CHAPTER 4

Scientific, Medical and Technical Manuscripts

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Introduction

From the late 2nd century, little by little, through the prism of the new religion, namely Christianity, and building on a newly emerging society following profound socio-cultural changes, the science produced in Alexandria and elsewhere in the Mediterranean world would never be the same as in the Hellenistic age. Still, should one speak of decadence? Ideological and spiritual transformations on the one hand and political and ethnic turmoil on the other have led many specialists in epistemology to speak of a “general decline”, especially from the late 2nd century on.

However, the “decline” of Greek science is more likely to be a reflection of a more general phenomenon: the slow dissolution of the religious and social structures of the ancient world. When institutional structures and value-systems change, scientific representations of the universe change accordingly.

In this new age, scholars tried to explain and understand nature through Christian eyes or to use ancient knowledge for hortatory reasons. Evidence of this “decline” is found in many scientific fields. Alchemical literature of the 4th century, for example, with Zosimos of Panopolis was mediocre and pompous, often devoid of any consistency, even on allegorical and symbolic levels. This was also the case of the Greek Physiologus and thereafter not only its Latin version, but also its offshoots, i.e. illustrated bestiaries. For some researchers it is a fact that the proto-Byzantine society was not utterly able to preserve ancient scientific knowledge. And with scholars like John Philoponos the increasing hostility towards any knowledge gathered from pagan writings, only accelerated its “decline”.

But the real blow to scientific investigations was on the one hand the first Arab invasions which marked the end of Late Antiquity and on the other Iconoclasm, which left deep and lasting scars. One must add to these factors the lack of interest, with a few exceptions, of the Byzantine imperial power for science. Byzantine rulers, in contrast to Alexandria or the Islamic world, did not create foundations for purely scientific purposes, except in the context of hospitals, which often benefited from the presence of a medical school. This “stagnation” amongst Byzantine scholars was also due to the Empire’s general
instability, which did not favour the establishment of an educational program tailored to their needs, which might have fostered new ideas.

Yet, even if intellectual curiosity was less intense, they continued to copy, comment and even revise ancient texts. Byzantine science amounted for the most part to the numerous treatises of Antiquity often accompanied by scholia derived from the scientific teachings of schools in Alexandria, Athens and Syria. This wealth of knowledge was also combined with non-Greek works, some in Arabic, but also Latin and Hebrew. With the exception of a few major Byzantine scholars who produced original work, the vast majority were “amateurs maladroits ne maîtrisant pas toujours entièrement la matière qu’ils expliquent” in all scientific fields.

Preserving this knowledge was for the Byzantines a sacred mission and the fate of their books one of their most pressing concerns. “Tell me, I pray thee, how will the world end?” Epiphanios asked St. Andrew the Fool, his master, adding: “Which signs will tell us that the time is fulfilled, and what will come of this city, the New Jerusalem? [What will happen to the] books?” This text, more than any other shows the central place occupied by books in Byzantine society and expresses the concerns of the Byzantines for the fate of their civilization through their writings. The Byzantines considered books to be the keepers of their civilization, since they recorded all the knowledge of their ancestors. They felt they needed to protect it by copying new manuscripts and transmitting this knowledge to future generations through teaching.

In addition to the quadrivium or τετρακτύς τῶν μαθημάτων, other disciplines considered to be ancillary sciences were also taught in Byzantium, but less theoretically so.

1 Tihon, “Les sciences exactes”, p. 381.
2 Εἰπέ μοι, παρακαλῶ σε, πῶς τὸ τέλος τοῦ κόσμου τούτου; [...] ἀπὸ ποίων δὲ σημείων ἢ ἀπόδειξις ἔσται τῆς συντελείας, καὶ ποῦ παρελεύσεται ἡ πόλις ἡμῶν αὕτη ἡ νέα Ἱερουσαλήμ [...] καὶ οἱ βιβλίοι [...] ; Nikephoros Presbyter, The Life of St Andrew the Fool, ed./trans. L. Rydén, pp. 259-60 (l. 3808-13).
3 See the related discussion by Anna Comnena in the prologue of her Alexias: ἀπὸ τῆς τετρακτύος τῶν μαθημάτων, 1.1. Anna Comnena, Alexias, ed. D. Reinsch/A. Kambylis.
4 Depending on the period, quadrivium studies could be of a very rudimentary level, or conversely be of a very high level because the study of sciences could be pursued indefinitely.
5 Today, natural sciences are more commonly divided into life sciences (botany and zoology) and physical sciences (physics, chemistry, geology and astronomy).
6 By “medical sciences”, I mean human and veterinary medicine, including its subsidiary or ancillary aspects. In other words, the term embraces human medicine itself (with all its diag-