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## Christoph Christian Sturm's Theological Reflections on Nature

### Teologiczne refleksje Christopha Christiana Sturma na temat przyrody

#### STRESZCZENIE

Christoph Christian Sturm był osiemnastowiecznym duchownym niemieckim żywo zainteresowanym wiedzą przyrodniczą. Jako pastor wykorzystywał tę wiedzę do celów teologicznych: ludzie mogą i powinni wzmacniać swoją wiarę, badając Boże dzieła w przyrodzie, aby zobaczyć wyraźne znaki Jego mądrości, mocy i opatrności odcisnięte w tych dziełach. Sturm także obszernie dyskutował problem teodycei, wskazując, że dobro zdecydowanie przeważa nad złem występującym w przyrodzie oraz w życiu społecznym i indywidualnym, a to, co postrzegane jest jako zło, to środki Boże użyte w pozytywnych celach.

#### SŁOWA KLUCZOWE:

Christoph Christian Sturm, fizykoteologia, teodycea

#### ABSTRACT

Christoph Christian Sturm was an eighteenth-century German ecclesiastic keenly interested in naturalist knowledge. As a pastor, he used this knowledge for theological purposes: people can and should enhance their faith by investigating God's works in nature to see the clear signs of His wisdom, powers, and providence imprinted in these works. Sturm also addressed at length the problem of theodicy by pointing that the good by far outweighs evil found in nature and in social and individual life, and that what is perceived as evil is God's means used for beneficial purposes.

#### KEYWORDS:

Christoph Christian Sturm, physico-theology, theodicy

## Introduction

Christoph Christian Sturm (1740–1786) was a German pastor. He studied at the universities of Jena and Halle. In 1762, he was appointed as one of the masters in the Königliches Pädagogium in Halle, and in 1765 he became a conrector of the school in Sorau (today: Żary in western Poland). In 1767, he returned to Halle as a pastor of the Market Church (Marktkirche). He left Halle in 1769 to become a pastor of the church of the Holy Spirit (Heilig-Geist-Kirche) in Magdeburg. Finally, in 1778, he was appointed a chief pastor of St. Peter's Church (Sankt-Petri-Kirche) in Hamburg.<sup>1</sup>

Sturm was a prolific author of pastoral books, collections of sermons, and theological reflections. His publications were very popular in Germany and abroad well into the nineteenth century. For example, his *Unterhaltungen mit Gott in den Morgenstunden auf jeden Tag*, first published in 1768, had thirteenth edition in 1831 and his *Morgen- und Abendandachten auf jeden Tag*, published in 1778, had eighth edition in 1798. Sturm, not a scientist himself, wanted to capitalize on the growing contribution of science to the human knowledge which was also reflected in the use of science for theological purposes in the then very popular physico-theology. Explicitly naming Buffon, Derham, Pluche, Nieuwentijt, Sulzer, and Bonnet, Sturm said he wanted to use their language to be understandable. What he wanted to accomplish was to bring to the *Unstudirten*, to people with little or no scholarly training, the necessary knowledge of what God's work in nature emphasising in this endeavor the aspects of nature closest to the everyday life (B 1.Vorrede [2–3]).<sup>2</sup>

## Physico-theology

Physico-theology had a dual purpose: first, convincing unbelievers by the orderliness and makeup of nature that God exists and is the creator of nature; second, by pointing to the very same nature, instilling in believers the appreciation of the beneficial work of the providential God. Sturm expressed very little interest in the former, concentrating almost entirely on the latter.

