

## SEISMIC THEOLOGY OF JOHANN SAMUEL PREU

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Johann Samuel Preu (1729-1804) was a preacher and a conrector and then an archdeacon and scholar in the lyceum/high school in Weißenburg in Bavaria<sup>1</sup>. He was interested in local antiquities publishing a pamphlet about an altar of Mercury with an inscription; the altar was found in the wall of an old tower of St. Martin's church<sup>2</sup>; he also published a pamphlet about the concept of *nundinium*, the duration of the consular office in Rome<sup>3</sup>. He was affected by the destructive 1755 earthquake in Lisbon and, as a scholar and a clergyman, he was interested in the natural explanation of the seismic phenomenon and in the theological aspect of it. In this, he joined a very long array of authors who investigated earthquakes from historical, naturalist, and theological perspectives. Here is a sample of some of them<sup>4</sup>.

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\* Adam Drozdek – Associate Professor Duquesne University Pittsburgh (USA), ORCID: <https://orcid.org/0000-0001-8639-2727>, E-mail: [drozdek@duq.edu](mailto:drozdek@duq.edu)

<sup>1</sup> Georg Christoph Hamberger, Johann Georg Meusel, *Gelehrte Teutschland oder Lexikon der jetzt lebenden teutschen Schriftsteller*, vol. 6, Meyersche Buchhandlung: Lemgo 1798, p. 168; *Obituary, Neuer literarischer Anzeiger* 1808, col. 265.

<sup>2</sup> Io[annes] Samuel Preu, *Aram Mercurii Weissenburgi Noricorum nuper admodum repertam civibus suis spectandam sistit*, Litteris Meyerianis: Weissenburgi-Noricorum 1768; see also his correspondence in Christian Ernst Hanselmann, *Fortsetzung des Beweises, wie weit der Römer Macht in den mit verschiedenen teutschen Völkern geführten Kriegen*, vol. 2, Johann Christoph Messerer: Schwäb[isch] Hall 1774, pp. 23-26, 63, 261.

<sup>3</sup> Ioannes Samuel Preu, *Commentatio de nundinis consularibus*, Litteris Meyerianis: Weissenburgi inter Noricos 1774.

<sup>4</sup> A full bibliography of articles and books on earthquakes from the 18<sup>th</sup> century and before is much too long to be given here, see bibliographies in M. C[hristoph] G[ottlob] G[rundig], *Historisch kritisches Verzeichniß alter und neuer Schriftsteller von dem Erdbeben*, Carl Wilhelm Fulde: Schneeberg 1756; Ulrich Löffler, *Lissabons Fall – Europas Schrecken: die Deutung des Erdbebens von Lissabon im deutschsprachigen Protestantismus des 18. Jahrhunderts*, Walter de Gruyter: Berlin 1999; Grégory Quenet, *Les tremblements de terre aux XVII<sup>e</sup> et XVIII<sup>e</sup> siècles: la naissance*

