

Article

Natural Science as a Modern Locus Theologicus Alienus

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Abstract: God’s word is the starting point of all theological knowledge and is conveyed through different objectivations. Since the 16th century, the authorised places of testimony of the Word of God have been referred to as “loci theologici”. The Dominican Melchior Cano distinguished ten homes of the divine word of revelation, whereby he counted human reason, philosophy, and the history of mankind among the loci alieni. The Second Vatican Council valued the non-theological sciences and granted them autonomy, which is developed in the first part of the essay. Today, it is mainly the insights of natural sciences that enrich theology but also challenge it, especially when the theological view is not narrowed anthropocentrically but is oriented towards the whole of creation. In this case, the question underlying the second part arises as to how the goal of creation can be considered together with the intrinsic lawfulness of nature. It will be shown that this question offers theology the opportunity to reflect on its statements on creation, as well as unanswerable questions.

Keywords: theological knowledge; loci theologici; science and religion; natural sciences; theology

1. Introduction

What the church is, Martin Luther wrote in the Schmalkaldic Articles, “a child of seven years knows, [. . .] namely the holy believers and ‘the shepherds who hear their shepherd’s voice’” (*Schmalkaldische Artikel* 2014, III). Although a closer look at ecclesiology reveals it to be a complex and complicated treatise, we cannot disagree with Luther that the church is fundamentally a community of hearing and storytelling under the Word of God. The church is not constituted by itself, but lives exclusively from the remembrance, visualisation and testimony of God’s word; it is “creatura verbi”. Without the word of God “it cannot exist” (*Luther 1883–2009* (WA), 1,13,38f.), the Wittenberg reformer remarked, which is why he could also conclude the other way round: “If the word of God flourishes, then everything in the church flourishes” (WA 5,131,26). In the Second Vatican Council’s Constitution on Revelation “*Dei Verbum*”, this fact is expressed as follows: God’s Word is the “power and strength” of the Church (*Dei Verbum* 1965 (DV), 21).

Christianity is not a revealed religion (*religio revelata*), but a religion that develops in accordance with divine revelation, i.e., the divine word throughout history (*religio secundum revelationem*), and that continually draws sustenance from the living divine word event. Determining the content of this Word of God and updating it within the respective time is the task of the church in general and of theology in particular, which has developed a special theological doctrine of knowledge and principles for this purpose since the 16th century. It deals with the question of the conditions, rules, and methods under which the word of God occurs in the church and how the church gains its theological insights from the word of God. The question of theological principles also plays a significant role. The principles and sources from which theology draws its insights are closely related to the theological understanding of the word of God. If the understanding of revelation changes, for example, by assuming that God also speaks to people outside the church, then non-ecclesiastical principles of theological knowledge must also be assumed. In today’s theology, the question to what extent, for example, culture or science can be seen as principles of theological knowledge is widely discussed.



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The first part of this article deals with this problem. After a brief introduction to the genesis of the theological doctrine of knowledge and principles, the following question is addressed: How can the traditional doctrine of theological principles be updated today? Is it also necessary in the present time to take the natural sciences into account when acquiring theological knowledge? The thesis in this context is that God also reveals himself outside the church, in the midst of his creation, which is why his word also comes up where nature becomes the subject of scientific investigation. Accordingly, the natural sciences, which in modern times have often been seen as a threat to theology and the church, are valuable partners in dialogue with theology. In this context, the follow-up question immediately arises: How is the epistemological status of the natural sciences to be classified? Are they original places where God's word is witnessed, or does it only come up for discussion in a derivative, i.e., subordinate way? This question leads to the second part of this article. The thesis here is: Although science is not a direct place of testimony of the divine word, such as Scripture or tradition, it is an important place of testing for theological insights. On the basis of knowledge of nature, theological insights can be questioned, which contributes to their modification and deepening. In the third part, the extent to which the natural sciences are currently putting theological statements to the test is exemplarily developed on the basis of the statement of faith in God's plan of creation. It becomes apparent that, against the background of scientific knowledge, contemporary theology can hardly make its talk of a divine plan of creation that aims at God himself understandable. Problems are caused by both cosmological and evolutionary biological insights.

2. First Part: Doctrine of the Loci Theologici

The origin of Christianity and the Church lies in God's Word. This is also the source of all theological knowledge; it is the principium essendi and principium cognoscendi of the church and theology. However, God's word, from which theological knowledge is formed, is nowhere to be found or heard directly in the church—it is only witnessed to in a mediating way. Where does this happen? Where is God's Word witnessed to in an authoritative way? Only within or also outside the Church? In the early days of Christianity, it was initially assumed that mediation took place purely within the church. However, this changed over time. A brief outline of this development should help to better locate the question of the epistemological relevance of the natural sciences.

In the early church, the witness of Jesus Christ, who was understood as the "cornerstone" (Eph 2:20; Rev 21:14), was respectively the incarnation of the divine word (John 1) and was therefore the first, all-decisive point of reference for the church and faith. Furthermore, the statements of faith of the "apostles and prophets" were regarded as constitutive (Eph 2:20), which is why their written testimony was already recognised as having a special, normative function for the knowledge of God's word at the end of the apostolic era. The tradition of the apostles was the highest norm of Christian faith and theological knowledge. In confrontation with the Gnostic movement, which claimed an esoteric knowledge for itself, the apostolic succession of office emerged as a further criterion (Acts 14:23; 20,28; 2 Tim 1:6). As a result, the proper witnessing of the apostolic tradition was guaranteed by the bishops in historical succession. In addition, the central contents of the divine word were summarised in the so-called "regula fidei" or "regula veritatis" (rule of faith or truth) before there were any symbols of baptism and faith. In the early church, they expressed faith or the awareness of faith and were considered the first canon of the church even before the canonisation of the Holy Scriptures. Finally, in the 5th century, the "Commonitorium" of Vincent of Lérins became significant, which led to the development of the principle of tradition: According to this, "what has been believed everywhere, always and by all" counts as God's word (*Corpus Christianorum, Series Latina* 1985, 64, p. 149).

