



## Chorto-theology of Johann Daniel Denso\*

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### Abstract

Johann Daniel Denso was an eighteenth-century professor of rhetoric and poetry who was also a very active amateur-naturalist. A religious man, he considered his scholarly research to have also religious relevance, which he indicated in the many theological comments in his writings and in a short versified physico-theological treatise about grass as an element of nature pointing to the greatness of God.

### Abstrakt

Johann Daniel Denso był XVIII-wiecznym profesorem retoryki i poezji, a także bardzo aktywnym przyrodnikiem-amatorem. Będąc człowiekiem religijnym, uważał, że jego badania naukowe mają również znaczenie religijne, na co wskazywał w licznych komentarzach teologicznych w swoich pismach oraz w krótkim wierszowanym traktacie fizyko-teologicznym o trawie jako elemencie przyrody wskazującym na wielkość Boga.

### Keywords

Johann Daniel Denso, physico-theology

### Słowa kluczowe

Johann Daniel Denso, fizyko-teologia

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The 18<sup>th</sup> century was a period of flourishing physico-theology in which the existence of God was derived from the orderliness, complexity, and beauty of the world. Authors frequently concentrated on particular parts of nature coining accordingly names for particular corners of the physico-theology: testaceo-theology, insecto-theology, bron-to-theology, and many others. One such name was introduced by Denso.

## Chorto-theology

Johann Daniel Denso (1708–1795) became in 1731 a professor of rhetoric in the Collegium Groeningianum in Stargard in Pomerania, in 1751, he was briefly a professor of rhetoric and poetry in the gymnasium in Stettin (today: Szczecin), and, in 1753–

\*Translations of texts from the original German into English by the author

1793, he was a rector of the gymnasium (Große Stadtschule) in Wismar in Mecklenburg<sup>1</sup>. Although Denso was a professor of rhetoric and poetry, he was also an amateur but competent naturalist and an author of numerous writings which included various natural history topics.

In 1750, came out the second edition of the *Ode on his garden* by Joan Christian Cuno, a merchant from Amsterdam. To this small booklet other booklets were added to make one volume with continuous pagination, one of which was Denso's versified *Beweis der Gottheit aus dem Grase*.

Nature, Denso wrote, will "show our [poetic] art the way / To praise God's majesty because of the makeup of so many worlds". See "How the infinitely wise Master / Elevated his art in the small". In particular, in grass, "the arm of the Highest can be sensed". To see it, Denso provided some details of the makeup of grass. Roots "Intertwined like wrinkled hair" create nets "Which a storm or flood cannot hurt" and grass can grow everywhere, even on walls. "Grass, thick clothing of lands / Must grow in large amount / ... To feed innumerable cattle". "O, Master of thousand rarities! / The Maintainer of artful nature! / Who could prepare such clothing? / I praise the trace of your finger!". There is a hidden wisdom in stalks in which there are "delicate pipes / Thinner than the thinnest hair" to provide nourishment mirroring the circulation of blood. No human art can be so precise on this level of smallness<sup>2</sup>.

Grass, of course, serves as food for many animals and, providentially, to avoid competition, animal mouths are divinely designed for particular kinds of grass: "Sheep will graze on smooth blades, / Hard palate of donkey / Can hardly feel the elongated thorns, / Cattle can endure thick stalks./ And so, on the grassy ground / Each one will find what it likes"<sup>3</sup>.

"A blade of grass holds so many rarities / That it alone is enough / To spread the wealth of wisdom / That one reads on every tendon. / Never can a thousand works of writers, / Never can a number of the printer's writings / Produce a work worthy of our Deity / And a rich praise, / Like we read in the fine essence / Of handcrafted blades of grass". If humble grass by its makeup and variety elevates God's majesty, why do people remain unimpressed? In fact, the human heart should be softened by this sight and human spirits should see in nature, in grass, in particular, a ladder to heaven to bring them to the Master<sup>4</sup>.

A grave can be dug up by removing grass, indicating the end of cheerful splendor: "O man! May that stir up your heart / To contemplate your near end." Moreover, "The volume of stiffly traversing fibers / Makes each blade skillfully stretched," but it eventually withers, which should lead the onlooker to the contemplation along the line of *memento mori*<sup>5</sup>.

<sup>1</sup> Fromm 1881, 57–58; Stutz 2008, 40–57.

<sup>2</sup> Denso 1750, 179–188.

<sup>3</sup> Denso 1750, 189.

<sup>4</sup> Denso 1750, 190–191.