In Sturm's opinion, the investigation of God's work in nature is the most important, the most pleasant, and the easiest kind of knowledge. It is good to learn about God's

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- 1 J.F. Feddersen, *Christoph Christian Sturm's gewesenen Hauptpastors zu St. Petri und Scholarchen Leben und Charakter*, Hamburg 1786. Feddersen was a very close friend of Sturm.
  - 2 References are made to the following works of Sturm: B – *Betrachtungen über die Werke Gottes im Reiche der Natur und der Vorsehung auf alle Tage des Jahres*, vols. 1–2, Halle 1785<sup>3</sup> [1772]; P – *Predigten über die Sonntags-Evangelia durchs ganze Jahr*, vols. 1–5, Pest 1792–1797 (published posthumously and edited by W.F. Wolfrath); PE – *Predigten über die Sonntags-Episteln durch ganze Jahr*, vols. 1–4, Halle 1774–1788.

revelation from the Bible, but this revelation will be accepted with the conviction of the heart when with it is associated the revelation in nature through which God makes Himself known as the Creator of all things and as the Lord, Father, and Benefactor of people. This is the best preparation to understand and accept the Gospel of Jesus (B 1.161). Nature is the divine masterpiece and only human blindness cannot see it. "From each part of nature shines something concerning the divine wisdom, but much more is concealed from us" (1.18). God is in simplest things which people don't notice since they see them every day (1.135) since they pay attention only to unusual events neglecting the importance of what they see on the daily basis (P 3.285).

Physico-theology wants to show the wisdom of God in nature and thus the purpose for all elements of creation. Sturm very frequently returned to that point showing the purpose and usefulness of various materials found in nature, of natural phenomena, and of the usefulness of the elements of flora and fauna. In the case of aphids, rather insignificantly looking creatures, Sturm directly addressed the question of why God created such insects. We can say that much: 1. God shows through such creation His rule over nature (B 487); 2. there is great variety in nature which incites the human admiration of the Creator; 3. people easily get used to common sights, so, new phenomena lead to the continuation of the investigation of nature; 4. people see that the strangest phenomena fit the harmony of the whole according to God's designs (1.488). About the antlion, Sturm prayerfully stated that this insect was created "for no other reason than to give me an opportunity and inducement to know you also through lower[-level] creatures. To this I want to apply this portion of the history of nature. I want each insect, as small as it may appear, and my first thoughts to direct to you, who created the smallest worm and an elephant and who cares for it, as for any other [creature]" (B 2.178–179).

Even nonprofessional observation should show that "nature is in the small what it is in the large: so full of order and harmony in the makeup of an elephant as in the structure of a cheese-mite" (B 1.35, 313, 377) and people should be ashamed that they do not see the power and wisdom of God in the smallest things (273, 2.422). For example, the microscope allows us to see that mildew is like a forest with branches, flowers, leaves and fruit; that human skin is covered by scales 250 of which are of the size of the grain of sand, each scale covering 500 sweat pores (1.36, 174). Consider the human body in which no part is redundant and no additional part is needed (41); in which all parts are in the right place, properly shaped, well coordinated (180, 2.407). Consider the fact that God maintains the proper proportion between deaths and births of humans and animals (1.111). Consider an astonishing variety of creations on earth (291, 376, 417), but there is also amazing proportion and interconnection between them (291). Consider the remarkable uniformity in plants: the uniformity of the nourishing mechanism, of growth and,

at the same time, there is a remarkable variety of species. Similarly, with animals, also with people: all have the same nature, but each individual is different from another (196). And, on the other hand, there is a remarkable variety in nature: there are known 30,000 kinds of plants (1.206). With this variety of plants on earth, each kind of plant serves as food for some creatures (286, 345, 430, 2.144, 299). Accordingly, God endowed animals with proper instincts so that they can find food and shelter in their environment (1.301; P 3.293). The wonder of instincts; for instance, how do the migrating birds know when to return (B 1.306) and how do they know their way back (307, 2.287)?

The majesty of God shines best in the wonderful fruitfulness of plants. One tobacco plant can produce 40,320 seeds and in four years, one seed can eventually produce 2,642,908,293,365,760,000 [= 40,320<sup>4</sup>] seeds (B 1.367). The fish and insects come fairly close to that fruitfulness: one carp can produce 20,000 eggs, one stockfish, one million eggs (368), but, in Sturm's estimation, the proportion between animals and plants remains similar over time so that no plant overgrows the land nor any animal destroys plants by overgrazing (369).