## OPINIONS ABOUT EARTHQUAKES

In his 1571 Italian book, Lucio Maggio presented in the form of a dialog, various aspects of earthquakes, being primarily interested in their natural characteristics<sup>5</sup>. The book is clearly opting for a version of Aristotle's explanation in which no simple element – air, fire, water, or earth – moves earth, but some instead, a mixture (25). Having made a distinction between vapours which are humid and exhalations that are dry (28), Maggio viewed an exhalation as the cause of earthquakes (44); when collected in a large mass underground, it cannot find an outlet and presses the earth causing an earthquake (45-46). The idea that the fire from inflamed exhalations causes earthquakes like in an exploding mine (46) is rejected, since fire by itself cannot move earth; it is the exhalation into which the sulfuric matter is converted by the force of fire that causes an earthquake (49). This exhalation may also be enflamed and thus fire may come out to the surface (50). There is a detailed discussion of nine different quaking motions (58-63). Earthquakes are local; their occurrence depends on the intensity of the sun (119); this is because warmth comes principally from the sun, some from motion, and some from particles of the elementary fire. The sun's temperature gradually gets through the ground heating up exhalations underground (71-72). Earthquakes occur mainly in Spring and Autumn (128, 131, 138), mainly around noon (137). Eleven signs of an upcoming earthquake are investigated, which include, among others, the tranquillity of air; the obscurity of the sun (140); the eclipse of the sun or of the moon (143); birds flying to-and-fro not wanting to rest on the ground (144); and an appearance of a comet (151). The theological aspect is rather marginally treated by Maggio, but still, it comes out fairly strongly. The issue of the four causes of earthquakes is brought in and shown that earth is the material cause; a particular kind of motion is the formal cause (84); the divine vengeance to punish the sins of people is the final cause; as to the efficient cause, one is universal: the sun and the stars that send the seeds of the elementary fire which warm up the earth and exhalations (85). Another is particular: some say these are terrestrial demons who, by God's permission, enhance natural causes making them more formidable (86). Can people protect themselves from earthquakes? Yes, through prayer (156): "there is no better remedy than to return to God, Who, although He operates by the means of natural causes, is the First Cause which gives and imprints more force on all effects of nature than secondary causes, and only He can, by His infinite mercy, deliver us when it pleases Him from this harm and from all other misadventures even more dangerous than that one [in Ferrara]". And the way to appease God's wrath is by the humble heart, fasting, prayer, and almsgiving, the efficacy of which was repeatedly proven by history (157).

Motivated by the 1590 earthquake in Vienna, Valentinus Fabricius published a pamphlet in which he stated that history shows us that unusual signs were always followed by something terrible and thus Christians should fall to their knees and

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*d'un risque*, Seyssel: Champ Vallon 2005; Rienk Vermij, *Thinking on earthquakes in early modern Europe: firm beliefs on shaky ground*, Routledge: London 2021.

<sup>5</sup> Lucio Maggio, *Discours du tremblement de terre en forme de dialogue*, Denys du Val: Paris 1675 [1571].

offer to God their humility and repentance ([1])<sup>6</sup>. Scripture shows what such signs are: they are repentance-preachers ([2]). Some signs of punishments are not even signs, but punishments, like the recent bad weather, flood, and earthquake that not only announced the upcoming four punishments stated in Scripture – war, pestilence, hunger, and ferocious animals (Jer. 15:3) – but are also the rod of God punishing some people and shown to others as an example that if they do not repent, the same fate awaits them ([3]). Signs are supernatural and they are portents of “great things and frightful changes in the spiritual and worldly governance”. Some have natural causes, but their reason has to be analysed to see that they are signs of something bad ([4]). When scholars explain earthquakes by great heat or an influence of planets, the explanation is insufficient and they should be seen as signifying future harm and misfortune such as wars ([5]). A dozen pages filled with examples of earthquakes follow.

Johann Georg Sigwart (1554-1618), a pastor and professor of theology from Tübingen, stated in his 1601 sermon on the occasion of a recent earthquake that when the Old Testament prophets indicated that when something unusual or frightening happened, it was a call to repentance (2v)<sup>7</sup>. One such indication was earthquakes, which, from the naturalist standpoint, are caused by a large accumulation of dry and warm vapor, wind, and dust underground which seek an outlet; when it is found, a wind above ground arises, if it is not found, and the ground is shaken (3v). Sigwart distinguished ten kinds of earthquakes (4) and pointed to alternative explanations (7v). Earthquakes take place usually close to a sea, usually in Spring or Autumn (8). Christians should know some more about the causes of earthquakes. Although they are natural, God, the Master of nature, has full control over their causes, but He also can cause earthquakes “without the mediation of nature” (8v). In this, people should see God’s infinite power (9). Their meaning? Unusual and frightful works of God seldom mean anything good (11), they are serious warnings. The Bible indicates that earthquakes are “frightening mirrors of wrath that God puts in front of our eyes” (11v) to see how people sinned against Him (12). God takes no pleasure in earthquakes (12v). Earthquakes are sometimes punishments (13) and they can be used after other means of punishment – pestilence, hunger, war – turned out to be ineffective. There are some defensive measures against other punishments (14), but an earthquake strikes suddenly and it can, in a few moments, bring an untold destruction (14v). Non-destructive earthquakes are warnings about more serious punishment: a war (15), the death of monarchs, a fall of a government (17), hunger, and pestilence (16), which may be directly caused by vapours released during an earthquake (16v). Many various sins are committed today in Germany (18), said Sigwart; God used a fatherly rod, but not many were moved to repentance (18v); the many warnings were “despised and thrown to the wind” (19). The most recent earthquake is also “an unfailing sign of a future disaster,” possibly even the last judgment (20v). Since the recent earthquake

