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THE WORK OF TRANSLATION AT TOLEDO¹



Since the publication of the remarkable article of Valentin ROSE *Ptolemaeus und die Schule von Toledo* as long ago as 1874², and indeed earlier, it has been customary to speak of a college or school of translators as functioning in the Spanish city during the Middle Ages. The historical circumstances will be remembered. Toledo, then the capital of the Dhunnunids (Banu dhi'n-Nun), in their time among the most important of the Party Kings (Muluk at-Tawa'if), fell permanently into Christian hands by capitulation in the year 478/1085. Under the aegis of RAYMOND, archbishop of Toledo (1125-1151) an activity of translation from Arabic into Latin began, which numbered among its exponents Gerard of CREMONA (died 1187) and Michael SCOT (active at Toledo in 1217) and continued more or less down to the times of Alfonso el Sabio (Alfonso X, 1252-1284). These facts were sufficiently known when ROSE wrote his article, but he was able to show that Toledo was a real school where instruction was given, in some ways the precursor of the first Spanish University at Palencia, and further that during the long period from Archbishop Raymond to Archbishop Roderic (1208³-1247), whose own *Historia Arabum* no doubt owes something to Arabic sources, the

¹ This paper by Dr. D. M. Dunlop, Cambridge, was read at the First International Conference on the History of Muslim Philosophy at Cologne in September 1959.

² *Hermes*, VIII, 327-349.

³ ROSE (341) gives 1210.

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work of translation at Toledo was carried on under the patronage of the Church.

It is natural that the investigations of the present century have thrown further new light on the school of Toledo, and the aim of this paper is to consider some of these further developments and add one or two marginal comments. Notable among the advances has been the publication of the text of the *Philosophia* or *Liber de naturis inferiorum et superiorum* of Daniel of Morley by Sudhoff in 1918⁴. This work, written between 1175 and 1200, was already known in part to ROSE, and was used by him to show that Gerard of CREMONA lectured on astrology at Toledo between 1175 and his death in 1187. We shall return to the text of Daniel of MORLEY below.

Indicated as a likely repository of the works of the Toledan translators was the Chapter Library of Toledo, which from the beginning of the 14th century, if not earlier, possessed a notable collection of manuscripts. Professor Millás Vallicrosa of Barcelona in 1942 completed a valuable survey entitled *Las traducciones orientales en los manuscritos de la Biblioteca Catedral de Toledo*⁵, where he describes fifty-two manuscripts still existing in Toledo or at the Biblioteca Nacional, Madrid, from the same source. Most of these manuscripts are composite, and they contain some hundreds of works and items. The results of Millás are too various to deal with here in anything like detail. He has brought to light a number of hitherto unknown translations in Latin, Castilian and even Catalan, many of which are unfortunately anonymous. One new figure of the Toledan school, however, appears in the person of Alvaro of OVIEDO⁶ (last third of the 13th century), annotator and corrector of manuscripts and author of several works, at least one of which has survived, a commentary on the *De substantia orbis* of Averroes. Professor Millás has also brought to light an inventory of books of a future archbishop, then dean, of Toledo, made at Alvaladiel, two leagues from Toledo, in 1273, which includes ‘todos los comentarios de Avenrost, fueras poco et es el primer original scripto de la mano del trasladador’, i.e. the bulk of the commentaries

⁴ In *Archiv für die Geschichte der Naturwissenschaften und der Technik*, VIII, 1–40.

⁵ Consejo Superior de Investigaciones Científicas, Instituto Arias Montano, Madrid, 1942.

⁶ Op. cit., 34 ff.

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of Averroes in the autograph of Michael SCOT⁷.