On each level of nature, orderliness clearly transpires that can come only from the divine being. The appreciation of God's power and wisdom only grows with the growth of knowledge about the mechanism of nature: "the works are so perfect, how glorious must be he who made them? If the beauty of what he has created is so immeasurably great, then inexpressibly greater is who oversees the whole of creation at a glance" (1.233). A physico-theologian can only conclude that "each creature points to its Creator. Each place in the entire realm of nature is full of God: he is present for you in each [blade of] grass, in each bloom, in each bird; he speaks in a still but convincing language of nature to you, to your senses, to your intellect, to your conscience, to each of your faculties" (391). The observation of nature leads to the conviction that the world is "an orderly and perfect whole whose makeup and the entire structure is the work of an ability of a great Artist" (2.412). However, with the growth of knowledge the recognition also increases how little people know about nature, how limited human knowledge is. There are millions of things in nature whose cause, purpose, and the connection with everything else is unknown, but what we know is that all natural phenomena are caused by the wisdom of God (1.172). Therefore, "everything that we recognize of the order of the physical world is just a weak glimmer that we get from the sun until we reach a greater light of knowledge and the wisdom of God, which is impenetrable to us in many respects, will be seen more closely and fully" (2.413).

## Nature and humankind

The universe is teeming with life, also intelligent life. Other planets may be inhabited by beings of a different nature than humans, the beings who are able to endure extreme heat or extreme cold (B 1.201, 236). In fact, there may be more perfect creatures than humans in other worlds (P 4.144). However, human beings are the most perfect creation of God in this small corner of the universe, on Earth, and the investigation of nature should not only incite in people the admiration of God's power and wisdom, but also the awareness of His love and care for His creation. His care is manifested on each level of creation: "the Creator cares with the same goodness as much about a worm that crawls in dust as about the whale which towers in the sea" (B 1.37, 313). However, it is humans that are the center-point of all that God created for His glory: "God prepared everything for the good of humans and strove to set everywhere before their eyes the proof of his love" (B 2.264); "the entire world is made and prepared, all its parts are prepared for this: to please and do good to the human race" (392); the entire structure of the earth is for the needs and pleasure of humans (P 2.108). Nature is working for human needs (B 1.84). All creation serves and must serve humans and thus people should express gratitude to God and be filled with love for Him. They should live for God just as all creatures live for humans (86).

## Hard information

Sturm reflected on various aspects of nature always coming to a theological conclusion, but he often used state-of-the-art knowledge to point to the complexity and harmoniousness of nature on any level. Here are some examples.

When discussing properties of elements, he wrote about air that "the load with which the air presses on any surface of a square feet is two thousand pounds. So, a man who is six feet tall, and whose surface is about fourteen square feet, is constantly carrying on him a weight of air which is at least twenty-eight thousand pounds, or two hundred and eighty centners." The air inside the human body is a counterweight (B 1.219).<sup>3</sup>

When presenting structural details of leaves, Sturm wrote that "each leaf has certain tubes: these are close together in the stems, and spread out into the leaves like branches and ribs. Each leaf has the finest tubes and cavities. And it has been observed, e. g., of a genus *box*, called *palma cereris*, that one side of its leaf had a 172,090 of such openings" (B 1.404).<sup>4</sup> Also, "the surface of the leaves, which faces the ground, is for the most part paler, rougher, less glossy, and more spongy than the upper one. Here, too,

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<sup>3</sup> *Gothaischer Hof-Kalender, zum Nutzen und Vergnügen eingerichtet auf das Jahr 1766*, Gotha 1765, p. 48.

<sup>4</sup> H. Baker, *The Microscope Made Easy*, London 1742, p. 257.

the wisest design is that the side of the leaves facing the ground is rougher and therefore more porous, so that they can receive the vapors rising from the earth/ground and from the fallen dew, accept them and be able to supply them to the plant more often and more easily. So, the leaves move to the area where they get the most nourishment from the vapours. For this reason, the leaves of some plants droop very deeply” (405).<sup>5</sup>