<sup>6</sup> Valentinus Fabricius, *Chronica darinnen Warhafftige und gründliche Beschreibung, von den schrecklichen Wunderwercken und grausamen Zornzeichen Gottes den Erbidemen, wie sie allezeit was künftiges bedeutet, verzeichnet wird*, Georg Bawman: [Erffordt] 1592; unpaginated.

<sup>7</sup> Johann Georg Sigwart, *Ein Predigt von den Erbidemen. Als den 8. Septemb. dieses 1601. Jahrs, das Erdreich an viel unterschiedlichen orten hefftig gebebet*, Erhardus Cellius: Tübingen 1601.

occurred once, people were not quite alarmed, but it could happen again as it did in many places (22v), which is usually stronger than the first time (23). People should come to God with a repenting heart (23v), correct their ways (24), and prayerfully ask God that He abandons His punishment or at least softens it (24v).

According to Georg Nuber, a pastor in Württemberg, in 1654, God punished Germany with hunger, pestilence, and war (dedication [3])<sup>8</sup>. In 1655, there was an earthquake near Württemberg ([4]), which was an expression of God's wrath (3), which should lead people to repentance and to correcting their lives. Wrath, fury, etc. in God are not *affectiones* but *effectiones*, some actions (4) and a displeasure with sins (5). As history shows, earthquakes are signs of upcoming disasters sent as a punishment: war, hunger, pestilence, death of a monarch, a change of government (9), of which Nuber provided many examples. Earthquakes are signs of penitence; they are repentance-bells sounded by God. Normally, God makes such calls through His preachers (12), but their preaching is often ignored, even despised, so God uses stronger means (13). Earthquakes are also signs of the last day and the last judgment (14). Pliny and Aristotle stated that when a wind gathers underground, it moves around to violently get out when it can break through the ground, however, the physical mechanism is not the principal cause, so, Christians do not have to dwell on it. It is enough for them to know that God is the cause (15). There are people who confess their sins, get their absolution, but resume their old life right afterwards (19). Through an earthquake, God aims particularly at some sins: 1<sup>st</sup>, the neglect of the Word of God (21); 2<sup>nd</sup>: idolatry and false Church service, which includes the Arians (22); 3<sup>rd</sup>: when preachers are treated ignominiously (23); 4<sup>th</sup>: avarice/greed, the root of all evil (24); 5<sup>th</sup>: rebellion (26) against God-established authority, cf. Korah's rebellion; 6<sup>th</sup>: the tyrannical rule (27); and 7<sup>th</sup>: lewd behaviour (29); all these reasons are backed up by Biblical as well as extra-Biblical examples. In the face of earthquakes, people should, 1<sup>st</sup>, confess on their knees their sins before God; then, 2<sup>nd</sup>, they should ask for the forgiveness of these sins through the merit of Christ (33); and then, 3<sup>rd</sup>, ask God for help through the Holy Spirit in improving their lives (34). They should not delay, when an earthquake strikes, it can be too late since everything can very suddenly be destroyed (35-36). An ardent prayer may soften the blow of an earthquake (37).