Thus, God's word is transmitted within the Church through various objectifications: Holy Scriptures, apostolic testimony, regula fidei, symbols of faith, tradition, etc. It is attested to and secured in different ways at different sources. Following the ancient concept of topos, the instances of testimony from which theological knowledge is formed

(Seckler 1997, p. 1014) were called “loci theologici”. Because theology is based on the Word of God, which can only be experienced and witnessed historically, topology is of outstanding importance for it: it represents “principles on which evidence can be built where strict scientific principles are not given. In their field, the topoi serve to determine the respective specific quality of the presuppositions (premises). Thus, topics are a way of considering and remembering that is orientated towards problems [. . .]. Topics select the discursively true from human discourse. It goes back to prior knowledge, without which there can be no science at all”. (Lehmann 1985, p. 518). On the basis of these topoi or loci, theology gains knowledge of the truth of faith and finds answers to questions such as: Which statements belong to the authentic doctrine of the church? What arguments can be used to affirm and defend these statements of faith? Why do the individual theological loci have a special authority? The topoi, or loci, are of outstanding significance for theology because theology is a speculative science of faith that does not fall under any scientific concept based on verifiability.

Due to Reformation disputes and the development of separate confessional churches, the question arose in the 16th century as to whether God’s word is found only in Scripture or also in church tradition, and what the authentic doctrine of the church is. Because of theological controversies criteria of theological convictions had to be revealed with the result that a systematic elaboration of a theological epistemology was now carried out; on the Protestant side by Philipp Melancthon (“Loci communes rerum theologicarum” [1521], “Loci communes theologici” [1535], “Loci praecipui theologici” [1559]) and Johann Gerhard (“Loci theologici”, 9 volumes [1610–1622]) and on the Catholic side with Johannes Eck (“Enchiridion locorum communium adversus Lutteranos” [1525]), Robert Bellarmine (“Disputationes de controversiis Christianae fidei adversus hujus temporis haereticos”, 4 volumes [1586–1593]) and in particular in the work of the Dominican friar Melchior Cano (“De locis theologis”). In his Loci theologici, he based the proof of intellectus fidei on topical dialectic; today he is considered the father of the theological doctrine of knowledge. Of his work, which actually comprised fourteen volumes, only the first twelve were published posthumously in Salamanca in 1563 (Körner 1994).

Cano, a contemporary of Martin Luther, described the principles and instances in which the Word of God is normatively presented as loci theologici. The loci are “domicilia”, homes of the divine word of revelation, “living and active witnesses” of the Word of God, “in which knowledge occurs and has occurred” (Seckler 2013, p. 278).¹ Although each place where the Word of God is found has its own inviolable authority to bear witness, they should not be viewed in isolation, as they are part of a comprehensive process of transmission. According to topical dialectics, the truth of the Word of God can only be recognised in the interaction of the various loci theologici. Cano went on to list ten loci theologici. While the first seven are first-order loci (loci proprii), as they are based on the authority of revelation (the internal), the other three are subordinate loci (loci alieni), as they are based on the authority of the external. Within the loci proprii, Cano also distinguished between the “propria et legitima theologiae principia” as the theology’s own instances of witnessing to the Word of God (Holy Scripture and apostolic traditions) and the theology-derived, i.e., interpretative loci of the Church. These included the faith practised by the faithful as a whole (the Church), the decision-making bodies (councils and popes/hierarchical magisterium), and theology (Church Fathers and theologians/scholastics). Although the area of loci alieni is distinct from that of loci proprii, it is by no means completely separate from it. Since scientific theology corresponds to the intellectual-historical situation, this has authority for theological knowledge, contrary to the Protestant view, which according to Cano applies in particular to reason (ratio naturalis), philosophy, and human history.

Cano’s loci theologici doctrine has become influential not only, but especially for Catholic theology. Today, however, it is important to develop it further in line with changing social and cultural conditions. “The updating refers to the redefinition, categorisation, and use of the various loci proprii as well as to the characteristics of today’s loci alieni”. (Hünemann 2004, p. 207) What is to be subsumed under the loci alieni today? They were

redefined both at the Second Vatican Council and in the post-conciliar period, with six loci crystallising according to Peter Hünemann: philosophies; the world of science; culture; society; religions; and history (ibid., p. 224). Within the scientific landscape, the modern natural sciences occupy a prominent position and are to be counted among the loci *alinei* if only because they advance to the question of God. This is especially true when they ask about their prerequisites and consequences. In particular, the question “Why is there something rather than nothing?” remains unanswered for them, as Leibniz once expressed it (Leibniz 1961, p. 602), as does the question of whether everything that could be carried out may be done. Furthermore, the prevailing opinion today is that man, who attempts to explore the laws of nature, is not sinning against God but, on the contrary, is fulfilling the divine mandate to create. The Creator God is not in competition with His creatures and their efforts to gain knowledge; on the contrary, He is great wherever people cherish and care for His creation, which may also involve the use of science and technology. Thus, despite their atheistic method, the natural sciences are related to the question of God and are anything but insignificant for the development of the divine word. In the following, the growing influence of the natural sciences on faith will be outlined, and, in connection with this, the question will be answered to what extent these are to be counted among the loci *alinei* according to Catholic understanding. Why can’t theological knowledge ignore them, and what epistemological status is to be attributed to them?

