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The Mapping of Knowledge

In his famous *Collegium Pastorale Practicum*¹ the Danish pietist Erik Pontoppidan (1698-1764) explains why he abstained from side notes, i.e. notes added to the text on the same page by the author himself:

Nogle Marginalier havde jeg vel foresat mig at føye til hvert Stykke, for at give desto nøyere Anviisning paa dets særdeles Indhold: men saadant Forset lod jeg omsider fare, og det af den Aarsag, at samme, ellers gode Hjelpe-Middel, undertiden skader mere, end det gavner, nemlig i Henseende til visse kræsnere eller og letsindige Læsere, hvilke ofte misbruge Marginalierne til at giennemløbe alt for løselig, og allene med et flygtigt Øye, at overfare en Bog, særdeles af det Theologiske og Moraliske Slags, giættende sig saa got som til, hvad dens Indhold kand være.²

It seems that he has had the same bad experiences in the past; at least he is aware of the effect of side notes, i.e. that they draw the

¹ Orig. published in 1757. It became *the* textbook of the pastoral theology for more than one century and was transferred to the New World by Scandinavian Lutheran parsons. See: Skarsten, 'Pontoppidan and His Asiatic Prince Menoza', 1981, p. 34.

² Pontoppidan, *Collegium Pastorale Practicum*, 1757, Fortale.

readers' attention, and of the consequences of their absence in a piece of work: "Men naar intet staaer in margine, da enten lokkes eller nødes man til at læse Materien selv, i sin fulde Sammenhæng."³ When there are no side notes in the text, the reader is forced to negotiate with the work as a whole.

This article is concerned with the mapping of knowledge in *Det første forsøg paa Norges Naturlige Historie* of Erik Pontoppidan. The book, written in Danish vernacular, was published in 1752/53 in Copenhagen. Translations into German and English followed in 1753/54 and 1755. The two volumes contain over 800 pages including tables and copper engravings. Pontoppidan, who at that time was bishop in Bergen, was one of the first researchers in the field of nature studies in Norway. What he describes has to be understood as a phenomenon embedded in this specific historical and sociological context.

In *Norges Naturlige Historie* knowledge serves several purposes but I would like to show that knowledge is primarily intended to demonstrate the existence of God by means of nature and thereby to propagate the Biblical history of Creation. The promotion of science, as central in the Enlightenment is secondary. As it is obvious in the heading of another work of Pontoppidan, *Afhandling om Verdens Nyebed eller Naturlig og Historisk Beviis paa at Verden ikke er af Evighed, Men maa Før nogle tusende Aar siden, have taget sin Begyndelse*⁴, he was an exponent of the theory that the earth could not be more than 6000 years old. According to him the deluge was a miracle, which he tried to demonstrate scientifically.⁵

Furthermore I argue that the interaction between generating and structuring knowledge and the book's rhetoric, which I will discuss in this article in terms of mapping knowledge, is essential

³ Pontoppidan, *Collegium Pastorale Practicum*, 1757, Fortale.

⁴ Pontoppidan, *Afhandling om Verdens Nyebed*, 1757.

⁵ Dahl, 'Bibelsk tid', 2004, p. 77.

for his intention. We are confronted with epistemological and rhetorical moments. By the process of generating and structuring knowledge Pontoppidan collects and accumulates material and arranges it according to epistemological patterns of his time. But he also looks for the most convincing arguments to go with his themes ('inventio') and for a structure adequate for his intention ('dispositio'). By mapping, the visibility of knowledge is optimised ('elocutio'). These points shall be analysed on the basis of the second paragraph entitled: "Dets adskillige Jord-Arter af Muld, Sand, Leer, Torv, Myr ec.", part of the second chapter which deals with the ground in *Norges Naturlige Historie*.