David Wendeler (1652-1693), a pastor from Regensburg, warned about the coming of the last judgment and believed that God wanted to soften people's hearts through earthquakes by calling them to repentance ([8])<sup>9</sup>. The 1690 earthquake moved buildings but did not destroy them, people were frightened, and sinners were convinced by their conscience that the well-deserved punishment was at the door ([16]) and that God wanted to show them through such a natural event a repentance-mirror in which they should see their godless life to change it and not to go back to it ([17]). Natural earthquakes result from winds contained in the earth through which the ground is moved when no outlet is found. It happens mostly in the Spring or in the Autumn ([19]). There are also purely miraculous earthquakes, as, for instance the one in Philippi when Paul and Silas were praying ([20]). However, although the

<sup>8</sup> Georg Nuber, *Eine Christliche Erinnerung von den schrecklichen Erdbidemen*, Stuttgart: Johann Weyrich Rößlin 1655.

<sup>9</sup> David Wendeler, *Das an denen bewegten Thürmen erblickte Straff-Zeichen Gottes, aus der Apostel Geschichte am XVI. Cap. v.26*, Joh[ann] Christian Wohlfahrt: Leipzig 1691, unpaginated.

1690 earthquake was a natural event, it still should be considered a sign of God's punishment since God acts also through natural causes and wants to lead people to repentance just as eclipses are natural phenomena and yet they are harbingers of the last judgment, and comets are natural phenomena and yet they are signs of coming wars, plagues, and hunger ([21]).

The 1755 Lisbon earthquake unleashed almost an industry of sermons, pamphlets, and books. Here are three examples:

Johann Karl Koken (1715-1773), pastor and superintendent in Hildesheim, offered a book-long reflection on earthquakes<sup>10</sup>. As natural events, earthquakes are probably caused by underground fire; there are underground caverns filled with vapours and often with water; sulfuric particles are enflamed (26). God, Who created the earth, can just as easily turn it into nothingness. He wants people to grasp to some extent the infinity of His perfection by shuddering the earth and mountains, something which humans could not accomplish (37-38). "The trembling ground convinces us about the real existence of an eternal and infinite Being, the Creator and Maintainer of all things". After all, Who created the earth with all these underground caverns filled with vapours, air, and sulphur (38)? Who gave to the materials their power? Who put them in about the same distance from the middle of the earth so that they can make about the same damage? Why does enflaming take place at a particular time? etc, etc. Is that the work of chance (39)? All things in the world, small and big, testify about the existence of the Creator, but people often ignore them (43). However, thunder or an earthquake can hardly be ignored as proofs of the fearsome power of God (44). The voice of an earthquake is too strong not to wake up one's conscience (45). Fire is everywhere, in earth, in air, in plants, in our bodies, so we can wonder why the earth is still standing when all of it can be turned into ashes in an instant (58)? Who keeps the power of elements in check? How soon, however, will the entire world be in flames when the day of God's wrath comes (59)? The trembling earth convinces people about the certainty of the coming last judgment (61). People should be watchful and pray (71), but also grateful that they did not experience here an earthquake. Because they are better than others (75)? It would be a mistake to think this. Who knows if vapours and fire are not gathering here underground right now (76)? It all depends on God's grace, not on presumed human higher piety (77). People should fall on their knees before God to confess their sins and improve their lives. They should ardently implore God to avert the well-deserved strikes on their city and on their land and solemnly renew the bond of trust and obedience (80). In two appendices, which occupy most of the book, Koken analysed, various naturalist views of earthquakes opting for the view that the expansion of the underground air causes earthquakes (105) which can be accompanied by fires coming from sulphur (106) and the power of destruction can only be explained by underground fire (161). There are many other explanations; however, each explanation is dismissed with a quote from von Haller as given by a person who "does not seek truth, and yet he finds it; / His own approbation is his binding proof, / The less he knows, the more he believes" (183). Koken also included

<sup>10</sup> Johann Karl Koken, *Die Stimme Gottes im Erdbeben, aus Ps. 104, 32, nebst einem gedoppelten Anhang von den natürlichen Ursachen und einer Geschichte des Erdbebens*, Försterische Hofbuchhandlung: Hannover 1756<sup>2</sup>.

a discussion of some countermeasures cautiously adding that it is not sinful to use such means, and these are not measures aimed against God (96).