3. Second Part: Natural Science as a Place of Theology

In the modern era, alongside historical awareness, reason in particular has generally gained in importance, thereby increasing its influence on culture and religion. The Fathers of the Second Vatican Council already explicitly emphasised “that in the field of education, the mathematical, scientific, and anthropological disciplines” are gaining in importance, and “in the practical field, the technology based on these disciplines” (*Gaudium et Spes* 1965 (GS), 5). Instead of regretting this, a “positive value” is consciously recognised in the “cultivation of the natural sciences” (GS 57), even though the Catholic Church found this difficult for centuries.

Until the emergence of modern science, God was regarded as the actual reality, to which the world took a back seat, but now the world became the actual and explainable reality—the age of science and technology dawned. Max Weber (1864–1920) coined the term “disenchantment of the world” (Weber 1989, p. 13) to describe the realisation that there were “in principle no longer any mysterious, unpredictable powers” and that “all things could—in principle—be controlled by calculation”. As a result of the technical-empirical rationality or atheistic method of modern natural science, the world had lost its charm. In the face of an objectified nature and a world dominated by scientific thinking, belief in God suffers a progressive loss of meaning. If scientific, technical, etc. feasibility is predominantly relied upon for the accomplishment of everyday tasks and practical life decisions, God must inevitably become meaningless. “In the secularized world God become increasingly superfluous as a hypothesis for explaining phenomena within the world; her lose his function in regard to the world”. (Kasper 2012, p. 10) While it is widely believed that physical and material reality is a self-contained, self-regulating causal system, there is no longer any room for the biblical faith, which is based on the special action of God in the world. However, if belief in God is nevertheless maintained, it inevitably displays deistic traits. This means that God’s act of creation is limited to the beginning of creation. God is conceived in his absolute transcendence, as the *deus otiosus*, who leaves the world to its own natural laws, functions and mechanisms, with the consequence that there can no longer be any inner-worldly activity of God, but only the course of things. In fact, “[s]ince a few years ago [...] sociologists believe that they have been able to observe an increased tendency towards a ‘deistic’ understanding of God among young and old alike”. (Grom 2009, p. 40) God and the world are neatly separated: “What the proclamation says about the God of creation and providence (insofar as it still speaks of the latter at all), people try to fit into their world of faith; what they learn from scientific information is stored in

their world of knowledge". (Grom 2009, p. 41) However, such behaviour implies a latent tendency towards practical atheism. "Many perceive a world ordered by natural law as a rigid mechanism that interposes itself between man and God and prevents his influence on our lives: Is there no longer any action of God in the sense of intervention, but only the course of things, the world machine and its distant designer?" (Grom 2009, p. 45).

For quite a few believers, the gap between knowledge of the world and knowledge of God seems increasingly unbridgeable. Critically, Arthur Peacocke asked whether it is realised enough that "the traditional words are used in creeds and worship by a twentieth-century Christian, [but] the content of their belief often bears only a distant genetic relation to what was believed in the context of the thought-world centuries, or even a millennium, ago" (Peacocke 1993, p. IIX). Today's world views and world experiences are completely different from the perception of the world of Jesus or the apostle Paul. When theology and the Church consider their own situation and that of today's believers, those who are unsettled and doubtful due to scientific findings must not be overlooked, especially if it is taken seriously that, according to the Second Vatican Council, the "Church in the world of today" has the duty to "investigate the signs of the times and interpret them in the light of the Gospel" (GS 4).² The paradigm "signs of the times" stands for significant events that shake people's history and bring about a hopeful awakening in which faith recognises God's call—in the midst of profane reality (Heimbach-Steins 1997, p. 116f.). In these so-called signs of the times, the ongoing divine word can become audible, provided that the signals are interpreted theologically. "The signs of the times refer [...] to the practice of believing thought, which 'processes' the historical experience" (Ruggieri 2006, p. 69). Insofar as these signs are reflected on the basis of the Gospel, they can be seen as places that bear witness to the hidden presence and power of God in the world and in history. According to Melchior Cano's differentiation, however, they are to be regarded less as theological places (*loci propii*) than as places of theology (*loci alieni*). This means that they are less constitutive witnessing instances of the Word of God and independent sources of theological knowledge than "contexts within which theological insights are opened up, made comprehensible, and interpreted in an actualising way, i.e., fields of theology with a specific hermeneutical horizon". (Knapp 2012, p. 48) Modern (natural) sciences are one of these places, or "revelation-laden facts" (Bauer 2012, p. 206), where theological knowledge has to withstand tests.

The *intellectus fidei* can be illustrated and deepened with reference to natural knowledge, provided that theological insights prove to be compatible with and stand up to scientific findings. This does not mean that scientific knowledge should be unduly burdened or even appropriated by theology, but rather that it should be made clear from a theological point of view that faith in the God of Jesus Christ as creator and redeemer of the world is complementary to natural knowledge. If contradictions can be resolved and it can be shown that a religious interpretation and a scientific explanation of the world enrich each other, this would promote the rational responsibility of faith. In this context, it is not insignificant that the Second Vatican Council, which pursues a dual perspective *ad intra* and *ad extra*, acknowledges modern science and recognises its autonomy in the investigation of its specific areas of reality. The "earthly realities" have "their own laws and values [...] which man must gradually recognise, use and shape", which is why the demand for autonomy is justified; this corresponds to "the will of the Creator" (GS 36). The Council Fathers are convinced that methodological research "will never come into real conflict with faith, because the realities of the profane realm and those of faith have their origin in the same God". (GS 36) The autonomy of modern science is therefore based on a theonomy that is founded on the theology of creation. Although a fundamental contradiction between faith and knowledge is ruled out, it is openly acknowledged that "the new research and results of the natural sciences [...] demand new investigations from theologians" (GS 62). Accordingly, theology cannot simply ignore the results of other sciences; it must be interdisciplinary if it wants to make the work of God understandable outside the church by means of non-theological rational insights.