About the nautilus mollusc we learn that “the nautilus is of the snail species and lives in water. If it wants to rise, it pulls itself forward in the shell, pushes water out of the opening, and becomes lighter. If it wants to sink, it pulls itself in, water runs in and it gets heavier. If it wants to swim, it turns its shell upside down so that it becomes a boat: it also stretches out a skin so that it can be caught by the air and used as a sail. Some people may have learned the art of sailing from it” (B 2.70).<sup>6</sup>

About the antlion we read that “its body is endowed with six feet, it is pointed and composed of many membranous rings. Its head is square, flat, armed with two moving horns like with two pickaxes, the singular structure of which shows how much admirable [elements] nature has even in its smallest works. This insect is the most cunning and the worst enemy of ants” (B 2.176).<sup>7</sup>

About herrings Sturm said that an immense number of them live in the North Sea but at appointed times they move close to England although the reason for it is rather unclear. In any event,

already in March, a wing of this army arrives to the island of Iceland: and this is the western one. Herrings are so numerous in Iceland at this time that a large quantity can be lifted out at once with a shovel, which is used to moisten sails from the sea. The eastern wing plunges further and further into the North Sea. A part of it turns to the North Cape and down the Norwegian coasts through the Sund to the Baltic Sea, but another part to the northern tip of Jutland, which then enters into the Südersee and, after having circumnavigated it, returns home to the North Sea. The strongest part of the eastern wing, however, is that which turns westward and meets the Arcadian Islands, where the Dutch await it. Towards the 8<sup>th</sup> of June the whole sea is filled with herrings. Afterwards, they turn towards Scotland and England, where they fill all the bays and estuaries with their spawn. After leaving England, they will presumably go back to their Nordic homeland. At least they cannot be seen afterwards, and nobody knows where they are going (B 1.478-480).<sup>8</sup>

Sturm was a pastor and no one would expect him to conduct lengthy naturalist research to observe the anatomy of the antlion (on second thought, why not?) or to trace

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5 L.J.D. Sucklow, *Briefe an das schöne Geschlecht über verschiedene Gegenstände aus dem reiche der Natur*, vol. 3, Jena 1771, pp. 2143–2144.

6 J.B. Basedow, *Des Elementarbuches für die Jugend und für ihre Lehrer und Freunde in gesitteten Ständen*, vol. 1, Altona 1770, p. 163.

7 K.Ch. Bonnet, *Betrachtung über die Natur*, Leipzig 1772, p. 546.

8 J.F. Schröter, *Algemeine Geschichte der Länder und Völker von America*, vol. 2, Halle 1753, pp. 875–876.

migration patterns of herrings. All this hard information comes from other sources, but the reader could only guess it since the sources or authors are never indicated. Worse yet, the factual information is simply lifted from these sources; entire sentences or paragraphs are just copied with sometimes little modifications. It can be easily seen from the few examples quoted above and the original statements referenced in the footnotes. In his two-volume *Betrachtungen* Sturm mentioned only the leading physico-theologians, as indicated at the beginning of this article, and Leeuwenhoek (B 1.174).<sup>9</sup> It is interesting that he pointed, among others, to Derham as his inspiration in respect to the way of presenting material, but in Derham's *Physico-theology* all information is fully documented, sometimes coming from his own observations and experiments, and references and footnotes occupy more space than the main text.

### Analogies

Natural phenomena served Sturm also as analogies to derive moral lessons. This is not accidental, since in his view, nature is a school for the heart since it teaches people their duties toward God and toward others: humility, gratitude, and trust toward God, and love toward others (B 2.461-463). Here are some examples.

The fact that there are plants that do well in winter: laurel, ivy, and others (B 1.20), leads to the wistful desire for oneself to be fruitful also in the winter of one's own life (22). Moreover, "look at the earth covered by snow, rivers covered by ice, trees robbed of their leaves, the entire nature desolate and empty, and think about the designs which your Creator wants here to accomplish" – God does it for the fertility of soil and the joy of His creation. Snow and ice will melt, short days will pass, and this should bring to mind the feebleness of human life (60, 118).

Many animals are hibernated in winter waking up in spring, so the buried human body will be awakened for the last judgment (B 1.132).

As the earth would be dead without the sun, so the human heart would be dead without God's grace, the sun of righteousness (B 1.290).