Johann Melchior Goeze (1717-1786), a pastor and a theologian from Hamburg, saw earthquakes as a prelude of the global judgment of the world<sup>11</sup>. They indicate that God, to Whom belongs vengeance is still alive, that it is up to Him alone that the entire world can be turned into ashes as it happened to some cities (3). He wants to awaken all sinners so that they would think about His frightful judgment (4). Just as the hand of God crushes rocks, may He also crush hardened hearts, so that their souls might be saved before the upcoming last judgment (6). Many people deny the prospect of the last judgment, even those who profess to believe the Bible (7). Earthquakes are not only preludes to the last judgment but also proofs of its arrival. No one can more affront human reason than someone who thinks that earthquakes are just accidental events. True, they are not always miracles, they can be results of natural forces, but who infused these forces into nature? God never released His reign over natural forces and they can do nothing else than what God prescribed for them. When God wants it, the earth trembles (9). God brings His judgment to those who do not fully believe in the veracity of the Scripture to awaken them from a sense of security and to bring close to home the prospect of the last judgment (11). When people ignore the voice of God from the sky in the form of thunders, God causes the motion of the ground to wake people up, to open their hearts and ears to His voice (21). God lets people hear His voice in weather and they should seek His grace by their repentance (24). Earthquakes are tools of God's vengeance. God is in an earthquake as a loving Father giving warning. Through the Lisbon earthquake, He said: if you do not correct your lives, you'll be killed. The entire earth could be levelled, but only one part of it was (29). It is all right to seek natural causes of earthquakes, but people should not forget God, Who wants to reveal Himself through earthquakes. True, there is in the caverns of the earth large amounts of fire, water, and air, and these three elements can cause great motions (36), but who allotted these elements with such a power? Who carved out these caverns underground and filled them with these elements (37)? In Lisbon, there was punishment, but in other places that felt some of it, it was a warning; destruction was mercifully limited to Lisbon alone, to other lands it was a message what could happen to them as well (38). People should repent and do good. Turning to God with all one's heart is the only way (44).

Ernst Friedrich Mylius (1710-1774), a pastor from Hamburg, summarized his views in a brief statement: God is in earthquakes (10) and God's voice is in earthquakes (26)<sup>12</sup>. They are to make people fearful (11), to punish the rebellious (43), to call people to humble themselves before Him, to have their sins forgiven (45). May the Lisbon earthquake cause the trembling in the souls of sinners (12), may people throw themselves before God to seek His grace (13). Earthquakes are not results of blind chance, where chance (*Ungefähr*) is "an invention of fools conceited through

<sup>11</sup> Johann Melchior Goeze, *Zwo Predigten, welche durch das fürchterliche, und so weit ausgebreitete Gericht Gottes im Erdbeben, veranlasset worden*, D[iedrich] A[nton] Harmsen: Hamburg [1756].

<sup>12</sup> Ernst Friedrich Mylius, *Das Erdbeben ist ein gewaltiger Zeuge Gottes*, in *Sammlung auserlesener Canzel-Reden über wichtige Stellen der H[eiligen] Schrift*, ed. J.M. Goeze, vol. 5, Verlag der Seidel- und Scheidhauerischen Buchhandlung: Magdeburg 1758, pp. 1-62.

their contrivances and whose foolish heart is set in darkness” (29). Earthquakes are monuments of God’s perfection, intellect, omniscience, wisdom, omnipotence, omnipresence, holiness, justice, truth, goodness and love (31). By manifesting Himself through earthquakes, God wants people to acknowledge Him, admire, praise, and pray to Him (35). He is also showing them His zeal about human sins (36). People should also remember the last judgment when it will be too late to repent (55). Interestingly, Mylius said nothing about the natural causes of earthquakes.