Scientific insights can fundamentally contribute to a deeper understanding of faith in God, as Pope John Paul II repeatedly emphasised after the Second Vatican Council. In his encyclical “Fides et ratio”, he pointed out that it is “illusory to think that faith possesses greater persuasive power in the face of weak reason; on the contrary, it is in serious danger of being reduced to myth and superstition”. (No. 48) Faith needs reason—also scientific reason, as he assured on 1 June 1988 in his letter to George V. Coyne S.J., the director of the Vatican Astronomical Observatory at that time: “The scientific disciplines too, as is obvious, are endowing us with an understanding and appreciation of our universe as a whole and of the incredibly rich variety of intricately related processes and structures which constitute its animate and inanimate components. This knowledge has given us a more thorough understanding of ourselves and of our humble yet unique role within creation”. (Pope John Paul II 1988) Among the “processes and structures”, John Paul II also counted evolution, whose theory he considered to be a “serious hypothesis” or “more than an hypothesis” (Pope John Paul II 1996, p. 382) and compatible with the Christian faith. Pope Francis also interprets “nature as a marvellous book [...] in which God speaks to us and allows a reflection of his beauty and goodness to shine forth”. (Pope Francis 2015, 12) Incidentally, Thomas Aquinas was already convinced that knowledge about nature would not jeopardise faith, but rather enrich it: “It is, therefore, evident that the opinion is false of those who asserted that it made no difference to the truth of the faith what anyone holds about creatures, so long as one thinks rightly about God [...]. For error concerning creatures, by subjecting them to causes other than God, spills over into false opinion about God”. (Thomas Aquinas 1955–1957 (ScG), 2,3)

The theology of creation cannot remain unaffected by the advancement of scientific knowledge. If, according to the biblical doctrine of creation, everything that exists is due to God’s free and continuous act of creation (*creatio continua*), then nature bears the signature of the Creator, as the First Vatican Council expressly taught (Denzinger 2017 (DH), 3004, 3026) and was also confirmed by the Second Vatican Council (DV 3; 6; *Nostra Aetate* 1965, 2). Although the revelation of creation reveals far less about the nature of God than the revelation of Christ, this does not alter the fact that traces of God are inscribed in nature and that the scientific examination of it is to be understood as a place of theology. This implies that scientific findings about nature, such as its evolutionary development or inherent laws, have a direct impact on faith in creation, either in the form of deepening or in the form of correction. Today, it is above all the insights into the autonomous process of evolutionary development of reality that challenge theology and which in turn evoke further theological questions. They are plunging the belief in a personal Creator God, who acts in the world in a planned and effective manner, into a serious crisis. Albert Einstein already confessed that he could not believe in a God “who is concerned with the fate and actions of human beings”. (Einstein 1997, p. 175) How can the belief in a Creator God who takes care of all that he has created (Wis 11:24–26), the visible as well as the invisible, including human beings, be reconciled with the realisation of the autonomous evolutionary process? On the basis of this question, the relevance of the natural sciences as a place for theology will be exemplarily clarified and it will be shown that questions arise for theology in the discourse with natural sciences, which can currently only partially be answered by theology. What does theology say about the divine plan of creation and how can this be reconciled with the lack of purpose in evolution?

4. Third Part: Creation Plan and Scientific Enquiries

The biblical creation narratives express that everything that exists was created freely and unconditionally (“*creatio ex nihilo*”³) by the Creator God (2 Macc 7:28; Rom 4:17; Heb 11:3) and is maintained in existence by him through his word. Martin Luther expressed the fact that everything is due to God’s creative activity as follows: “Where he does not begin, nothing can be or become; where he ceases, nothing can exist”. (WA 21, 521, 20f.) The ultimate, deepest being of all reality borne by God is an aetiological statement that must not be misunderstood in the sense of temporal causality. It is therefore thanks to

the creative reason, origin, and Lord of the world as a whole that created reality hovers above nothingness; it participates in God's creatorship. Being created therefore means being together with God (Ebeling 1979, p. 223f.). Martin Buber paraphrases John 1:1. "In the beginning was relationship" in the context of Genesis 1 and Proverbs 8 (Buber 1962, p. 22), which means that there is a fundamental relationality between the Creator and the creation. Statements about the meaning and purpose of the world, man, and history are derived from this relational creation process: On the one hand, everything intended and created by God is to be regarded as meaningful and good in principle—"God looked at everything he had made: and behold, it was very good" (Gen 1:31)—and on the other hand, according to the purpose of divine creative action, everything is ordered towards God as the ultimate reference point of all reality, towards completion, the Seventh Day of Creation, the resting of God in the midst of his creation (Gen 2:2f.). In the New Testament, the cypher "kingdom of God" stands for the purpose of unclouded communion between God and everything created by him. God is thus "the origin and [also] the goal of all things" (DH 3004), as the First Vatican Council succinctly put it.