I

The *Historisches Wörterbuch der Philosophie* defines the term 'Wissen' ('knowledge') as the ability to comprehend an object as it appears and the successful use of it. The term denotes the epistemic situation brought along by the successful exercise of one's cognitive ability and denotes the material acquired through cognitive ability and its linguistic realisation.⁶ Knowledge is determined by historical and sociological factors. The subjects, classification patterns, terms and forms of acquisition of knowledge, vary.⁷ According to Foucault knowledge can appear in demonstration, fiction, reflection, narrative accounts, institutional regulations, and political decisions.⁸ Through the process of generating and structuring, knowledge creates various disciplines or is allocated to them.

Pontoppidan is aware of the rapid developments in different areas of science of his time. He argues that the beginning of the 18th century has an advantage in that nature studies had been promoted by important discoveries since the turn of that century;

⁶ Ritter, *Historisches Wörterbuch der Philosophie*, 2004, col. 855.

⁷ Ritter, col. 901.

⁸ Foucault, *The Archeology of Knowledge*, 2008, p. 202.

a century,

hvilket ikke som fordem lader sig afspise med lutter uprøvede Hypothesibus, men vil vide, om det, som udgives for virkeligt, i det mindste er mueligt og uden Modsigelse i Sagens egen Natur.⁹

He mentions the progress of knowledge, which was in particular pushed by the academic societies all over Europe, through encouragement and mentoring, their observers sent out into the field, experiments and the annual publishing of miscellaneous news-reports.¹⁰ He brings up the extension of the limits of nature by perfection of the microscope, which multiplied the number of known creatures by over a thousand times and he wished to have researchers like Swammerdam or Reaumur in Norway,¹¹ as there are still were lot of inexplicable natural phenomena: “Naturens lærerige Bog har mange Blade, som ingen Dødelig endnu har udstuderet...”¹² If we have a closer look at paragraph two of *Norges Naturlige Historie*, we read, knowledge is not restricted to certain issues. Variation and accumulation seem to be important. Knowledge is crosses different territories, different text types and modalities.

II

The process of generating knowledge in *Norges Naturlige Historie* is interesting in the light of Foucault's use of the term knowledge, which on the one hand refers to epistemic phenomena in one archaeological territory and on the other hand to contents acquired in certain disciplines through cognition, in a domain of science.

⁹ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

¹⁰ Pontoppidan, p. a.

¹¹ Pontoppidan, *Norges Naturlige Historie*, 1977b, Fortale.