This is only a small sample of writings on earthquakes. Most of them have been authored by preachers who used very few sources provided by naturalists, one of which was Aristotle, after two millennia still going strong as a primary authority in things concerning the natural world. However, for preachers, the physical aspect by itself was of lesser importance even to the extent that, as explicitly stated by Nuber, it can be simply ignored. It was rare for clergymen, like Koken, to spend considerable time on the physical side of earthquakes. For him, just as for others, the spiritual aspect was of primary importance. Since the ultimate authority for all preachers was the Bible, their reflections on earthquakes have been done from the Biblical perspective. Since there are not very many earthquake-related passages in the Bible, the same verses have been used by these preachers, hence, a great deal of repetition exists in their pamphlets and sermons, with somewhat benumbing effects when read one after another. There is also the predominantly punitive angle from which earthquakes are seen, namely, they are viewed as a punishing device for the sins committed, or at least as a warning for people to do something about their sinfulness. And hence, there are omnipresent calls for repentance, turning one’s life around, coming to God, and accepting Christ’s self-sacrifice as the price for human sins.

### SISMO-THEOLOGY

As many other preachers, Preu was motivated by the Lisbon earthquake to write a book about it. As he mentioned, he preached about it in 1756, and because of the number of publications he hesitated to provide his own, but an immediate impulse was a light 1769 earthquake he experienced (76, cf. Vorrede [1-2])<sup>13</sup>. He called his approach *sismotheologie*; he may have taken over the term from Koken who planned to publish a book entitled, *Seismotheologie oder Erkenntniß Gottes aus der Betrachtung der Erdbeben*, which he found redundant because of the large number of publications following the earthquake in Lisbon and instead he published a book briefly discussed above (Koken, Vorbericht [2]). Incidentally, the book has over 220 pages and we can wonder how large the planned *Seismotheologie* was supposed to have been. Preu provided a list of 63 publications that discuss earthquakes, which also includes Koken’s book (31), however, in numerous footnotes and references Koken is never mentioned. On the other hand, it seems that the subtitle of Preu’s book, *physikalisch-theologische Betrachtungen über die Erdbeben*, was very likely inspired by the title

<sup>13</sup> Johann Samuel Preu, *Versuch einer Sismotheologie, oder physikalisch-theologische Betrachtungen über die Erdbeben*, Karl Gottlob Becken: Nördlingen 1772.

of the German translation of John Ray's book, *Physico-theologische Betrachtungen von der Welt Anfang*, which is the most frequently quoted source by Preu.

Like Koken, Preu was keenly interested in the physical aspects of earthquakes and devoted a larger portion of his book to naturalist investigations.

There are underground caverns filled with air and vapours (72). Some of these caverns contain water, some contain burning minerals (73). Earthquakes are caused by underground fire. Some say, it is air (74). The most likely cause is the violent winds that blow underground (56). These winds contain some sulfuric particles. When compressed in some caverns, they try to find an outlet (57). That causes the shaking of the ground which subsides when an outlet is found (58). In any event, ruptures in the ground are created with vapours coming out (71). Winds can contribute to the rise of an earthquake when a storm closes outlets in the ground (78). There are a variety of kinds of motions of the ground and Preu distinguished four of them (69-70).

Some tried to associate earthquakes with comets (80), since a comet appeared before some earthquakes (82). Preu found it likely since, in his view, comets are very hot because of passing near the sun and thus they can warm up vapours in the earth (88).

Preu's presentation of the natural side of earthquakes is fairly extensive and up to date. The clergyman that he was, he appreciated the achievements of empirical science – and of scholarly speculations – but, eventually, he wanted to use them to spiritual ends. People should be able to avoid superstition, consider things rationally, and the knowledge of the natural world should lead them to the knowledge of the Creator (35). Any knowledge is useless if, directly or indirectly, it does not lead to the improvement of the heart and does not make us more willing and better prepared to fulfil our duties (36).