In view of the autonomy of nature, the principle of fitness and adaptation (survival of the fittest) and coincidence, but above all in view of the ambivalence of human freedom in the sense of freedom of choice, the perfection of the world (Rom 6:4; 8:18-30; 2 Cor 5:17; Gal 6:15; Eph 2:10, 15; Col 3:10; Aph 21:1; Rev 21:1-22:5, etc.) only seems possible if God himself guarantees it. According to the classical interventionist understanding of God, he is able to intervene directly and effectively in world history. The goal of creation will not materialise either through evolution or thanks to human volitional decisions, as both human egoism and the non-directionality of the evolutionary process speak against it. In natural philosophy, views differ on the extent to which we can speak of a teleology of the biosphere (Toepfer 2004): While organisms are understood as self-referential functional systems on the one hand, a purposefulness caused by selection is assumed on the other (Toepfer 2013). However, even in this case, a distinction must be made between an internal finality and a general purposefulness as well as an intentional, meaningful objective. Last but not least, the divine goal of creation is of eschatological nature and thus beyond cosmic and organismic evolution. God himself must therefore be responsible for the purpose of his creation that he himself has determined. The assumption of a corresponding divine action is a central object of faith, which, like all other statements of faith, must not lead to a counterfactual assertion but must be made comprehensible by means of reason and in harmony with non-theological scientific findings. Because the differentiation between theology and the natural sciences does not imply a separation, it must be possible to prove that God's special, caring work to realise his purpose of creation is compatible with the modern natural sciences. If the natural sciences are taken seriously as an important place for theology, this task must be considered beneficial for theology, even if, as will be shown shortly, it is confronted with considerable difficulties as a result.

Doctrine of secondary causes: If we want to take into account the causal closedness of the physical world and therefore assume that God does not intervene directly in the natural process, it seems obvious at first to explain God's interventionist action with the help of the Thomasian doctrine of secondary causes, as further developed by Karl Rahner (Rahner 1992, pp. 87-89) and Béla Weissmahr (Weissmahr 1973a, pp. 47-61; 1973b; 1997, pp. 23-42). According to Thomas Aquinas, God does not act in a direct way, whereby he would become an inner-worldly cause, but rather he directs the world from within by means of the creaturely, free secondary causes (*causae secundae*): he is "in a more original sense the cause of every act than the second cause of action" (ScG, III, 67), because "the second agent always acts by virtue of the first"⁴. An action is thus based on two agents that are located on different levels and mediated by being. God acts *secundum ordinem*, or as the Catholic Adult Catechism puts it: "God creates things in such a way that they are empowered to co-operate in their own development". (*Katholischer Erwachsenen-Katechismus* 1985, p. 94) Because the natural sciences are only concerned with the creaturely level, the level of secondary causes, the metaphysical dimension is closed to them; they lack a sense of

primary causality. Although this rules out a contradiction between theological and scientific statements and preserves the principle of world-immanent causality, the question arises as to how the *causa prima* can make instrumental and teleological use of the creaturely *causae secundae* without jeopardising the self-reliance and freedom of creation. Although an attempt can be made to answer this question by means of a compatibilist concept of freedom, the question of theodicy then arises in a more acute way: If the God of Christian faith in creation is able to influence and direct the natural process and course of the world by means of secondary causes, why then is there so much suffering and evil in the world?

Interventionism: Direct interventionism explicitly affirms what the doctrine of secondary causes attempts to circumvent, namely the possibility of direct and targeted intervention by God. In doing so, it attempts to preserve the laws of nature by limiting “divine action, divine providence and dominion” to indeterminate free spaces, more precisely to quantum physical indeterminacies and chaotic instabilities (Jordan 1972, p. 156). “And perhaps it is down there, inside the strange field of the quantum, that our human spirit and the spirit of that transcendent being we call God are caused to meet” (Guitton 1998, p. 119). By not violating the physical laws of conservation or the inner-worldly causal relationships, God would not have to take on the role of a stopgap; rather, he has created nature in such a way that it possesses an intrinsic openness, as a result of which his actions could not be physically recognised. In this way, man’s freedom of belief is preserved. The critical question here, however, is how creation can be thought of as created with wisdom (Ps 104:24) if these very structures of order prove to be an obstacle to God’s action and have to be circumvented by limiting God’s interventionist action to indeterminacies. This is aggravated by the fact that the connection between indeterminacies in the micro realm and physical processes in the macro realm has not yet been scientifically clarified. It remains unclear how God’s action, which is limited to the microcosm, can lead the world to its fulfilment. What is most serious from a theological point of view, however, is that in the wake of interventionist action, a real relationship between God and the world is assumed and thus changeability and temporality are inscribed into the nature of God; he would be dependent on natural and historical events (Grössl 2014, p. 411) and, deprived of his transcendence, would become an inner-worldly natural force.

Panentheism: Unlike the doctrine of secondary causes and interventionism, panentheism does not assume that God the Creator and creation are in opposition but that they are immanent, that creation is in God. He is the all-encompassing reality, without simply placing the world and God as one—“in him we live, we move and we are” (Acts 17:28). The alterity, autonomy, and self-organisation of the created remain intact, as does the absolute transcendence of God, in that God does not act supranaturalistically from without but from within, so that he is “beyond the difference of difference and indifference” (Reményi 2017, p. 292). For process theology, which developed from Alfred North Whitehead’s process philosophy and emphasises the ongoing process of becoming something new, the alternative of interventionism and non-interventionism no longer exists, as the division into matter and spirit, subject and object has been overcome. “This is the specific meaning of process-theological panentheism: that the world is ‘in’ God means that God is related to everything and that these relationships co-constitute him”. (Brüntrup 2019, p. 299). God did not create the universe out of nothing but is in a reciprocal, spiritual interaction with primordial matter. All entities have a spiritual aspect; the spiritual is an intrinsic property of the physical. With his creative and reciprocal love, God creates ever more complex structures of order⁵ and just as the world is in the process of becoming, so are parts of God. He offers events better possibilities and encourages created things to be new and good (enjoyment) and thus opens up a creative future (Faber 2003, pp. 19–43; Enxing 2014). In this way, the evolutionary process designs its purposefulness out of infinite creative freedom (Keil 2009, 2013).⁶ As the “poet of the world”, God guides creation “with tender patience leading it by his vision of truth, beauty, and goodness”. (Whitehead 1979, p. 346).