¹² Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

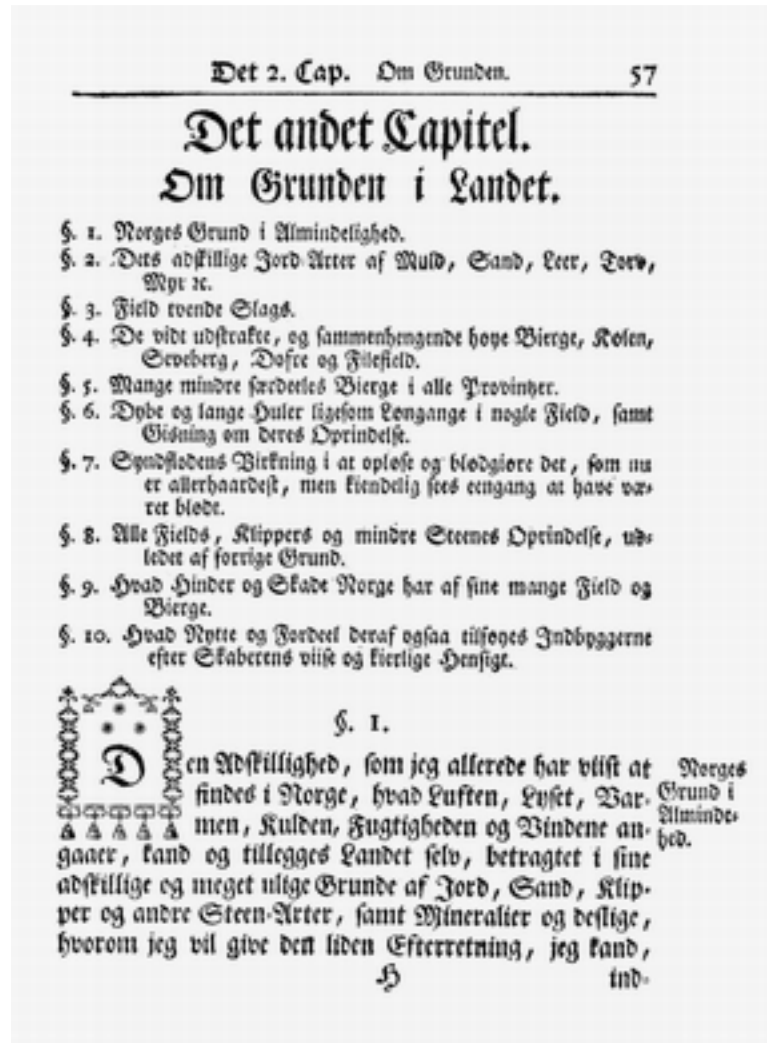


Figure 1: Second chapter's table of paragraphs, Pontoppidan, *Norges Naturlige Historie*, 1977, p. 57.

§. 2.

Jord-Arten er her som i andre Lande meget adskil-
 lig, bestaaende af sort Muld, Sand, Leer, Kalk, Gruns,
 Torv, Henge-Dynd og deslige. Mange Steder findes
 alle disse i tyndere og tykkere Stratis eller Lag liggende
 over hinanden, og afveklende vel tre eller fire gange,
 hvor man i dyb og tør Grund maa grave efter Brønd-
 Vand. Den sorte Jord eller Muld, som gemeenlig
 skjuler de øvrige Strata, er her saa fin, feed og beqvem
 til alle Slags Dexter, at, naar ikke Vinter-Kulden, som
 dog i Bergens Stift sielden skeer, gjør noget Skade, da
 lønner den rigelig Bondens Arbejd med 5, 6, à 7 ja
 undertiden flere Fold Frugt, bestaaende mestendeels i
 Havre og Byg, samt lidet Rug, og paa nogle Steder
 Erter og Boghvede. Dog derom vil jeg siden handle
 udførligere, naar jeg kommer til Landets Vegetabilia eller
 Dexter og Afgrøde. Hvad her endnu falder at erindre
 om Alger-Jord i Norge, er dette, at samme i Fjeld-Bøyg-
 derne, og her udi Bergens Stift paa de allerfleeste Steder,
 bestaaer i en Samling af de Jord-Arter, som Tid efter
 anden formedelt Fjeldskreed eller skjellende Vande, ere
 nedrullede fra den derved blottede Fjeld-Nas, og har sat
 sig paa Fjeldets Fod eller Side, saa at Dalene derved
 mange Steder ere blevne for en god Deel ophøiede. Det-
 te sees kiendeligst derpaa, at Bondens Agre i Dalene
 ligge Lag efter Lag med artige Forhøielser og jevne Kan-
 ter, ikke anderledes end det kunde være Fæstnings-Bolde
 eller Skanser. Jeg vil tage til Exempel den navnkun-
 dige

Dets
 adskillige
 Jord-Ar-
 ter af
 Muld,
 Sand,
 Leer,
 Torv,
 Myr ic.

Figure 2: Second paragraph's heading in the textbody, side note about the paragraph's content, Pontoppidan, *Norges Naturlige Historie*, 1977, p. 59.

Which rules and processes lead to cohesive statements? By which criteria do some elements move from the archaeological discourse to a specialised differentiation, and to science, in this case to the domain of 18th century scientific discourse of Natural History? Pontoppidan collects knowledge concerning the description of Norway according to the following principles: "...særdeles saa vidt Norge deri har enten noget forud, eller og noget som adskiller sig fra det Almindelige, i det mindste noget som hidindtil ikke har været alle saa vel bekiendt."¹³ The aim is to show positive aspects of Norway, specific local sites or features that are not yet known to everyone, at the same time avoiding the spectacular.¹⁴ Any sources that result in knowledge can be used. Pertinent information counts, independent of its medial or genre specific mediation. The knowledge of poets can be placed beside the knowledge of scientists.¹⁵ In paragraph two, the *Histoire Naturelle* by Buffon is placed beside the Persian Travelogue of Tavernier, alongside *Protogaea* of Leibnitz and next to a statement of Norwegian governor Ditlev Wibe. One particular passage in the preface of *Norges Naturlige Historie* gives some explanatory notes about the provenance of sources that were used:

Disse ere deels det lidet som her og der har været at udsøge af andres Skrifter, Norge angaaende, deels min egen Forfaring, saavidt samme har kundet strække sig, deels de Observationer, som nogle gode Mænd have giort paa min Begiering.¹⁶

Basically there are four sources in *Norges Naturlige Historie*: Printed literature or manuscripts e.g. classical or historical literature or literature concerning natural history; secondly information about

¹³ Pontoppidan, *Norges Naturlige Historie*, 1977b, Fortale.

¹⁴ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

¹⁵ Friedrich, *Naturgeschichte*, 1995, p. 79f.

¹⁶ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

phenomena and objects that Pontoppidan received in written form such as letters or drawings; thirdly experiences and stories he heard during his voyages in Norway as a bishop; and finally descriptions of phenomena and objects he observed and analysed himself, objects he received from friends or which he had in his 'Wunderkammer', in his private collection. Knowledge in *Norges Naturlige Historie* is composed of exact descriptions, reported quotations and fables to a certain extent without commentary.¹⁷ Pontoppidan also attempts to demonstrate the inaccuracy of some common statements.¹⁸ In order to avoid making false statements, Pontoppidan emphasises that he limited himself to facts that he was certain of or that he verified through trustworthy correspondents.¹⁹

The study of nature was supported by the Danish-Norwegian government, who wanted to extend their knowledge about Norway and perhaps use it economically. This aim was stated in a survey of 43 questions, started by the Danish chancellery in Copenhagen in spring 1743. The survey was sent to the management in Norway, and contained questions about everyday life, the economy and topography.²⁰ The development of the natural historiographic genre was closely connected to this. Individual elements in this area were combined by narration, the aim being to generate knowledge and to construct and confirm truth. The ambition of the government had an impact on this process. This is revealed by the fact that both volumes of *Norges Naturlige Historie* were dedicated to political heavyweights in Denmark-Norway, which was common practice at that time. Volume I was dedicated to Johan Ludvig von Holstein, volume II to Adam Gottlob Moltke, both

¹⁷ Foucault, *The Order of Things*, 1989, p. 39.

¹⁸ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

¹⁹ Pontoppidan, *Norges Naturlige Historie*, 1977b, Fortale.

²⁰ See: Røgeberg, *Norge i 1743*, 2003.

privy councillors of the King among other titles. Pontoppidan's prospects in his social status were directly dependent on the content of *Norges Naturlige Historie*. I assume that writing *Norges Naturlige Historie* was not only triggered by personal interest in the material, but also by the need to stabilize Pontoppidan's own position in his social environment, by generating knowledge that conformed to governmental aims and which would not affront the authorities.²¹ It should be added that Pontoppidan's *Danmarks og Norges oekonomiske Magazin* was one of the first written works relieved of censorship when censorship became milder in the 1750's.²² This has to be interpreted as a result of an ideological and material solidarity of the text and its author with the authorities.²³ By emphasising advantages, characteristics and curiosities of Norway, the country appears at its best. Because of the absence of criticism of the government, the positive light of Norway's nature automatically falls on the Dual Monarchy and thus supports it. The generation of knowledge in *Norges Naturlige Historie* should also be considered against the backdrop of the Danish-Norwegian attempt to become economically autonomous, as it is obvious in the second paragraph:

Leer, baade guult og blaat, findes [...] særdeeles paa Hedemarken og ved Christiania, saavel som Tronhiem [sic], hvor man for ikke længe siden har begyndt at bruge den til Pottemager-Arbeyd, og fundet en Muelighed i at undvære fremmed Arbeyde af det Slags, om man ellers allevegne gjorde det samme.²⁴

This quotation indicates, that in Norway, the use of clay for pottery had begun, and was seen as an opportunity to reduce their

²¹ White, *Die Bedeutung der Form*, 1990, S. 31

²² Berge, 'Å beskrive og forandre verden', 1998, p. 14.