Thinking about flower buds brings the thought about young people, their undeveloped spiritual faculties, and of hopes and expectations of their parents and teachers (B 1.340).

Nature comes to life in spring, but very soon all flowers wither although there is still spring. So, people should think about their own end, about how short their life is (B 1.380). "O death that I carry in my bosom, / You undermine my little happiness. / You, roses, die in a day, / And I maybe in a moment." They should turn their thought to the afterlife and the beauty of the earthly life should show how infinitely more beautiful is the heavenly world (381). And thus, "Oh, if I were to die today! / How happy I would be" (382).

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<sup>9</sup> Also, Pliny (B 2.299); never mind Robert Fludd who is only mockingly mentioned (B 2.202).

The view of a sun or moon eclipse brings to mind the last judgment when the sun and moon will lose their shine and the sky will crush down (B 1.483).

The death of a believer and his resurrection can be compared to the transformation of a caterpillar – a blind, crawling, despised worm – into a butterfly to fly across millions of worlds (B 2.4-5).

A fallen leaf is an image of human life: “I am a fallen leaf, / Death is by my side. / Perhaps today I will wither / And tomorrow I will be dust” (B 2.288).

Sailors use the Polar Star as a guide and so is God’s word for people sailing through the turbulent sea of the world surrounded by the darkness of night (B 2.500).

Not infrequently, in such analogies and similes Sturm spoke more as a poet than a theologian and moralist.

## Theodicy

The problem of the existence of evil was always a thorny problem for theologians. Physico-theologians addressed it to various degrees and for Sturm it was one of major topics of his investigations.

There are frequent complaints about nasty or at least less pleasant elements of nature. Why cold? Why not warm temperatures everywhere? In addressing such questions, Sturm saw great benefits in hard science. And thus, cold air carries few illnesses, unlike in summer (B 1.86). If temperatures were the same on the entire earth, many animals and plants would disappear, the ones that can only live in a cold or only in a hot climate. Trade would disappear since each country would have the same things (91). There would be no winds; air would corrupt (91).

Earthquake, “this evil,” is an expression of God’s wrath and fearsome majesty (B 1.109). Such events, as earthquakes, are a sign of “higher goals. Through earthquakes God wants to preserve everything.” Destroyed areas are small in comparison to the entire surface of the earth; even thousands of people who perish is a small number in comparison with the population of the earth. People should be convinced “that all fears of nature, all apparent evils and imperfections of the world are necessary for the preservation of the whole and also for glorification of God” (110, 164).

Why does God permit destructive storms? “Silly question! Why dare I judge the Omniscient as to his government? Shouldn’t I rather with worshipful silence investigate his ways and convince myself about their goodness?” (B 1.168). When they complain, do people consider the benefits that God brings? Storms are, in fact, the best way to purify air and prevent sea waters from becoming foul. And generally, “motion is the soul of entire nature that maintains orderliness and prevents it from downfall” (2.433). God uses natural phenomena to punish human sins, but these phenomena never undermine the benefit for the whole, which is the most important concern of God (28). And thus, thunderstorms

purify air preventing pests, and people should not grumble over small damages these storms cause (29). As indicated in one hymn, the response should be: “when in storms / Thunder shakes it [the world], / Your world, oh Father, is beautiful.”<sup>10</sup>

Hail causes some damage of fields and houses, but the damage of some crops or breaking a few hundred windows is nothing in comparison with its benefits: it refreshes air in summer by bringing coolness and water from hail causes soil to be fruitful (B 2.27).

Violent downpours are rather harmful to nature and human property, but they are very rare and affect a very small area in comparison with the surface of the earth and, when complaining about them, people forget the blessings of God which are much more common than the punishing events. It is really sinful to use harmful phenomena against God and forget the many uses stemming from the wise arrangement of nature. People should investigate the works of God with humility and seek the right ideas about them. “It is undeniable that the infinite wisdom, beauty, and goodness is also where we cannot see it at all or very little of it” (B 2. 126-127).

