

Niels Stensen's (Nicolaus Steno's) lost geological manuscript

by

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Abstract

In 1669 NIELS STENSEN (NICOLAUS STENO) published his treatise: *De solido intra solidum naturaliter contento*, and he had also planned a greater geological work, which, however, never was published. It is generally assumed that STENO gave his complete material to his pupil HOLGER JACOBÆUS, a young Danish physician. But STENO's material seems to be lost. In Biblioteca Nazionale in Firenze the author has found a letter from JACOBÆUS, which throws some light upon the fate of STENO's material.

When, in the year 1669, NIELS STENSEN (NICOLAUS STENO) published his geological treatise "*De solido intra solidum naturaliter contento dissertationis prodromus*" ("On a solid body enclosed within a solid by process of nature") he gave the main results of his geological and mineralogical investigations in Italy. But STENO was in possession of much more material. He hoped later to publish this and writes in *De solido* (1669), page 76: "And this is the short, not to say chaotic account of the principal things which I had decided to set forth in the Dissertation, not only with greater cleanness, but also with greater fullness, adding a description of the places where I have observed each thing". It was, then, NICOLAUS STENO's intention to work out a larger geological treatise, but this he never did because other work (especially ecclesiastical) took his time. STENO's unpublished geological material has, until now, been unknown in its details.

From time to time the question has been asked: "Where is STENO's lost geological material?" (1) In this connection one finds the name of a Danish physician and naturalist HOLGER JACOBÆUS (1650–1701) who, in the years 1676–1677, lived in Italy with his cousins, professor THOMAS BARTHOLINUS's young sons, CASPAR BARTHOLINUS (born 1655) and CHRISTOFFER BARTHOLINUS (born 1657) (2), and who was a pupil and near friend of NICOLAUS STENO. As "*amicissimo mio Niccolò Stenone*" HOLGER JACOBÆUS for example mentions NIELS STENSEN in a letter (Copenhagen, 9th October 1677) to ANTONIO MAGLIABECCHI, librarian of the Grand Duke in Firenze (3). It seems that JACOBÆUS had intended to follow NICOLAUS STENO over to the Catholic Church (1), and one therefore understands that it was to this young scientist and friend NICOLAUS STENO committed his geological manuscript when he himself could not use it. In this connec-

tion one can quote a passage of G. W. LEIBNIZ (1646–1716). In Hannover, Germany, where NIELS STENSEN lived some years as a Catholic bishop, LEIBNIZ had the opportunity to discuss geological problems with NIELS STENSEN and after STENO's death, LEIBNIZ wrote to the Danish historian OTTO SPERLING: "J'ay appris, que feu Mr. STENONIS, se dechargeant de la litterature profane, chargea Monsieur OLIVERIUS (i.e. OLIGERUS) JACOBÆUS, Medecin Danois, de pousser et de poursuivre ses pensées sur la Geographie naturelle, et les changemens physiques de la surface de la terre. Je voudrois bien savoir, si ce savant homme y travaille effectivement" (4). HOLGER JACOBÆUS, however, has not published NICOLAUS STENO's geological material or used it in his own studies.

Seeing that it would be of exceptional interest to know all NICOLAUS STENO's observations, in the autumn of 1959 when I had again the opportunity to carry out investigations on STENO in Italy, I concentrated my work upon the letters of HOLGER JACOBÆUS and CASPAR BARTHOLINUS, now in Biblioteca Nazionale in Firenze. I hoped to find in those letters the key to the problem of STENO's lost geological manuscript.

A decisive answer has hitherto not been found, but the letters of HOLGER JACOBÆUS to ANTONIO MAGLIABECCHI give some hints of interest.

JACOBÆUS and his cousins left Italy in 1677 in great haste (5); it seems that it was because CASPAR BARTHOLINUS felt anxious about the Catholic tendencies of HOLGER JACOBÆUS (6). A conversion would have been a catastrophe in those times. NICOLAUS STENO's fate was not to be HOLGER JACOBÆUS'.

When leaving Italy both CASPAR BARTHOLINUS and HOLGER JACOBÆUS left their books and other things to be sent to Denmark later. STENO's geological manuscript may very well have been among these. But these books and other things never reached Denmark. HOLGER JACOBÆUS in his letters return to this fact. On July 9th, 1680 he wrote (7) to MAGLIABECCHI: "I am sorry that the books and other precious things which I left

Dolce libro alios reculas, florentia a nobis relictas in
 Libris, si recte memini, nondum huc appulisse. Pre-
 tiosos istos cimelis donog a Te oblato carere nollem, sed
 in culpa est, si fallor, Servus Stenonii, qui res nostras
 male curat. Vale Amicorum intime generis huma-
 ni Delicium, meo nomine amicos saluta. Una
 voce, Tuus ero quamdiu ero
 Oly. Jacobæus.
 Hafnia .d. 8 juli. 1680.

Fig. 1. From HOLGER JACOBÆUS' letter to ANTONIO MAGLIABECCHI. (July 9th, 1680). Biblioteca Nazionale Centrale, Firenze.

in Firenze or Leghorn (Livorno) if my memory does not fail me, have never reached me here". And then JACOBÆUS writes: "NICOLAUS STENO's *servant who does not take much care of our things, has caused this*".

At this time STENO was leaving Italy for his episcopate in Germany; he could not, therefore, himself take care of his geological manuscript. HOLGER JACOBÆUS, too, was leaving Italy in great haste and could very well have had this manuscript among his books and papers, which he left in Italy. If this is so STENO's manuscript should be sought in Italy, not in Denmark.