<sup>5</sup> Denso 1750, 192.

“The bond (Band) that connects the stalk to the blade / Is full of all wisdom / That makes food to be found / Where it should be found./ ... Oh, wonderful in your deeds / You, the highest Artist in the world! / You have made grass so wonderfully / How well, how well am I advised!”. Even Salomon “Cannot, in his royal position, / Be adorned like this grass. / The splendor of the gold-woven fabrics / Is not equal to anything found here. / ... The painter’s brush can never approach/imitate / The varnish sheen, the silver shimmer / That adorns the brightest color here / And sends [it] out radiantly to the eye. / When trying to imitate nature, art / Cannot do better than a dull stroke of it”<sup>6</sup>.

“The splendor, according to the goodness / Of eternal Love, was not enough: / It wants to give pleasure to the nose, / And the flower emits fragrance. / O! tenderly sweet grass scents, / How beautiful the spring smells through you!”. Also, consider the seed which is housed in a flower; “How carefully is it kept? / Soon a bud encloses it; / Soon it will become a curly tuft; / Soon there will be changed shapes / That for the growth of future years / Will keep the embodiment of the plant. / Now the soft nuts opens up, / The crumbly shell is unlocking: / The seed’s blessed pourings / Achieve the desired course, / They throw themselves onto those meadows / Most of them penetrate the ground”. Also, seeds are spread everywhere through the wind<sup>7</sup>.

Seeds are used for good food, and one example is provided: “Isn’t honey-sweet man-nagrass (Schwade) / The fruit/dish that is popular everywhere, / Which is looked for in damp meadows, / To put on coarse tables?” Seeds, grass, and blossoms are used as medicine. A small plant can bring death, it can also preserve the body. “This is a work of God’s hands! / That now perhaps also refreshes you, / When serious regret presses your breast / And turns the soul and spirit from vice, / To worship in pure fear him, / To whom belong honor and praise”<sup>8</sup>.

“Oh, don’t wait for that hour / That shows up troublesome and often quickly. / Now speak with a zealous mouth / Wherewith the heart unites: / I praise with bent knees / The unbounded Majesty, / That grass and wild herbs exalt, / Of which field and forest are worshippers, / About which the clothing, the field of the earth, / Become my gentle teachers.” In conclusion, Denso expressed a desire that his poem could incite the reader “To see the Creator through creation, / To come to God through nature, / to love God who loves us / And him the live given to us / Give back through fiery praise”<sup>9</sup>.

On the last page of his poem, Denso called his theological undertaking Chortotheologie<sup>10</sup>. Admittedly, it is not much as far as theology goes. Denso’s *Beweis* is more a poetry exercise than a theological treatise<sup>11</sup>. As to grass alone in physico-theological context, much more can be found in Noël-Antoine Pluche (in the third volume of his *Spectacle de la nature* (1735) whose name Denso mentioned, or, later, in Bernardin de Saint-Pierre in his *Études de la nature* (1784). Physico-theological treatises provide usually

<sup>6</sup> Denso 1750, 193–194.

<sup>7</sup> Denso 1750, 196–198.

<sup>8</sup> Denso 150, 199–200.

<sup>9</sup> Denso 1750, 201.

<sup>10</sup> χόρτος – fodder, grass. Denso mentioned Chortotheologie only one more time in his *Physical letter* addressed to Cuno, whom he knew personally three decades earlier in the University of Halle (Denso 1750, 201; Denso 1751, 167).

<sup>11</sup> Denso showed his poetical skills in several occasional pamphlets.

many details about the part of nature they discuss so that to a large extent they become scholarly or popular-science monographs on the subject of flowers, birds, mollusks, etc. There are very few botanical details provided by Denso to appreciate the complexity of the grassy world. He was more concerned about the spiritual lessons which should be drawn, lessons related to human life and afterlife.

However, the *Beweis* was not Denso's one-time exercise in physico-theology. He was a prolific writer and consummate naturalist, and, in fact, physico-theology was a topic which frequently appears on the pages of his writings.