Critical questions regarding Panentheism also arise in connection with the Council of Chalcedon. Although the issues discussed there are primarily Christological and not

theological, conclusions can be drawn from the doctrine of the two natures regarding the relationship between God and the world, which cannot be defined as either mixed or separate. Furthermore, critical questions are raised about the position of panentheism, which is complex in itself and often manages without an analogous concept when it comes to God: Is a God who is only present in a formative and purposeful way and for whom the future is open still Lord of creation in such a way that he can guarantee the achievement of his goal that creation becomes a “house of God and a house of life for all” (Zenger 2003, p. 2)?⁷ Will the evolutionary universe, which is probably limited in time to 10^{36} years, ever achieve a perfect state of development free of suffering of its own accord, stimulated by the creative spiritual power of God? It is conceivable that the process-theological God “may have given his best because he simply could not give any more. However, in this case, the best might not be good enough” (Kreiner 1998, p. 120), because his superiority and free sovereignty over creation are conditioned by creation itself.

Open Theism: The so-called “Open Theism” (Pinnock et al. 1994), which was discussed in American Evangelicalism in the 1980s and 1990s, not only takes a critical look at process theology, but above all opposes classical theism, which ascribes philosophical attributes to the divine in an incoherent manner. In contrast to metaphysical speculation, Open Theism is biblically based; it seeks to integrate aspects of process theology into the biblical belief in revelation in a critical debate. According to biblical testimony, God is conceived as the creator of all things, his personhood is emphasised, as is his love and the associated conditions of free will. The free love of God and the libertarian freedom of man are the reason why God’s omniscience about the future is not fixed, but dynamic with regard to contingent events; consequently the future is open due to the free and morally responsible actions of people. This relativises God’s sovereignty and his foreknowledge or predestination. Open theism and process theology agree that there is a reciprocal relationality between God and man as a self-determined actor and that God can neither be thought as supratemporal nor immutable and omniscient. However, there is a significant difference between the two theologies in their attitude towards metaphysics and in the power that is granted to God. In contrast to process theology, some open theists place their hope in the sovereignty of God despite the freedom of will. Although he has granted man a free will on the basis of a voluntary self-restriction, he has not thereby forfeited the power to fulfil his plan of creation. Libertarian freedom is only bound to the time of the world, whereas in the eschaton, perfect freedom can no longer reject divine love. The new beginning is therefore based on a compatibilist freedom. “The libertarian freedom of man is designed for the historical probation of the community with God and is destined, in receiving and responding to God’s love, to come ever closer to the compatibilistic freedom that characterises the existence of the redeemed in eternity. For man, the fulfilment of the end of time thus means the sealing of his biographically substantiated participation in the love of the Creator” (Schmid 2019, p. 379). However, why this only becomes powerful in the realisation of the eschatological reality of salvation and not already in relation to the incomprehensible suffering and evil in the world is an open question of open theism.

5. Conclusions

In today’s world dominated by the so-called exact sciences, scientific findings must be taken seriously as places of theology (*locus theologicus alieni*). This is where theological statements have to prove themselves. Compatibility problems force theology to critically reflect on traditional statements of faith against the background of more recent scientific research findings, which can lead to further-reaching questions within theology. In this way, the natural sciences take on a kind of guardianship over theology. This challenge is to be seen as an opportunity to make the rationality of faith in God understandable in line with the times and to interpret the content of the Christian faith in a contemporary way. While the church has sometimes been critical of scientific progress, it has always endeavoured to permeate faith with reason, knowing full well that truth can only be recognised in the combination of faith and knowledge.⁸ A theology that takes a targeted look at the

signs of the times and wants to make the *intellectus fidei* comprehensible in the present (*aggiornamento*) will therefore consciously seek dialogue with the natural sciences, in particular with biology, physics, cosmology, and anthropology.

Both biological evolution and the theory of the development of the universe challenge creation theology in various ways. As has been shown, this applies, among other things, to the plan of creation designed for the fulfilment of salvation in God. Explicating it as reasonable proves to be extremely complex on closer inspection. Although the biblical statements are explicitly or implicitly based on a divine plan of creation and salvation, it is anything but easy for theology to demonstrate that God's incessant and effective care for the realisation of his creation goal is compatible with autonomous scientific thinking. All theological attempts to find a solution reveal unsolved problems. The solution cannot be sought in denying the theological relevance of scientific research since the theories of organic and cosmic development are well founded. Rather, it must be frankly admitted that theology is currently challenged less by the *how* of communicating faith than by the *what* of Christian faith. In the future, a reasonable and convincing self-interpretation of the Christian faith will essentially depend on the extent to which it succeeds in consciously seeking out extrinsic places of theology (*locus theologicus alieni*) and proving the truth of faith there. This applies in particular to the natural sciences, which have become so influential in society that, according to the Second Vatican Council, culture today "arises from the tremendous progress of science and technology" (GS 56). As much as theology must pay attention to the compatibility of its statements with other scientific findings, it must also be aware that its statements extend far beyond those of the natural sciences due to their hermeneutic character and that God's creation remains an unfathomable mystery despite its revelation, which is why theological approaches to solutions are always accompanied by open questions that in turn lead to ever further reflection.