We now come to a remarkable series of articles published by Padre Manuel Alonso ALONSO in the review *Al-Andalus* from 1943 onwards, in which he analyses the works attributed to some of the Spanish members of the Toledan school, notably John of Spain (Johannes HISPANUS, Ibn Da'ud, Avendehut, etc.) and Dominicus GUNDISALVI (Gundissalinus) As far as John of Spain is concerned, this was a desideratum indicated earlier by C. H. HASKINS⁸. The two, John of Spain, a converted Jew, and Dominicus GUNDISALVI, archdeacon of Segovia, resident at Toledo, are known to have collaborated in producing translations for Archbishop Raymond at the beginning of the movement (from about 1140), as well as original words. In the articles referred to⁹ Alonso examines their writings and draws up lists of the works in which one or other had the principal share or was entirely responsible. It was to this pair but especially according to Alonso to John of Spain that the first translations of Arabic philosophy into Latin are due¹⁰. Gerard of CREMONA, who came to Toledo only in 1167, 'for love of PROLEMY'S *Almagest*' as it is said¹¹, is later.

Alonso also differentiates between John of Spain (Johannes Hispanus) and John of Seville (Johannes Hispalensis). The former, a Jew by origin, worked in Toledo on philosophy

⁷ Op. cit., 17 ff.

⁸ *Studies in the History of Mediaeval Science*, ed. 2, 1927, 13.

⁹ Notas sobre los traductores toledanos Domingo Gundisalvo y Juan Hispano', AL-ANDALUS, VIII (1943), 155–188); id., XII (1947), 295–338 ('Traducciones del arcediano Domingo Gundisalvo'); id., XIV (1949), 291–319 ('Las traducciones de Juan González de Burgos y Salomón'); id., XVI (1951), 37–47 ('Hunayn traducido al latín por Ibn Dāwūd y Domingo Gundisalvo'); id., XVII (1952), 129–151 ('Traducciones del árabe al latín por Juan Hispano [Ibn Dāwūd]'); id., XVIII (1953), 17–49 ('Juan Sevillano, sus obras propias y sus traducciones'); id., XX (1955), 129–152, 345–379 ('Coincidencias verbales típicas en las obras y traducciones de Gundisalvo'); id., XXII (1957), 377–405 ('"Al-qiwām" y "al-anniyya" en las traducciones de Gundisalvo').

¹⁰ AL-ANDALUS, XVII, 129.

¹¹ ROSE, 334.

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from about 1140¹² in relations with Archbishop Raymond and Dominicus Gundisalvi. The latter, John of Seville, contemporary with John of Spain or a little earlier, was a Mozarab, and worked alone in Muslim territory¹³, translating works of astronomy and astrology. And it now appears that Juan Gonzalez of Burgos and Salomon are a distinct pair of translators belonging to the 13th century, different from Dominicus GUNDISALVI and his collaborator¹⁴.

Evidently these results set in a clearer light than hitherto the activity of the earliest representatives of the Toledan school. Yet some of the details of ALONSO'S reconstruction are open to question. For example, his attempt to prove that the translator John of Spain, a convert of recent date, was in 1151 raised to the archbishopric of Toledo and Primacy of Spain scarcely carries conviction¹⁵.

Further, apart from the difficulty of identifying the Luna and Limia where John of Seville is said to have worked¹⁶, if these are to be looked for in the south, the purpose of the production of an elaborate series of Latin technical works (thirty-seven in the list given)¹⁷ in Muslim Spain is not obvious. For whom were these intended? Not certainly for the convenience of the translator himself, as ALONSO seems to think, for as a Mozarab he was translating *out* of his native Arabic. Clearly these works were produced in relation to the translation movement among the Latins, which, it will be remembered, was not restricted to Toledo. John of Seville may well have been a Mozarab, like Galippus (Ghalib), who assisted Gerard of Cremona in his translation of the *Almagest*¹⁸, but it would seem that the seat of his

¹² AL-ANDALUS, VIII, 177; id., XVIII, 21, 22.

¹³ AL-ANDALUS, XVIII, 27, cf. id., VIII, 168.

¹⁴ See AL-ANDALUS, XIV, 291–319.

¹⁵ AL-ANDALUS, VIII, 173 ff., 187; id., XVII, 130; id., XVIII, 27.

¹⁶ AL-ANDALUS, XVIII, 34, 35, 38, 43, 44.

¹⁷ Ibid., 30–48.