## Physico-theology

Denso was interested in the investigation of nature from his early years. As he wrote to Johann Michael Meyer<sup>12</sup>, in 1740, he saw his collection of natural specimens which encouraged Denso to continue his own, which he did, "for the glory of the great Master of nature" since nature is "the most beautiful mirror of almighty and wisest Master Builder"<sup>13</sup>. He even went so far as to claim that Adam also collected stones: for economical reasons, Adam needed a variety of stones, so he must have searched for them; he apparently had flint, offering stones, sharp stones, etc. since, according to the Biblical record, the use of metals was still in the future<sup>14</sup>. In any event, Denso conducted his studies of nature since "each piece is a preacher of wonderful attributes of our great God and I consider it to be my duty to explain and proclaim this edifying voice of nature to my brothers"<sup>15</sup>. So, his copious naturalist writings had been motivated not only by his investigative curiosity, but also by theological and religious promptings, since, for him, being a naturalist, had a dual purpose: "It is the noblest occupation to discover the plans of natural things for the glory of the Master Builder and for the use by the humankind"<sup>16</sup>.

Denso published separately twelve *Physical letters* addressed to various people in which he presented in some detail a variety of natural history topics. He published these letters also in one volume with the intention "to praise the glory of God in the works of nature, where the eternal art is often shown in the best way in the smallest. I believe that by promoting natural history, people will be made more attentive to its Creator and thereby will all wickedness in the use of nature be controlled"<sup>17</sup>, and prayerfully, "You, the Master of worlds, show yourself nowhere else as the greatest than in the smallest!"<sup>18</sup>. He was amazed how much more he could see under the microscope to conclude that even "the most despised vermin presents in front of our eyes countless new traces of

<sup>12</sup> Denso 1751, 217–219.

<sup>13</sup> Denso 1751, 275.

<sup>14</sup> Denso 1752, 343.

<sup>15</sup> Denso 1752, 220.

<sup>16</sup> Denso 1752, 105.

<sup>17</sup> Denso 1751, 3.

<sup>18</sup> Denso 1751, 187. In fact, he referred to the statements "what is smallest in nature is most worthy of attention" and "the wisdom of God shows greatest in the smallest" as common sayings (Denso 1751, 197). Phrases of that kind were often used by physico-theologians going back to the succinct statement about God as *maximus in minimis*.

divine art and wisdom”<sup>19</sup>. He expressed a great interest in the investigation of shells, to which he was prompted by *Testaceotheologia* of Friedrich Christian Lesser to whom he addressed his first *Letter* and whose name shows many times in his writings. Denso saw that shells show “an inexpressible wisdom of God” and a collection of shells shows “the most genuine mirror of divine wisdom”<sup>20</sup>. After promoting the establishment of fisheries and providing a list of the fish in the Oder/Odra river, he remarked that people should appreciate God’s bounty in the millions of inhabitants in the waters<sup>21</sup>.

It is important to stress that Denso’s religious enthusiasm accompanying his naturalist investigation did not compromise the scholarly side of these investigations. In his view, naturalists should debunk superstitions “since by them the majesty of God is diminished and thereby the marvelous purity of our faith and the noble character of nature” is compromised<sup>22</sup>. In his desire to challenge superstition, Denso used this main rule: we must not accept anything as miracle even if we lack initially any understanding. We want to derive a solution first from general statements and then check examples in nature (§4). In all natural things particular causes must be shown. Who sees the actions of nature as random, commits an act of irresponsible carelessness. Who refers to the direct action of God, shows his holy naivete; who refers to a miracle, makes himself guilty of old-haggish foolishness and who sees the devil or spirits as a cause, acts damnably. As an example, consider air-signs of the so-called flying dragon<sup>23</sup>. Denso explained it as a natural phenomenon of vapors with sulfuric particles enkindled in air<sup>24</sup> and this fire may appear in a variety of changeable shapes<sup>25</sup>.

As a firm Christian believer, Denso did not reject the possibility of miracles, but he treated them as exceptional events. In Sodom, there was a miracle and so was the earthquake when Christ was dying<sup>26</sup>, but what about the 1755 earthquake in Lisbon, the event which was very widely discussed at that time in Europe? For Denso, this was a natural event brought about by purely natural causes. To his mind, some fermentation underground takes place which generates vapors<sup>27</sup> and these vapors and fiery particles find an outlet in a volcano; a disaster strikes when this an outlet is blocked. This stoppage is caused by a wind and the strength of an earthquake is proportional to the duration of stoppage<sup>28</sup>. Lisbon became a victim of such an event, as, incidentally, it already did in 1350 and 1531<sup>29</sup>. Some considered the destruction of Lisbon to be a punishment for inquisition, but such thinking is “blind zeal of piety and inhuman zeal of conver-

<sup>19</sup> Denso 1751, 95.

<sup>20</sup> Denso 1751, 97–98.

<sup>21</sup> Denso 1751, 113–115.

<sup>22</sup> Denso 1751, 322.

<sup>23</sup> Denso 1735, §4, §6, §7.

