad composition.

[150] The third change results from the action of the celestial bodies: for the positions of the celestial bodies change things on earth every hour; and the works that they do here on earth change according to the diversity of the celestial constellations, as is evident in the works of medicine, alchemy, and everything else. Therefore, the air formed by the voice, at the moment of recitation, also receives the power of the sky and is changed according to this power and changes things accordingly. From this quadrupled species and power, that is: the voice that forms the air, the good or bad reasonable soul, the physical soul and the positions of the celestial bodies, a lot of incredible and wonderful effects can arise in the air and in the things contained in it. This is done according to the choice of a good or bad time according to the celestial constellation and the kind of change one wants to bring about, the change one strives for, the change one longs for and the change one strongly desires. For then, according to the respective heavenly constellation, something will certainly be changed if the change is supported by other forces. Thus, the experienced physician who has the desire to purify the bile that is the cause of illness will seek the necessary heavenly position at a certain hour so that what he intends to do will occur. This is how it is with this.

[151] In this way the prophets and sages of antiquity - as Avicenna wrote in the sixth book of his *Treatise on Nature* - changed the matter of the world through words, providing for rain and drought and other changes in the air. The philosophers also believed that by doing so, people and wild animals, snakes and dragons could be lured out of their caves, driven away and used at will. In this way every kind of magic is created. However, if the magic is caused only by a random word and not during the right celestial position, not with a strong movement of the soul, not with a conscious wish and sure mindfulness, but only at the random hint of a speaker, then it is a stupid thought and a magical practice of old women, which is beyond the thoughts of the wise man and produces nothing. Nothing can come of it, unless the devil carries out the work secretly behind it, taking advantage of man's sins. But when the four forces mentioned before are combined with the five qualities of the soul: namely, with a strong thought, an urgent desire, a sure intention and a firm hope, the goodness or even malice of the soul, and with a good or bad composition of the body, a change will occur, whatever one may call it, whether magic or otherwise.

[152] Here the whole discussion about spells, incantations and magic formulas takes place. For incantations are letter signs grouped together in a figure, in the way of writing in some oriental countries, as I wrote in my treatise on the regions of the earth towards the end

of the mathematical part [of my *Opus maius*]. Therefore, when such voices – called spells and incantations – are not uttered according to the four ways already mentioned and without the corresponding constitutions of the soul and body, but only by chance and at someone's behest, they are magical practices which do not have the natural power to change anything. But if there should be a change, then it is done by demons who cause it. But when the spells are cast under the circumstances already mentioned, it is philosophical sayings that the sage brings forward in a wise way. Of this kind are the spells that the prophet David recites. But this subject is one of the most difficult in philosophy and at the same time it is less credible, because the spells can be understood both magically and philosophically.

[153] But in *Opus minus*, where I talked about the heavenly bodies, I considered more of these things where I discussed the greatest secrets of nature, which cannot be explained to everyone but only to the wisest men. In the *Opus maius* I wrote some of these things in the same place, too; and also in another place a little about magic, but only incompletely. For I had intended to add much in the manner of the reflections I am making here and in the second work: but then I forgot it. When I will explain the goal of mathematics, I will say something about these things.

[154] Furthermore, one must read carefully my treatise on the multiplication of species and their powers, which I have sent to you twice. I also started in a third manner, but I could not execute it. The *species* certainly cause any change in the world, in our body and our mind. But since this multiplication of *species* is as unknown to the crowd of students as it is to any other Latin scholar except three or four people – and even these are only versed in perspective, namely the multiplication of *species* of light and color for the sense of sight – we do not perceive the wonderful activities of nature which happen every day in us and in the things before our eyes, but judge that they are either caused by a special divine action, or by angels or demons, or by chance and fate. But this is only the case in so far as every activity of a creature comes from God in some way. But this does not exclude that these processes are caused by natural causes, because nature is an instrument of divine activity.

Chapter 27

On linguistic signs

[155] After that I dealt with the content of another part of grammar, which has not yet been compiled or translated by the Latins. It is, however, extremely useful for the sciences, as far as one can ask for and know through it all the speculative truths of philosophy and theology. This part of grammar is about the composition of languages and how spoken signs signify something by imposition and in other ways. Since one cannot know anything about this unless one knows the principles and the different ways of designating, I have gone into these ways of signification in more detail; just as Augustine teaches in the second and third books *Of Christian education* that some signs are natural, while others are formed from the soul.

[156] The natural signs are twofold: the one type of signs designates by the simultaneous presence with the designated thing, just as it is, for example, a sign of strength to have large limbs. The others indicate by similarity, just as the image of St. Nicholas is a similar and identical sign [for the person himself]. In this way, all *species* are signs of things; and each of these two [natural signs] is further divided into many subspecies. The sign set by the soul is either natural (such as the groaning of a sick person and the barking of a dog) or voluntary (such as a wreath of wine, bread in the window, and all verbal utterances). For a language cannot be composed of naturally descriptive sounds, as I often show with the help of Avicenna.

[157] After that I consider how a linguistic sound designates something unequivocally, how it designates something equivocally, and how many kinds of designation exist. Then I consider how and in how many ways [a linguistic sound] is designated by analogy. I also show when a linguistic sound, while denoting unequivocally, denotes an infinite number of things and without imposition, not equivocally and not by analogy, according to the common ways of making analogies. I have also shown how a linguistic sound designates the Creator, how it designates a single being, how it designates composite things, how it designates things in an absolute way and how it designates things relatively. I have also explained that when a linguistic sound is unequivocal but denotes many things at once, it denotes those many things naturally and not according to an act of will. Those things that are so naturally designated are called 'connoting' by theologians. I have also shown how many things can be connoted by divine names, how many by names of simple living beings, and how many by compound, absolute and relative names. By all of these arguments I have been able to dispel many grave doubts and show many truths through which everything can be known, and which until then were questionable and dubious. I have also considered how and in what kind of ways the voice

in Scripture designates the spiritual sense together with the literal sense. I have also shown how the literary sense designates the spiritual sense, to what extent the Old Testament is a sign for the New Testament, and to what extent the sacraments are signs. I have interspersed many other difficult things: about the first language of Adam and how he gave the things their name. And whether children alone in the wilderness could use a language for themselves and whether and in what way they could communicate their feelings when they met; and many other things which I cannot deepen here. But I think that this part of grammar is extremely necessary for theology, philosophy and for all wisdom. I also show that this is a part of grammar and not another science. And yet I do not cite the proof from Augustine's second and third books of *On Christian education*, even though he himself treats it there as part of grammar, as can be seen from the progression of his treatise.