²³ Berge, 1998, p. 15.

²⁴ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 61.

dependency on foreign manufactures.

Another point having an impact on the generation of knowledge in *Norges Naturlige Historie* is the belief that studying nature strengthens Christian faith²⁵. Due to the existence of the established Lutheran church, characterised by a light form of pietism after 1747, this served as an indirect affirmation of the Danish-Norwegian form of government. Generating knowledge in *Norges Naturlige Historie* seems to be motivated by political, economic, religious, and personal factors. Knowledge is not restricted to specific issues. It crosses different territories manners and generic modalities. Variation and accumulation are important.

III

“To classify is human” as the editors affirm in *Sorting things out*,²⁶ and the choice of structural system is a rational decision, even though it sometimes seems to be rather incidental sometimes. Each organisation of knowledge favours certain modes of representation, determining the contents of perception by these limitations.²⁷ Foucault denotes the historically specific logic with the term ‘episteme’.²⁸ “It is the totality of relations that can be discovered, for a given period, between the sciences when one analyses them at the level of discursive regularities.”²⁹ In his opinion knowledge in the 16th century was organized by the principle of affinity. For a long time the division into the three parts, i.e. observation, documentation and fable, did not exist.³⁰ Words and signs were considered analogical copies of things. This way of

²⁵ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

²⁶ Bowker, *Sorting things out*, 1999, p. 1.

²⁷ Vogl, *Poetologien des Wissens*, 1999, Einleitung.

²⁸ Sarasin, *Michel Foucault*, 2005, p. 71.

²⁹ Foucault, *The Archaeology of Knowledge*, 2008, p. 211.

³⁰ Foucault, *Die Ordnung der Dinge*, 1974, p. 170.

thinking changed during the 17th century.³¹ Comparison displaced the term of affinity. During the Age of Enlightenment knowledge and the mediation of knowledge are selective and characterized by order.³²

Basically, *Norges Naturlige Historie* differentiates between inanimate and animate elements.³³ Elements are arranged according to several criteria, e.g. their importance in a household, their appearance, worthiness or similarity to human beings, medicinal criteria, or in alphabetical or numeral order. Structure can be formed by direct comparison based on content or by super-imposed structure which has nothing to do with the content. Paragraph two deals with inanimate elements and is organized by using a direct comparison based on content. The paragraph starts with a description of topsoil, followed by sand, mould, clay, turf, mud and finally coal.³⁴ The topsoil is the most important of the different kinds of soil in Norway. Little is known about coal, or if it exists in Norway at all. Each substance is described in one or two sections. The pattern structuring the description of substances 1 to 4 is systematic: first colour and/or consistency, then sources in Norway, thirdly usage in everyday life in view of benefit and gain and finally historical and/or scientific information. This is a common pattern in this work, used also for the description of flora elements or types of metal. The description of substances 5 and 6 in the second paragraph differs from the example used in the description of substances 1 to 4. Some elements of the pattern above are used but there are additional aspects mentioned, such as the danger in crossing mud or the description of wooden paths constructed on mud. The difference between the examples is two-

³¹ Sarasin, *Michel Foucault*, 2005, pp.75-76.

³² Brekke, *Merkverdige ting i naturleg orden*, 1996, p. 31.