<sup>24</sup> Denso 1735, §10, §16.

<sup>25</sup> Denso 1735, §17.

<sup>26</sup> Denso 1756a, 8.

<sup>27</sup> Denso 1756a, 16.

<sup>28</sup> Denso 1756a, 19–20.

<sup>29</sup> Denso 1756a, 27.

sion”<sup>30</sup>, although Denso did not rule out altogether natural disasters as divine punishments as the example of Sodom indicates<sup>31</sup>.

The understanding of nature should lead people to the understanding of its workings and of interconnections of its elements; otherwise, they complain not only out of ignorance, but also out of pride. For example, they treat with disdain what they do not consider useful for them, whereby they treat disgracefully God’s wisdom that “in the best world would not allow anything useless or unconditionally harmful”; therefore, there are no weeds on earth; each plant has its designation to maintain some animals; however, there are different levels of perfection in creation and thus different level of usefulness<sup>32</sup>. This leads to the problem of theodicy which Denso very briefly addressed.

God uses natural causes for the best of people but also for education and as a punishment<sup>33</sup>. If God so created nature that some causes are harmful, He also provided means to deal with them, human reason in particular<sup>34</sup>.

In a *Physikalischer Brief* devoted to ichneumon wasps (Schlupfwespe, Vespa eichneumon), an insect bringing a lot of damage to plants, Denso asked a question, why are there animals that bring harm? His answer: wolves, tigers, lions – their hides are useful, they control the population of other animals so their number they will not become dangerous for humans. Vermin suck unclean blood. The wisdom of God would create them only to harm other creatures if their usefulness were not balanced with the harm that was brought to people by the fall. When air is bad, these vermin are more numerous; it is probably to purify air. They may also be useful for trees; perhaps they show people which shoots to cut off<sup>35</sup>. They feed other creatures, such as birds, which are useful for human who use birds as food. Maybe, Denso submitted, these vermin have some medicinal value yet to be discovered. In any event, the human mind does not see the connection of these creatures with the entire world to fully see the purposes and uses.

The knowledge of God from nature is an excellent guide to revelation, as this is even stated in the Scriptures<sup>36</sup>; also, the study of nature is a pleasure, but the pleasure that prepares for eternity by the traces of God to be detected in it<sup>37</sup>. However, the investigation of nature does not end in this life. In his eschatological vision, Denso stated that we will carry sciences into eternity which are useful and will be useful for the spirit outside the body. Languages will disappear since the spiritual language will include “unutterable words of our tongues”. There will be no nitpicking, no quarrels. Main sciences will be brought to perfection and will be practical after theoretical preparation on earth. Theologians will be the happiest to see God as He is, and philosophers will purify their representation of the world from “countless drosses”. Natural history will be extended for naturalists into infinity, since they will complete their systems and will see millions

<sup>30</sup> Denso 1756a, 37.

<sup>31</sup> See also Löffler 1999, 267–277.

<sup>32</sup> Denso 349–350.

<sup>33</sup> Denso 1754–1761, 353.

<sup>34</sup> Denso 1751, 560.

<sup>35</sup> Denso 1751, 186.

<sup>36</sup> Denso 1754–1761, 196.

<sup>37</sup> Denso 1751, 289.

of similarities in millions of newly discovered differences<sup>38</sup>. The vision is somewhat controversial<sup>39</sup>, but Denso could refer to the religious fact that Christianity believes in the resurrection of the body in the afterlife, so, his vision should not be excluded from the other-worldly realm of possibility.

All in all, Denso's contribution to the widely popular physico-theology in the 18<sup>th</sup> century in Germany is interesting, even if he was not the leading force of the physico-theological movement. His perspective is important since he was a scholar and an author of numerous scholarly contributions, so he approached theology from the scholarly perspective rather than approaching science from theological perspective as many physico-theological authors did who were ecclesiastics. The name of Denso is today largely but undeservedly forgotten. Even in today's discussions of physico-theology his name is barely mentioned, if at all<sup>40</sup>. However, he gives us very good insight into popular approach in the 18<sup>th</sup> century indicating that enlightenment is not to be reached by replacing theology by science but by enriching the former by the latter.

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<sup>38</sup> Denso 1756b, 10–11.

<sup>39</sup> An early review stated that “in our opinion it is impossible for humans to correctly imagine the future state as to its genuine makeup, all the more when the judgment is made according to philosophy ... It is better to repeat after an apostle, it does not yet appear what we shall be [1 J. 3:2]”, *Hamburgische Berichte von den neuesten Gelehrten Sachen* 25 (1756), 727.