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Notes

- ¹ While Thomas Aquinas accepted the truth of the articles of faith on which the theological argumentation is based as being guaranteed by God himself, Cano was aware of the essential historical mediation of the Word of God.
- ² The Council also uses the syntagm "sign of the times" in: (*Presbyterorum Ordinis* 1965, 9), in (*Apostolicam Actuositatem* 1965, 14) and in (*Unitatis Redintegratio* 1964, 4).
- ³ The phrase "creatio ex nihilo" was laid down by Leo the Great in 447 in order to rule out any dualism. God is the *sole* principle of the world, which is therefore good. Although it is only mentioned twice in Scripture that God created the world out of nothing (Job 26:7; 2 Macc 7:28), God is also referred to as "Lord of heaven and earth" (Neh 9:6; Jdt 9:12; LK 10:21) and emphasises that he created "everything" (Jn 1:3; 1 Cor 8:6, Col 1:16f.).
- ⁴ (Thomas Aquinas 1888, I, q.105 a.5): "Similiter etiam considerandum est quod, si sint multa agentia ordinata, semper secundum agens agit in virtute primi, nam primum agens movet secundum ad agendum".
- ⁵ (Whitehead 1979, p.346): "God's rôle is not the combat of productive force with productive force, of destructive force with destructive force; it lies in the patient operation of the overpowering rationality of his conceptual harmonization. He does not create the world, he saves it".
- ⁶ In the background is a libertarian concept of freedom. Libertarianism is characterised by the ability to be either one way or the other.
- ⁷ William Hasker states in relation to process theology: "God so conceived cannot create the heavens and the earth out of nothing, nor can he part the Red Sea for the people of Israel, nor can he raise Jesus from the dead as a pledge of victory over sin and eternal life" (cited in: Callen 2018, p. 75).
- ⁸ "Faith and reason [*fides et ratio*] are like two wings on which the human spirit rises to the contemplation of truth; and God has placed in the human heart a desire to know the truth—in a word, to know himself—so that, by knowing and loving God, men and women may also come to the fullness of truth about themselves (cf. Ex 33:18; Ps 27:8-9; 63:2-3; Jn 14:8; 1 Jn 3:2)". (Pope John Paul II 1998, Preface).

References

- Bauer, Christian. 2012. Zeichen der Zeit? Ortsbestimmungen des Zweiten Vatikanums. *Lebendige Seelsorge* 63: 203–10.
- Brüntrup, Godehard. 2019. Das Prozessparadigma. In *Handbuch Analytische Religionsphilosophie. Akteure—Diskurse—Perspektiven*. Edited by Klaus Viertbauer and Georg Gasser. Stuttgart: J.B. Metzler, pp. 295–307.
- Buber, Martin. 1962. *Das dialogische Prinzip* (1923). Heidelberg: Schneider.
- Callen, Barry L. 2018. *God as Loving Grace: The Biblically Revealed Nature and Work of God*. Eugene: Wipf and Stock Publishers.
- Constitution on Divine Revelation: Dei Verbum. 1965. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651118_dei-verbum_en.html (accessed on 23 August 2024).
- Corpus Christianorum, Series Latina: Lateinische christliche Schriftsteller der ersten acht Jahrhunderte. Bd. 64*. 1985. Turnhout: Brepols.
- Declaration on the Relation of the Church to non-Christian Religions. *Nostra Aetate*. 1965. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decl_19651028_nostra-aetate_en.html (accessed on 25 November 2024).
- Decree on Ecumenism: Unitatis Redintegratio. 1964. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decree_19641121_unitatis-redintegratio_en.html (accessed on 23 August 2024).
- Decree on the Apostolate of the Laity: Apostolicam Actuositatem. 1965. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decree_19651118_apostolicam-actuositatem_en.html (accessed on 23 August 2024).
- Decree on the Ministry and Life of Priests: Presbyterorum Ordinis. 1965. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decree_19651207_presbyterorum-ordinis_en.html (accessed on 23 August 2024).
- Denzinger, Heinrich. 2017. *Kompendium der Glaubensbekenntnisse und kirchlichen Lehrentscheidungen: Enchiridion symbolorum definitionum et declarationum de rebus fidei et morum (DH)*, 45th ed. Edited by Peter Hünermann. Freiburg i. Br.: Herder.
- Ebeling, Gerhard. 1979. *Dogmatik des Christlichen Glaubens, Bd. I*. Tübingen: Mohr Siebeck.
- Einstein, Albert. 1997. *Einstein Sagt. Zitate, Einfälle, Gedanken*. Edited by Alice Calaprice. München: Piper.
- Enxing, Julia. 2014. Anything flows? Das dynamische Gottesbild der Prozesstheologie. *Herder Korrespondenz* 68: 366–70.
- Faber, Roland. 2003. *Gott als Poet der Welt: Anliegen und Perspektiven der Prozesstheologie*. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Grom, Bernhard. 2009. Deistisch an Gott glauben? Biblische Spiritualität und naturwissenschaftliches Weltbild. *Simmen der Zeit* 227: 40–52.
- Grössl, Johannes. 2014. Ewige Kontingenzpläne. Eine eternalistische Konzeption göttlichen Handelns in der Welt. *Zeitschrift für Katholische Theologie* 136: 405–22.
- Guitton, Jean. 1998. *Gott und die Wissenschaft. Auf dem Weg zum Meta-Realismus*, 3rd ed. München: Deutscher Taschenbuch-Verlag.
- Heimbach-Steins, Marianne. 1997. “Erschütterung durch das Ereignis” (M.-D. Chenu). Die Entdeckung der Geschichte als Ort des Glaubens und der Theologie. In *Visionen des Konzils: 30 Jahre Pastoralkonstitution “Die Kirche in der Welt von heute”*. Edited by Gotthard Fuchs and Andreas Lienkamp. Münster: LIT, pp. 103–21.
- Hünermann, Peter. 2004. *Dogmatische Prinzipienlehre: Glaube—Überlieferung—Theologie als Sprach- und Wahrheitsgeschehen*. Münster: Aschendorff.
- Jordan, Pascual. 1972. *Der Naturwissenschaftler vor der religiösen Frage: Abbruch einer Mauer*, 6th ed. Oldenburg: Gerhard Stalling.
- Kasper, Walter. 2012. *The God of Jesus Christ: New Edition*. London: Bloomsbury Publishing.
- Katholischer Erwachsenen-Katechismus Bd. 1: Das Glaubensbekenntnis der Kirche*. 1985. München: Verlagsgruppe Engagement.
- Keil, Geert. 2009. Wir können auch anders: Skizze einer libertarischen Konzeption der Willensfreiheit. *Erwägen Wissen: Ethik* 20: 3–16.
- Keil, Geert. 2013. *Willensfreiheit*, 2nd ed. Berlin: De Gruyter.
- Knapp, Markus. 2012. Das Wort Gottes, seine Überlieferung und Erkenntnis: Die Lehre von den loci theologici. In *Religionsunterricht als Ort der Theologie*. Edited by Norbert Mette. Freiburg i. Br.: Herder, pp. 33–55.
- Körner, Bernhard. 1994. *Melchior Cano De locis theologicis: Ein Beitrag zur theologischen Erkenntnislehre*. Graz: Styria-Medienservice.
- Kreiner, Armin. 1998. *Gott im Leid: Zur Stichhaltigkeit der Theodizee-Argumente (QD 168)*, 2nd ed. Freiburg i. Br.: Herder.
- Lehmann, Karl. 1985. Dogmengeschichte als Topologie des Glaubens. Programmskizze für einen Neuanfang. In *Dogmengeschichte und Katholische Theologie: Festschrift für Heinrich Bacht SJ, Alois Grillmeier SJ und Adolf Schönmetzer SJ*. Edited by Karl Lehmann, Werner Löser and Matthias Lutz-Bachmann. Würzburg: Echter, pp. 513–28.
- Leibniz, Gottfried Wilhelm. 1961. Principes de la nature et de la grâce. In *Die philosophischen Schriften von Gottfried Wilhelm Leibniz*. Edited by Carl Immanuel Gerhardt. Hildesheim: Georg Olms, pp. 598–606.
- Luther, Martin. 1883–2009. *Dr. Martin Luther's sämtliche Werke*. 120 Bände. Erlangen: Heyder.
- Pastoral Constitution on the Church in the modern World: Gaudium et Spes. 1965. Available online: https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651207_gaudium-et-spes_en.html (accessed on 23 August 2024).
- Peacocke, Arthur. 1993. *Theology for a Scientific Age: Being and Becoming—Natural, Divine, and Human*. Second enlarged edition. London: SCMB Press.
- Pinnock, Clark, Richard Rice, John Sanders, William Hasker, and David Basinger, eds. 1994. *The Openness of God: A Biblical Challenge to the Traditional Understanding of God*. Lisle: InterVarsity Press.
- Pope Francis. 2015. Encyclical Letter “Laudato Si’”. On Care for Our Common Home. May 24. Available online: https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html (accessed on 23 August 2024).