Floods? Rivers sometimes inundate some areas bringing destruction, but that happens infrequently and over relatively small areas; they fertilize the soil and also “for thinking people [this is] a proof that God blesses with one hand while he seems to punish with the other” (B 1.414). About the then recent flood Sturm almost dismissively stated: “a small area of damaged fields – what is it in comparison with the immense scope of fields, pastures, and meadows which God decorates with charm and growth? [...] A misfortune of some hundreds or thousands of people – what is it in comparison with the happiness of many millions?”<sup>11</sup>

When complaining about deficiencies of their bodies, people should remember that these bodies are functioning better than the best artificial systems or machines and their parts were not set up by accident. Those who complain about the world, would they be able to create anything better? When complaining about a part, the whole should be taken into account. Weather may cause some damage in some places, but this is necessary to prevent the harmful mixture of air. East wind has to blow for the benefit of all lands even though some ships are brought off course (B 1.388). Some things may appear to the human limited mind nonsensical and contrary to God's plans; however, a general rule should be kept in mind that “all that God does, comes from wise and good purpose” (1.390). “God allows some small imperfection here and there ... so that the whole would reach a greater perfection” (2.33).

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10 *Gesangbuch für Gartenfreunde und Liebhaber der Natur*, ed. Ch.Ch. Sturm, Hamburg 1781, p. 141. This is Sturm's considerable reworking of Mathias Claudius' hymn, cf. Ulrich Leisinger, *C.P.E. Bach and C.C. Sturm: Sacred Song, Public Church Service, and Private Devotion*, [in:] *C.P.E. Bach Studies*, ed. A. Richards, Cambridge 2006, pp. 122, 125.

11 Ch.Ch. Sturm, *Von den Hauptursachen des auf der Erde ausgebreiteten Mangels; eine Predigt, zur Unterstützung des durch die neuerliche Ueberschwemmung verarmten Evangelischen Predigers zu Mühlheim am Rhein*, Hamburg 1784, p. 17.

The natural phenomena, “fire, hail, snow and storm, earthquake and pestilence are God’s servants that execute His word” [cf. Ps. 104:4, 148:8] (P 5.55). God speaks in weather. Bad weather is God’s preacher; it preaches about human duties toward God.<sup>12</sup> The order on earth was determined in eternity and even the most destructive phenomenon has its proper place in it (5.56). God directs everything to the best of the whole (57).

There is a natural enmity among animals and a constant war among them mainly because of food, but even this enmity is a proof of this being the best world. The fact that they destroy one another is for their benefit. In this way, new kinds and new generations can appear (B 2.232). However, the proportion among animals is retained (234). The destructive aspects of the animal kingdom are providentially kept in check. The animals of prey are relatively few in numbers, they multiply in small numbers, some require little food, some require a great deal of effort to get food, some fight among themselves, small animals are eaten by their kind; moreover, they often sleep in winter, digest slowly, eat plants if necessary, and weak animals have ways of defense against them (1.291, 2.148, 234).

There is much more goodness in the world than evil. Count the days of sickness vs. days of health, count joys vs. hurts, count good works vs. harmful deeds, etc. (B 2.229). People easily forget good things that happened and remember for a long time bad things (230). And thus, “Glory be to God, my greatest good! / He generously sends me joys / ... He teaches me here through suffering, / And then gives me again comfort and peace” (231).

All that happens, happens to reveal God’s righteousness, wisdom, and goodness (PE 3.389). People are short-sighted when assessing what is evil. What is evil for one city or province is often good for the whole (391). In the time of famine, the lazy are forced to work, big spenders must limit their spending. Bad times are medicine to heal the soul (392).

Christians should glorify God also through their suffering, for instance, the sick glorify God through sickness when they do not wait with anger for its end or not wishing their death out of impatience, but, like children, they submit themselves to the will of their Father silently awaiting God’s help thanking Him for this suffering and trusting Him to the end (PE 2.169-170). If Christians must suffer, they should endure it patiently for the glory of God and for the benefit of their brothers and rejoice because they are suffering like Christ (P 1.44). When by God’s will people suffer, they should think about salutary outcomes which by God’s design must follow; it is God who educates people and using any means He leads them to wisdom and piety and eventually to wellbeing.<sup>13</sup>

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12 Ch.Ch Sturm, *Die Bestimmung des Menschen beym Landleben*, Leipzig 1764, pp. 85, 95.