On that note, some say that God is the cause of earthquakes (91) and the Bible clearly states it (93). But earthquakes arise naturally and no rational person would deny that (94). However, who made these natural causes out of nothing? Who determined their workings (95)? “The [underground] caverns and vaults, the material that fills them, incredible force with which the earth is shaken, all these things lead me to the Being, Who is wise and all-powerful, and from Whom alone the first and only cause can come. In a word, they lead me to the thought: there is a God” (207). All works of nature speak about the Creator and most of them “allow us the freedom of focusing our attention on them to be willing to seek and find in them the Lord. On the other hand, earthquakes force us by their undeniable power to pay attention to them and ascend in our thought to their powerful Creator”. So often people are oblivious to the beauty around them and to the reality of God's work (208), but no one can ignore the power of earthquakes. Even insensitive people are awakened by them to the belief in God (209).

Earthquakes not only proclaim God's existence, but also His attributes. They speak about God's omniscience since God knows the structure of the earth, the positions of all caverns of various materials and their effectiveness; He knows the time of outbreaks. And on a larger scale, the earth is but a point in comparison with the whole of the universe, so we can think with amazement about all the innumerable worlds God also created. How great is the wisdom that oversees all of them (215-216)!



Earthquakes show the infinite power of God and human powerlessness. Through His Word enormous vaults came into being underground (219), “it costs God only a wink” to enable thundering in these vaults, to make mountains tremble, to crush rocks, to sink cities, to elevate islands from the depths, with one word only God can “order his underground servants” to activate an action (220-221).

God uses earthquakes to punish sins and to stop human foolishness (221). However, earthquakes as a punishment can be ineffective by themselves (182), but they cause destruction, death, and they can trigger plagues, hunger, and poverty (224); for instance, sicknesses may follow if vapours in the air are not quickly dispersed by wind (174).

Earthquakes speak about God’s goodness. The underground fire is necessary for warming up the earth surface for its fertility since the sunrays cannot penetrate the ground too deeply. This is important for the bottom of deep waters to enable the growth of plants there which become the food for the fish which, we may add, become the food for humans (217). The underwater caverns and clefts absorb the excess of water thereby preventing floods (218). Moreover, earthquakes show God’s infinite goodness (225) by bringing closer to the surface various underground natural resources such as salt (187) and metals (188); they also create sources of water or clear up the ones which are muddied. Who knows how many unknown benefits there are. Big and damaging earthquakes are rare (227). When they happen, they are useful by making a profound impression on people about God by calling them to repentance and correcting their lives and by setting them on the path leading to eternal happiness (228).

Earthquakes speak also about God’s providence (229). So many houses were preserved, so many people were saved (230), no rational person requires of a physician that medicine should not be bitter, so people should not be troubled that the treasures of the earth are made accessible through an earthquake; rather, people should be grateful for God’s care (232). When a part of the land is destroyed, maybe this is for the preservation of the whole land (247). When believers are suffering the same as the godless, it may be for their upbringing to become better people. It is an opportunity for exercising patience and trust in God, and living without earthly goods. When they are killed, happiness awaits them and “they go with quick steps and without the pains of a slow death from the world that passes to the city of God that remain and whose foundation is unshakable” (248). Importantly, earthquakes also remind people about the last judgment (204, 263, 264).