¹⁸ 'Girardus Tholetanus, qui Galippo mixtarabe interpretante Almagesti latinavit', Daniel of Morley, *Philosophia*, sub finê. Sarton (*History of Science*, II, 1, 385) says incorrectly that Galippus

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activity was not in Muslim territory. Luna, for which Limia, also Lunia, are simply variants, has not been identified. Of localities in Spain of that name the choice appears to lie between Luna in the province and diocese of Saragossa near Ejea de los Caballeros, and Luna, now represented by Los Barrios de Luna, in Leon. Until further evidence is forthcoming it seems best to admit, following the ascriptions in the manuscripts, that a substantial part of the activity of this translator was carried on at one or other of these places, with a preference for the former, since it was in the same neighbourhood 'in the region of the Ebro' and at the same time (1141) that Peter the Venerable found Hermann of Carinthia (Hermannus Dalmata), who had already rendered a work of Arabic astrology, and Robert of Ketton, and engaged them for the projected translation of the *Qur'an*¹⁹.

In any case, all the elements in the perplexity connected with these names seem not yet to have been resolved. A recent discussion (Marie-Thérèse d'ALVERNY, *Avendauth? In Homenaje a Millás-Vallicrosa*, Barcelona 1954, I, 19-43) raises the difficulty that Johannes David (who should be Johannes Hispanus rather than Johannes Hispalensis, assuming that these two are different) was apparently a mathematician, while the new solution proposed, that Avendehut (Avendauth, etc.) was Abraham ben Da'ud, the well known author of *Sefer ha-Qabbalah* and other works in Hebrew, though plausible on several grounds, involves the separate existence of Johannes David as an otherwise unknown Welshman or Scotsman (??) and another equally unknown Johannes, who assisted Dominicus Gundisalvi in his translations.

We have also had in recent years (*Al-Andalus*, 1951 and 1952) a comprehensive study by Marie-Thérèse d'ALVERNY and Georges VAJDA of a little-known translator, MARK of

interpreted the *Almagest* for Daniel of Morley.

¹⁹ Cf. Haskins, op. cit., 11 ff. Peter of Toledo's Latin translation of the *Apology of al-Kindi*, commissioned by Peter the Venerable (about 1143), has been edited by José Muñoz Sendino ("Al-Kindi, Apologia del Christianismo", *Miscelanea Comillas, XI-XII*, Comillas/Santander, 1949, 339-461). This may be considered as another modern contribution to the study of the Toledan translators, but apart from his name little is known about the circumstances of the author of the translation.

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Toledo. This fixes the date of his activity at the end of the 12th and in the first decades of the 13th century, making him a younger contemporary of Dominicus GUNDISALVI (died after 1181) and Gerard of Cremona. Attention is drawn to MARK of Toledo's translation of the *Qur'an*, completed in 1210²⁰ and in several respects superior to the earlier version of Robert of KETTON, and to his other principal contribution, the first Latin translation of a Muslim theological treatise, completed in 1213²¹, being the *Aqidah* or Confession of Faith of Ibn Tumart, Mahdi of the Almohads. Both these works were produced by direction of Archbishop Roderic mentioned above, of whose cathedral MARK was a canon. Their polemical purpose in the struggle then going on in Spain is not overlooked by the authors, but rightly, in the present writer's opinion, the inference is not extended to the works of the Toledan school as a whole.

We have already seen that ROSE used a passage in Daniel of Morley's book to establish Toledo as a teaching school. The complete text of Sudhoff allows us to add that Galippus the Mozarab also lectured at Toledo²². SINGER has suggested²³ that as the cosmogony of Daniel which he heard from Galippus is based on the *Timaeus* of PLATO and this work was known earlier in Latin, the competence of Galippus in Arabic is doubtful. The suggestion appears gratuitous, since the *Timaeus* existed in Arabic and there is no evidence that Gallipus knew Latin. Daniel of Morley mentions that he heard him lecture *in lingua Tholetana*²⁴, presumably Romance. Gallipus like other Mozarabs doubtless knew Arabic much better than Latin.