13 Ch.Ch Sturm, *Predigten über einige Familiengeschichten der Bibel*, vol. 1, Hamburg 1783, p. 137.

It is not a blind accident that in the human life often bad days are mixed with good days (Prov. 1:15) (P 2.324). Unpleasantness and suffering are unavoidable; they are necessary for the human progress in perfection and wellbeing. Uninterrupted good days would not be possible for people, nor desirable, nor beneficial (326); they would be even harmful (327). Good days are more pleasant when they are mixed with sadness of bad days (331). Dawn is enjoyed more since it follows night, spring is enjoyed more since it follows winter, good health is enjoyed more when it follows an illness (332). Through the loss of earthly joys, God points people to spiritual joys and to the joys of the afterlife. Without bad days, people would gravitate toward frivolity away from serious virtues, toward pride away from the realization of our dependence on God (336-337). Bad days make people stronger, willing to curb their desires, remind them about death and the coming judgment (338), about the fact that this life is a preparation for eternity (340). Through occasional losses God reminds people that they are designed for the future life, not the life on earth (343).

Human knowledge is thus too limited to appreciate the full beneficial impact of apparently harmful elements of nature. People thus should extend this knowledge by studying nature. However, this knowledge will always be limited. In fact, too much of it could also be harmful. "The light of knowledge is for the soul what light of the sun is for the eyes. Too much would cause pain, and thus would not help. It would be too dangerous for people if the ability were given to them to see the future" (B 1.228). So, human knowledge will always be limited since human mind is finite and thus limited. Therefore, Sturm's pastoral advice is that, not always easy as it may sometimes be, people should put their trust in God in the face of phenomena they cannot explain and believe that "what appears to us to be unneeded or harmful, contributes in the end to our happiness" (B 1.29).

## Conclusion

The most important lesson from the investigation of nature is of an eschatological nature: the life on earth is short, maybe not altogether happy, but eternity awaits people and they should live to deserve the proper side of this eternity. What should they expect? Sturm does not venture far into the investigation of the life after death, but it seems that, to some extent, it would be the continuation of some aspects of this life, although on a higher level. After death, he hopes in eternity to go through space and see thousands of new worlds (B 1.69). There are millions of stars (33, 427) and it is very likely that stars have their own planets (399, 32, 95); there are thus millions of worlds with rational inhabitants who glorify the Creator. In eternity, people will be able to see these worlds (400), they will be able to move from one star to another, from one planet to another (98).

The foremost occupation should be to know God since the knowledge of God satisfies human desires and brings peace and joy to the human heart, it becomes the foretaste of the knowledge people will have before the eternal throne of God (B 1.234).

In the end, naturalist pursuits acquire very an exalted position in Sturm's theology. Studying nature is set on equal footing with the study of Scriptures: "isn't nature also a divine revelation equal to the scriptural [revelation]?" (B 2.254). It is the most noble occupation to investigate the book of nature to learn about the greatness of God and low status of humans. It is a pity that people do not see wonders around them. Reason was given to them so that they should see God's perfections in His works and praise Him for it. What can be more exciting that detecting in nature traces of God's providence? (B 1.162). As Sturm prayed: "I will climb the ladder of your creations from the earth to heavens to know you and to feel your kindness. All that is around me and what is in me should lead me to you as the source of all things and enkindle my devotion. ... the entire nature which you prepared for my needs and enjoyment, should lead me to you" (163).

Sturm was not a naturalist, but by his writings, particularly the *Betrachtungen*, he contributed to the spreading of physico-theological views among the wide population more than other authors, even those more competent and involved in scholarly research. He provided just enough factual information about nature to make the reader appreciate the complexity and harmoniousness of the world on any level from a microscopic creature to celestial bodies and thereby, using easy-going prose with frequent interjection of poetry, directed the reader to the Author of the universe and the religious meaning all of it should have in the life of every person.

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