³³ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

³⁴ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 62.

fold. On the one hand (substances 5 and 6) there is a lot of information about various areas demonstrating the substance's ties with the world around it. On the other hand (substances 1 to 4) the limitation to some selected variables enables a comparison between the different substances. As is every text, *Norges Naturlige Historie* is structured according to a code, enabling communication between writer and reader. Knowledge is created and imparted by this code, which changes as knowledge develops.³⁵ Part of this code is the structure of knowledge. The code used in *Norges Naturlige Historie* is a mixture of exhaustive and selective patterns. It differs clearly from the most central work of this genre, from Hans Strøm's *Physisk og Oeconomisk Beskrivelse over Fogderiet Søndmør*, published some years later³⁶, which is a systematic work.³⁷ *Norges Naturlige Historie* seems to be a 'threshold-text', in a transitional period between conservative theological philosophy and modern Enlightenment ideas, between knowledge structured according to affinity and comparison, and between older and newer forms of historiography.

IV

Knowledge is manifested in a medium. When it is in the medium 'book', as in *Norges Naturlige Historie*, it has to be published and located under the rules of this medium. We are discussing part of the book's rhetoric. *Norges Naturlige Historie* consists of a complex net of different knowledge discourses. That is reflected in the mapping, in the visualising of knowledge in its medial presentation, the book. Knowledge of the different discourses appears in the text, as well as in the paratext including not only textual ele-

³⁵ Lie, 'Uten din pust på mine ord blir det ingen mimosa. Fagtekstens retorikk', 1995, p. 184.

³⁶ Strøm, *Physisk og Oeconomisk Beskrivelse over Fogderiet Søndmør*, 1762-1766.

³⁷ Supphellen, 'Den historisk topografiske litteraturen', 1998, p. 108.

ments but also tables and copper engravings that are to some extent based on objects of Pontoppidan's private collection.³⁸ The hierarchy between these different locations is ambiguous. The paratext is heteronymous, but I dare to claim that in this case the paratext is not only an auxiliary discourse to support the text.³⁹ The book was not written to be read in a linear fashion but relationally. Using this method, and by weaving knowledge of different discourses together, the reader is offered an access to the complexity of the mediated knowledge. In paragraph two of *Norges Naturlige Historie* knowledge is placed either within the text or in the headings, side notes and footnotes that are part of the paratext more precisely part of the peritext, according to Genette.⁴⁰ In the second chapter's table of paragraphs different types of headings are used; formal criteria, composed of a relative position (by number) and a level of classification (paragraph, chapter), and criteria based on content: "§. 2. Dets adskillige Jord-Arter af Muld, Sand, Leer, Torv, Myr ec."⁴¹ In this case the paragraph's heading depends on the preceding paragraph: "§. 1. Norges Grund i Almindelighed."⁴² Sometimes there is a change of subject in the heading, i.e. the third example: "§. 3. Field tvende Slags."⁴³ The sub-heading introducing the second paragraph in the body of text has been reduced: "§. 2."⁴⁴ A relative position and a level of classification are shown. The heading in the body of text seems to have lost its importance of giving information about the content. Paragraph two contains two footnotes, which are indicated by asterisk

³⁸ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

³⁹ Comp. Genette, *Paratexte*, 2001, p. 18.

⁴⁰ Genette, *Paratexte*, 2001, p. 12.

⁴¹ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 57.

⁴² Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 57.

⁴³ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 57.

⁴⁴ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 59.

in brackets. According to this kind of sign the footnotes and the text they refer to, must be on the same page. Both footnotes are Latin quotations from Leibnitz's *Protogaea*.⁴⁵ The first one mentions an analogy in Egypt, the second quotes a view of Leibnitz which is incorrect according to Pontoppidan. There is almost a collateral discussion about questions concerning the content of paragraph two in the footnotes, but there is no discussion about the footnotes' content in the text. Focussing at the bottom of the page, there is an additional effort. It seems that the less important knowledge is located in footnotes, but footnotes are also ideal places to hide knowledge. In paragraph two there are two side notes. Their affiliation with the passage is given by their position at the outer margin of the text. The first side note is placed at the beginning of paragraph two: "Dets adskillige Jord-Arter af Muld, Sand, Leer, Torv, Myr ec."⁴⁶ It contains the detailed sub-heading of paragraph two in the second chapter's table of contents. There are local displacements of the content of a paratext. The mediated knowledge changes the location. This process is relatively common. It seems to be important to convey knowledge about the paragraph's content in a detailed table of contents at the beginning of the chapter. At the same time the heading as a heading seems to lose its importance in the body of the text. Its function is replaced by a side note, which warrants more attention by its position and thus contains the paragraph's knowledge. The second side note contains information about the discovery of a whale skeleton on a hillside: "En Hvalfiske Beenrad opgravet paa Field-Siden."⁴⁷ If we consider the text-element dealing with this information in the text; at first glance there seems to be no difference