Preu’s sismo-theology is clearly a product of the physico-theological thinking that was in full bloom in the 18<sup>th</sup> century. Early on, if preachers made earthquakes a topic of their sermons, they treated the naturalistic aspect at best marginally, mentioning it in one sentence or paragraph, sometimes not mentioning it at all. What was important, was the spiritual message coming from God, who, as was admitted, could use natural causes to convey it. There was very little of spiritual importance that was seen in the physical mechanism of earthquakes, and, for that matter, in any natural phenomena. Physico-theology, which was rising with scientific research, changed all that when the microscope and the telescope opened the scope of nature never dreamed before and allowed people to see incredible complexity, harmony, and beauty on each level of nature, from scores of minute creatures living in one drop of water to the immensity of the skies. The book of nature acquired more and more prominence and

the investigation was not just a lesser help in spiritual endeavours, but it became the spiritual endeavour itself, a way of discovering God in nature even in its most common elements. But surely, there was nothing common in earthquakes.

As already mentioned, older authors interpreted earthquakes primarily as a punitive measure. They saw them as the work of the powerful and wise God, but largely as an expression of the wrath of God Who was punishing sinful people by these earthquakes or sent them as warnings of upcoming punishments. Preu also saw earthquakes as the manifestation of God's displeasure, but he also saw them to a larger extent than before as the expression of God's goodness. Before, this goodness was seen in the fact that God punished people in this life to steer them to contrition and to the correct way which would lead them to salvation from punishment in the next life. The goodness of God was very strongly on the minds of physico-theologians, but this was easier to show when seeing God's presence in the world of the stars (Derham's astro-theology), plants (von Rohr's phytho-theology), grasses (Denso's chorto-theology), bees (Schirach's melitto-theology), and many other areas. It was much more challenging when scrutinizing locusts (Rathlef's akrido-theology) or thunders (Ahlwardt's bronto-theology). Where is the goodness of God in such phenomena? That is why Preu tried to find the upside of earthquakes in not altogether spiritual areas, such as improving fertility of the soil, opening water sources, or revealing underground natural resources, even though today the physical mechanism connecting these phenomena with earthquakes would be found of questionable value. For Preu, it was important that, as ferocious natural events that earthquakes were, they were also an expression of the love of God, the love, which may not always be obvious and sufficiently appreciated by humans overwhelmed by their destructive consequences. As befits a clergyman, Preu's trust in the loving God prevailed.

## SEISMIC THEOLOGY OF JOHANN SAMUEL PREU

### SUMMARY

Johann Samuel Preu was an eighteenth-century clergyman who in the spirit of the then popular physico-theology articulated sismo-theology which investigated theological and moral aspects of earthquakes. With many other authors of his times, Preu considered earthquakes to be natural phenomena that were used by God as a punishment for sins or as warnings about possible upcoming punishment. More than other authors, Preu looked into the positive aspects of earthquakes to show them as an expression of God's goodness.

## SEISMISCHE THEOLOGIE VON JOHANN SAMUEL PREU

## ZUSAMMENFASSUNG

Johann Samuel Preu war ein Geistlicher des 18. Jahrhunderts, der im Geiste der damals populären Physikotheologie eine Sismotheologie formulierte, die theologische und moralische Aspekte von Erdbeben untersuchte. Wie viele andere Autoren seiner Zeit betrachtete Preu Erdbeben als Naturphänomene, die von Gott als Strafe für begangene Sünden oder als Warnung vor einer bevorstehenden Strafe eingesetzt wurden. Mehr als andere Autoren untersuchte Preu die positiven Aspekte von Erdbeben, um sie als Ausdruck der Güte Gottes darzustellen.

## TEOLOGIA SEJSMICZNA JOHANNA SAMUELA PREU

## STRESZCZENIE

Johann Samuel Preu był osiemnastowiecznym duchownym, który w duchu popularnej wówczas fizykoteologii wyartykułował sismo-teologię badającą teologiczne i moralne aspekty trzęsień ziemi. Wraz z wieloma innymi autorami swoich czasów, Preu uważał trzęsienia ziemi za naturalne zjawiska, które były używane przez Boga jako kara za popełnione grzechy lub jako ostrzeżenie przed nadchodzącą karą. W większym stopniu niż inni autorzy Preu wyekspozował pozytywne aspekty trzęsień ziemi, aby pokazać je jako wyraz Boskiej dobroci.

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