Twenty years after his return from Italy to Denmark HOLGER JACOBÆUS touched on the problem again. In a letter (8) (October 12th, 1697) to MAGLIABECCHI he writes that his friend STEFANO LORENZINI (9) in Firenze had some books of his as well as manuscripts of JACOBÆUS and a box, made from genuine turtle, containing anatomical preparates of insects. All this never reached HOLGER JACOBÆUS in Denmark, because STEFANO LORENZINI was interned in Volterra for many years as a political prisoner. A STENO-manuscript is not mentioned in this letter.

When these hints in the letters of HOLGER JACOBÆUS are mentioned here, it is in order to keep alive the interest in STENO's lost geological manuscript. The collections of letters in the Italian archives are most likely to give, one day, the decisive answer to the question: "Where is NIC. STENO's lost geological manuscript?" Or perhaps the manuscript itself will be found. Unexpected discoveries about STENO in recent years make this hope possible.

NOTES

¹) GARBOE, AXEL: Niels Stensens (Steno's) geologiske Arbejdes Skæbne. Et Fragment af Dansk Geologis Historie (D.G.U. 4. R. Bd. 3 nr. 4, 1948). With an English Summary. SCHERZ: Vom Wege Niels Stensens (1956), 9f.

²) GARBOE, AXEL: Thomas Bartholin. Et Bidrag til Dansk Natur- og Lægevidenskabs Historie i det 17. Aarhundrede. Bd. 2 (1950), 146 f. (English Summary).

³) Io sto bramosissime di saper qualche cose intorno al amicissimo mio Niccolò Stenone (Biblioteca Nazionale Centrale, Firenze. Magliabecchi Classe VIII Codice 315).

⁴) Otium Hanoveranum sive miscellanea ex ore et schedis ... Godofr. GUILIELMI LEIBNITII (Ed. J. F. FULLER 1718, 97). Cfr. GARBOE, AXEL: Niels Stensens geologiske Arbejdes Skæbne (1948), 12, 17.

⁵) "Il Sig. Casparo ha molta fretta d'ire nella Tedescaria", wrote the clergyman HENR. NORIS, who was a friend of HOLGER JACOBÆUS, to MAGLIABECCHI 15. marz 1677 (Clarorum Venetorum ... Epistolae I, 1743, 105).

⁶) This will be the subject of a special treatise.

⁷) "Doleo libros aliasque reclusas, Florentiæ á nobis relictas, aut Liburno, si recte memini, nondum huc appulisse ... sed in culpa est, ni fallor, servus STENONII, qui res nostras malè curat" (Biblioteca Nazionale Centrale, Firenze, Magliabecchi Classe VIII Codice 315).

⁸) Biblioteca Nazionale Centrale, Firenze. Magliabecchi Classe VIII Codice 315.

⁹) STEFANO LORENZINI is known to-day from the "*Lorenzian ampullæ*" in the selachians, a sensitive organ. He was working as an anatomist together with JACOBÆUS in Pisa (Acta medica et philos. Hafniensia vol. 5 (1680), 253 f.).

DANSK RESUMÉ

I sit grundlæggende geologiske arbejde: »Om faste legemer, der findes naturligt indesluttede i faste legemer» (*De solido intra solidum naturaliter contento*, 1669) fremlagde NIELS STENSEN (NICOLAUS STENO) hovedpunkterne af de geologiske og mineralogiske resultater, hvortil han var nået gennem sine undersøgelser i Italien. Men STENO var i besiddelse af et meget mere omfattende iagttagelsesmateriale, som han ikke nåede at få bearbejdet i »*De solido*» (1669), fordi han brat måtte forlade Italien, hjemkaldt til Danmark af kong Frederik d. III. NIELS STENSEN slutter afhandlingen fra 1669 med at skrive: »Dette er da nu en kortfattet, for ikke at sige kaotisk meddelelse om de vigtigste ting, som jeg havde bestemt at fremstille både mere tydelig og mere udførlig i selve afhandlingen med tilføjelse af en beskrivelse af de steder, hvor jeg har gjort hver enkelt iagttagelse». Det var altså STENO's hensigt at skrive et større geologisk værk; men dette skete aldrig, idet hans tid og kræfter mere og mere blev optaget af hans arbejde i kirkens tjeneste, og hans geologiske optegnelser, som det utvivlsomt vilde være af stor interesse at kende, synes at være gået tabt.

Traditionen nævner den danske mediciner og naturforsker HOLGER JACOBÆUS (1650–1701) som den, hvem STENO overlod sit manuskript, da han i 1676–77 var sammen med JACOBÆUS i Italien og var klar over, at han ikke selv vilde kunne arbejde videre dermed. Men HOLGER JACOBÆUS har aldrig udgivet eller bearbejdet sådanne STENO-optegnelser. For nu, om muligt, at komme til klarhed over, hvor disse værdifulde optegnelser er havnet, gennemsøgte forf. HOLGER JACOBÆUS' korrespondence med storhertugernes bibliotekar i Firenze, ANTONIO MAGLIABECCHI, og selvom disse breve ikke gav et afgørende svar, indeholder de dog visse vink af betydning. Således beklager HOLGER JACOBÆUS sig i et brev (9. juli 1680) til MAGLIABECCHI over, at de bøger og andre værdifulde ting, som han måtte efterlade i Italien, aldrig er kommet ham i hænde, og dette skyldes, synes det, STENO's tjener, »som varetager vore interesser dårligt». I brevet nævnes ikke direkte et STENO-manuskript, men den omstændighed, at STENO's tjener kommer ind i billedet, kunde tyde på, at STENO's optegnelser aldrig er nået til Danmark, men må søges i Italien, hvor de måske en dag kan blive fundet.