⁴⁵ Paragraph two seems to be an exception in regard to quotations. Normally they occur both in footnotes and the body of the text.

⁴⁶ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 59.

⁴⁷ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 63.

between this knowledge and the other information in the body of the text. However, the fact that this element is also incorporated in a side note (there are just two in paragraph two), gives it special importance. Side notes allow the reader a more ready overview of a work and they offer a kind of summary.

Det 2. Cap. Om Grundet. 63

langfom, da Forfarenhed, den beste Læremester, noksom
 viser det saavel her som i Danmark, Lyneborg, Fritis-
 land, Holland, Engelland og Picardiet i Frankrig. I
 Anledning af slige Lignis fossilibus maa jeg her erindre,
 at naar saamme Endes i saadan voxende Torve-Grund,
 ere de ikke saa visse Rudera diluvii restes, som nogle an-
 se dem for. Langt vislere Beviits herpaa kand tages af
 andre Fossilier, som ey kunde have hjemme paa Stedet,
 og af det Slags er særdeels den heele upolerede Hval-
 fisk-Rad, som Ao 1687 ved en Hændelse blev funden i
 Tistedalen ved Friderichshald, overstiult med Sand og
 Jord paa en Oploftelse af i det mindste 40 Favne fra
 Horizonten.

En Hval-
 fisk-Beens-
 rad opgra-
 vet paa
 Tisteda-
 len.

Dynd og Morads, eller, som det her kaldes, Myr,
 findes deels paa høye Fjeld-Naer, deels i Dalene tæt op
 til de allersteilste Klipper, og gjør Veyen mangesfeds
 saa usikker, at den ey kand passeres uden i de allertørre-
 ste Sommer-Maaneder, ja deels ikke endda, med min-
 dre det er en Alfars-Vey, som af Publico holdes ved lige
 med saa kaldede Kloppe, det er heele Tømmer-Stofke,
 lagte paa tværs i tusinde Tal, lige over Dyndet, saa at
 de snart raadner. Paa saadanne Steder er Grunden
 saa bled, at den Nysfænde synes, han rider paa Vey, der
 giver sig og ryster under ham, da der i Grunden under
 Hen-

LEIBNITZ, tager nok fejl, naar han in *Protogaa* §. XLIV.
 p. 82. siger: Torfam excisam renasci nondum compertum est,
 nisi aqua advehat in vicinis locis jam natam, og pag. 83.
 Longum esset expectare dum torfa renascatur, nec forte hoc
 continget nisi in orbe alio post Platoniam rerum revolutionem.

Figure 3: Side note about the discovery of a whale skeleton, Pontopidan, *Norges Naturlige Historie*, 1777, p. 63.

V

Norges Naturlige Historie is an important work of the Scandinavian Enlightenment period, even though as a scientific work it was *passé* shortly after publication. Nevertheless, it cleared the way for secular writing by the church's officials.⁴⁸ It was published in the mid18th century, when the scholarly milieu of Denmark-Norway showed two main tendencies: On the one hand the theological focus gave way to historical and philological theories and, on the other hand conservative science remained characterised by clerical interests.⁴⁹ According to Pontoppidan, theological students in Denmark who tried to find work in Norway should rather get to know the *Idiotismum Norvegicum* than travel to foreign countries.⁵⁰ Like his contemporary Carl von Linné he wishes the students to study the history of nature for three reasons: to be able to disseminate the knowledge of natural history to their parishes, to engage in natural history as a noble amusement for them in the loneliness of Norway and to be able to make discoveries or ameliorations for their home country by means of the history of nature.⁵¹ Pontoppidan argued that the occupation with natural history was not as useful as the fear of God, but useful in almost every field to a certain degree, i.e. in jurisdiction, since by knowing the coherences of nature, the impossible could be rejected.⁵² However, it is even more important to consolidate natural theology by showing the doings of God.⁵³ According to Pontoppidan, someone loving God would find the investigation of nature even sweeter and his reinforced belief would lead him to continue his

⁴⁸ Apelseh, 'Lærdom, borgarleggjering og skriftkultur', 1998, p. 43.