Our knowledge of Daniel still leaves much to be desired, although Lynn THORNDIKE

²⁰ AL-ANDALUS, XVI, 101, 268.

²¹ Ibid., 101, 283.

²² 'ut auditoris animus fortius cohereat, quod a Galippo mixtarabe in lingua Tholetana didici, latine subscribitur', Daniel's text, p. 9, cf. Haskins, op. cit. 15.

²³ Isis, III (1920), 267.

²⁴ Cf. n. 21.

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was able to point to other manuscripts of his work that the one used by ROSE and SUDHOFF²⁵. The following passage, translated from SUDHOFF'S text²⁶, might suggest at first sight that the work is not genuine, in which case of course the principal evidence for Toledo in the 12th century as a teaching school disappears:

“Outside the walls of the city of Toledo near the Tagus, on a piece of rising ground, two fountains devised by the skill of the ancient pagans spring forth. The water is artificially brought to them by subterranean ways and pouring out through two narrow pipes, is received by twin basins of stone, which the people of Toledo call in the vulgar language *concha*. When the moon appears at the full, the basins are completely filled so that not a drop escapes, nor can either receive any more water without overflowing. If anyone, as long as the world endures, should draw water from them, he will always at full moon find the basins abundantly full. But when the moon begins to wane, so that she appears as a half-moon, the water withdraws till it does not exceed the half of the basins. Nor if anyone should then pour in succession the whole river Tagus into these basins, will he succeed in filling them, or even increasing the water in them. The water is of a salt taste, though the sea is distant at least six days from Toledo. In another part of the city are two fountains of sweet water, constructed by a similar artifice, which equally increase and decrease with the waxing and waning of the moon. These fountains well out at the foot of a steep rock above which by miraculous art is built the stupendous palace of (?) Galen (*supra quam mira arte fabricatum est stupendum Galiene –sic–palatium*).”

At first sight DANIEL seems to be moving in some fantastic Toledo, like that in the apocryphal work of “Virgilius Cordubensis”²⁷. But the fountains are not represented as a

²⁵ *History of Magic and Experimental Science*, II (London, 1923), 179. Later studies of Daniel are by Martin MÜLLER, “Die Stellung des Daniel von Morley in der Wissenschaft des Mittelalters”, *Philosophisches Jahrbuch der Görres-Gesellschaft*, XLI 3 (1928), 301–337, and Theodore Silverstein, “Daniel of Morley, English Cosmogonist and Student of Arabic Science”, *Mediaeval Studies*, X (1948), 179–196.

²⁶ P. 33.

²⁷ Cf. Haskins, *op. cit.*, 19.

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magical device and gain their explanation from a fuller description in the Arabic authors. The Arabic passage, which is sufficiently well-known²⁸, appears to derive from the *Geography* (Kitab al-Jughrafiya), commonly attributed to az-Zuhri in the 6th/12th century, and is as follows²⁹).

“Among the wonders of al-Andalus are the two basins (*pila*) in Toledo made by ‘Abd ar-Rahman (variant : Abu’l-Qasim ‘Abd ar-Rahman known as az-Zarkal)... outside Toledo in an emplacement hollowed out in the declivity of the great river at the place known as the Gate of the Tanners. The remarkable thing is that they fill and empty with the waxing and waning of the moon. A little amount of water enters them at the moon’s first rising, so that there is in them at the moon’s first rising, so that there is in them in the morning a (twenty-eighth) part and at the end of the day a fourteenth part of their content of water, and so on every twenty-four hours a fourteenth part, till seven days and nights of the month are completed, when they are half-full. The increase continues at the same rate, one-fourteenth in twenty-four hours, till when the moon is full they are completely filled. On the fifteenth night, when the moon has begun to wane, they empty with the waning of the moon at the rate of one-fourteenth in twenty-four hours, and on the twenty-ninth of the month there is no water in them. If anyone tries to fill them when they are empty, bringing water to them, they swallow it up at once, so that no more remains in them than before. Similarly, should the attempt be made to empty them when full and leave nothing in them, as soon as one’s hand is removed, enough water to fill them rushes in immediately... They continued in the same emplacement till the rule of the Christians in Toledo, when Alfonso wished to know how they worked and ordered that one should be dismantled, to see where the water came from and how they were constructed. They were accordingly dismantled in the year 528/1133-1134 and ceased to work. It is said that the cause of their ceasing was Hunain (variant:

²⁸ Text and translation by R. Basset in *Homenaje a D. Francisco Codera*, cf. D. M. Dunlop, *J.R.A.S.*, 1943, p. 18; translation in E. Fagnan, *Extraits inédits relatifs au Maghreb* (Algiers, 1924), 129–131, from the *Tuhfat al-muluk* of Ibn Zanbal (10th century A. H.); Maqqari, *Nafh at-tib*, I, 126; also Fernandez y Gonzalez, *Mudejares de Castilla* (Madrid, 1866), 74 ff.

²⁹ Text of Maqqari with variants from the *Tuhfat al-muluk*.

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Khamis b. Zabra) the Jew³⁰, who... wished to examine the mechanism of the two fountains, and told the king that he would dismantle them and restore them better than before, so that they would fill and empty in a night and a day. But when they were dismantled he could not put them together again. It is also said that he dismantled one to learn its construction and spoiled it, but the other continued to work.”

Apart from the difficulty that the fountains are here said to have been dismantled more than forty years before Daniel of MORLEY’S time (he is thought to have been in Toledo between 1175 and 1187), this account of what was evidently a water-clock, in all probability constructed by the celebrated 11th century man of science az-Zarqalah³¹ (Azarquiel), bears out DANIEL’S own account. The “stupendum Galiene palatium”, where the proper name is uncertain, is also probably to be identified with the palace of the Dhunnunids at Toledo (built by al-Ma’mun Yahya b. Dhi’n-Nun, who died in 467/1074-1075). The passage from Daniel of Morley, read in the light of the other, thus tends to confirm his presence in Toledo. It also shows clearly the feelings of respect, indeed of astonishment, entertained by intelligent observers at this time in the face of the works of their predecessors. Certainly none of the Latins in 12th-century Toledo possessed the knowledge which would have allowed them to emulate the works of az-Zarqalah, who was only one of the pleiad of talent which adorned Toledo under the Dhunnunids. A proof of this is that the 11th century Toledan astronomical tables were only superseded by the celebrated Alfonsine Tables in the 13th century. These dates provide an approximate measure of the time-lag which the Latins had to make up before they attained the cultural level of the Spanish Muslims whom they had conquered. The activity of the Toledan translators was in the main conditioned by the need to make good the deficiencies of Latin culture, over a much wider fields than the applied sciences, hence their early occupation with the philosophical side of things.

The results of this survey may be stated briefly.

- 1) The translation movement at Toledo was patronised throughout by the Church.

³⁰ This personage seems to be otherwise unknown.

³¹ Often called az-Zarqali. Correct the statement in *J.R.A.S.*, 1943, p. 19.

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Rose used as a telling illustration the fact that Hermannus Alemannus, one of the leading Toledan translators, wrote the conclusion to his version of Averroes' Middle Commentary on the *Ethics* of Aristotle (1240) in the Capilla de la Trinidad at Toledo³², and the new material contains plenty of other proofs.

2) Toledo was a real teaching centre (based though not exclusively on Daniel of Morley).

3) At Toledo there was direct continuity with the Muslim past. Under the Caliphate the great centre for books in Muslim Spain was Cordova³³. Later the intellectual primacy of the capital passed elsewhere, and it is probably true to say that since the beginning of the 11th century Toledo had gradually become the centre of Muslim learning in Spain³⁴. Daniel of Morley seems to show that the translators, working among the tangible memorials of the past, were conscious of its aspects of greatness.

Source : D. M. Dunlop, «The Work of Translation at Toledo», dans *Babel*, vol. 6, n° 2, 1960, p. 55-59.

³² Rose, 346.

³³ Maqqari, I, 98.

³⁴ So the late J. B. Trend, *Legacy of Islam* (Oxford, 1931), 28.