<sup>40</sup> Philipp 1957, 21; Schatzberg 1979, 116, 298, 322; Stebbins 1980, 13, 208; Greyerz 2022, 255.

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## Streszczenie

### Chorto-teologia Johanna Daniela Denso

Johann Daniel Denso (1708–1795), profesor retoryki i poezji, był aktywnym przyrodnikiem, autorem licznych tekstów na ten temat. Był także chrześcijaninem, który wykazywał zainteresowania przyrodnicze i teologiczne. Opisał w nim trawę jako element natury, w którym „wyczuwa się ramię Najwyższego”. W tym celu Denso przedstawił pewne szczegóły dotyczące struktury trawy, na przykład ukryta mądrość tkwi w łodygach, w których znajdują się „delikatne rurki / cieńsze niż najcieńszy włos”, zapewniające roślinom pożywienie. Żadna ludzka sztuka nie jest w stanie osiągnąć tego poziomu precyzji. „Żdźbło trawy kryje w sobie tyle niezwykłości / Że samo to wystarczy / Aby rozgłosić bogactwo mądrości / Które uwidacznia się na każdym złączu. / Nigdy nie może tysiąc dzieł pisarzy / Nigdy nie mogą wydrukowane pisma / Stworzyć dzieła godnego naszego Boga / Ani wystarczającej pochwały / Jaką czytamy w subtelnej budowie / Zręcznie wykonanych źdźbeł trawy”. Jeśli skromna trawa swą strukturą i różnorodnością dowodzi majestatu Boga, to dlaczego ludzie nie są tym poruszeni? Ludzie, zdaniem autora, powinni widzieć w całej przyrodzie, a w szczególności w trawie, drabinę do nieba, prowadzącą ich ku Bogu: „Aby zobaczyć Stwórcę poprzez stworzenie, / Przybyć do Boga przez naturę, / Kochać Boga, który nas miłuje / A Jemu życie dane nam / Oddać chwałę Go”.

Denso nazwał swoje przedsięwzięcie teologiczne chorto-teologią, przez co uznał swoje „ja” za część fizyko-teologii, która była bardzo popularna w XVIII wieku jako metoda dowodzenia istnienia i atrybutów Boga na podstawie badania natury.

*Beweis* Denso jest bardziej ćwiczeniem poetyckim niż traktatem teologicznym. Poemat ten nie był odosobnionym wyrazem fizyko-teologii Denso. Był on płodnym pisarzem i wytrawnym przyrodnikiem, a fizyko-teologia była tematem często pojawiającym się w jego pismach. Jego obszernie pisma naturalistyczne były motywowane nie tylko ciekawością badawczą, ale także misją teologiczną: „najszlachetniejszym zajęciem jest odkrywanie planów przyrody na chwałę Mistrza Budowniczego i na użytek ludzkości”. Denso opublikował oddzielnie dwanaście *Listów fizycznych* skierowanych do różnych osób, w których szczegółowo przedstawił różnorodne tematy związane z historią naturalną z intencją „wysławiania chwały Bożej w dziełach przyrody, gdzie wieczna sztuka często ukazuje się najlepiej w tym, co jest najmniej”.

Jako głęboko wierzący chrześcijanin Denso nie odrzucał możliwości cudów, lecz traktował je jako zdarzenia wyjątkowe. Zniszczenie Sodomy miało charakter cudu, po-



dobnie jak trzęsienie ziemi, kiedy umierał Chrystus, ale już trzęsienie ziemi w Lizbonie w 1755 r., wydarzenie, o którym wówczas bardzo szeroko dyskutowano w Europie, było dla Denso wydarzeniem spowodowanym przyczynami czysto naturalnymi.

Jego zdaniem poznanie Boga poprzez naturę jest doskonałym przewodnikiem do objawienia, jak to jest powiedziane w Biblii; również studiowanie przyrody nie jest zwykłą przyjemnością, ale przyjemnością, która przygotowuje do wieczności przez wykrywanie w przyrodzie śladów Boga. Co więcej, badanie natury nie kończy się w tym życiu, lecz jest kontynuowane po śmierci.

Nazwisko Denso zostało w dużej mierze zapomniane, aczkolwiek niezasłużenie. Jego poglądy dają nam bardzo dobry wgląd w myślenie popularne w XVIII wieku, wskazując, że oświecenia nie można osiągnąć przez zastąpienie teologii nauką, ale przez wzbogacenie tej pierwszej przez tę drugą.