⁴⁹ Midbøe, *Det kongelige norske videnskabers selskabs historie*, 1960, p. 15f.

⁵⁰ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

⁵¹ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

⁵² Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

⁵³ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

analyses.⁵⁴ For him the boundaries of the clerical duty were not violated by investigating natural truth.⁵⁵ In *Norges Naturlige Historie* the expanded knowledge and the instruments generated by the Age of Enlightenment are employed to reinforce conservative views.

In *Norges Naturlige Historie* generating knowledge by describing nature has several aims – political, economic and scientific but primarily it serves to prove the existence of God, to stabilize and support ideas about Creation. Pontoppidan does not question the deluge, a part of the Creation. The question is, what happened to the earth during this period, how e.g. did mountains become a fluid mass:

Jeg spørger, hvorved saadan Smeltning er skeet i Syndflodens Tid? thi ville man hertil laane den formeente Central-Ild, som skal give vor Jord-Kreds sin Lethed ec. og sige, at den havde ved Kaagen blødgjort end ogsaa de haardeste Marmor-Bierge [...] da kommer Noah og alle Dyr i Arken til kort ...⁵⁶

In this discussion he uses own arguments and refers to several earth theorists. The deluge furthermore seems to be linked with the topographical positions of Norway and Sweden. Pontoppidan quotes Emanuel Swedenborg, who argues, that due to the wind during the deluge the mountain chain between Norway and Sweden was formed from north to south, resulting in a natural frontier⁵⁷: “De tiene til Grændse-Skiel imellem Norge og Sverrig, saavidt tilforn er viist, at fra Kølen udspirer en Rad Bierge, der adskiller disse tvende Nationer.”⁵⁸

⁵⁴ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

⁵⁵ Pontoppidan, *Norges Naturlige Historie*, 1977a, Fortale.

⁵⁶ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 83.

⁵⁷ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 65.

⁵⁸ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 101.

The structuring of knowledge primarily pursues the same aim: to prove the existence of God, to stabilize and support ideas about Creation, by giving a positive value to negative elements as in paragraph two, where rock falls and floods are described as destructive but simultaneously, as creating fertility by depositing sediments.⁵⁹ Nature is constructed in a teleological way. Everything is useful. There is a structuring by higher powers. The same is done through the book's rhetoric, in this case limited to the mapping of knowledge. The heading of the second chapters seventh paragraph which becomes a side note makes it clear, that there was a deluge: "Syndflodens Virkning i at opløse og blødgjøre det, som nu er allerhaardst, men kiendelig sees eengang at have været blødt."⁶⁰ If a reader follows the paratext of chapter two, no doubt about the deluge is considered. In paragraph two it is argued that the whale skeleton found on a hillside was proof of the deluge, and this at a time when the Biblical history of Creation was under pressure by the explanations of natural science. As we know, Pontoppidan was aware of the effect of side notes, and that they draw the reader's attention. The fact that this discovery is located both in the text as in a side note is a sign of the importance of this specific piece of information and can be interpreted as an attempt to provide evidence for the Christian creation narrative and to convince the reader of the existence of God. The book's rhetoric, in this case its mapping, accompanies the readers through the text and has an impact on the perception of the text – it supports the reader in finding her/his way in the complexity of the different discourses of knowledge in the enormous amounts of information by relational reading.

⁵⁹ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 59.

⁶⁰ Pontoppidan, *Norges Naturlige Historie*, 1977a, p. 57.

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