- Pope John Paul II. 1988. Letter of His Holiness John Paul II to Reverend George V. Coyne S.J. Director of the Vatican Observatory. Available online: https://www.vatican.va/content/john-paul-ii/en/letters/1988/documents/hf_jp-ii_let_19880601_padre-coyne.html (accessed on 23 August 2024).
- Pope John Paul II. 1996. Message to the Pontifical Academy of Sciences. In *The Quarterly Review of Biology*. vol. 72, No. 4 (Dec., 1997). pp. 381–83. Available online: <https://www.jstor.org/stable/3037603?seq=1> (accessed on 25 November 2024).
- Pope John Paul II. 1998. Encyclical Letter “Fides et ratio”. On the Relationship Between Faith and Reason. Available online: https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_14091998_fides-et-ratio.html (accessed on 23 August 2024).
- Rahner, Karl. 1992. *Foundations of Christian Faith: An Introduction to the Idea of Christianity*. New York: The Crossroad Publishing Company.
- Reményi, Matthias. 2017. Vom Wirken Gottes in der Welt: Zugleich ein Versuch über das Verhältnis von Naturwissenschaft und Theologie. In *Gottes Handeln in der Welt. Probleme und Möglichkeiten aus Sicht der Theologie und analytischen Religionsphilosophie*. Edited by Benedikt Paul Göcke and Ruben Schneider. Regensburg: Friedrich Pustet, pp. 282–300.
- Ruggieri, Giuseppe. 2006. Zeichen der Zeit. Herkunft und Bedeutung einer christlich-hermeneutischen Chiffre der Geschichte. In *Das Zweite Vatikanische Konzil und die Zeichen der Zeit heute*. Edited by Peter Hünemann in Verbindung mit Bernd Jochen Hilberath and L. Boeve. Freiburg i. Br.: Herder, pp. 61–70.
- Schmalkaldische Artikel. 2014. *Die Bekenntnisschriften der Evangelisch-Lutherischen Kirche. Vollständige Neuedition*. Edited by Irene Dingel. Göttingen: Vandenhoeck & Ruprecht, pp. 713–88.
- Schmid, Manuel. 2019. Bewährte Freiheit. Eine Rekonstruktion und Weiterführung des theologischen Freiheitsbegriffs im Offenen Theismus. In *Streit um die Freiheit. Philosophische und theologische Perspektiven*. Edited by K. v. Stosch u. a. Paderborn: Ferdinand Schöningh, pp. 365–91.
- Seckler, Max. 1997. Loci theologici. In *Das Lexikon für Theologie und Kirche (LThK) Bd. 6*. Freiburg i. Br.: Herder, pp. 1014–16.
- Seckler, Max, ed. 2013. Die ekklesiologische Bedeutung des Systems der loci theologici: Erkenntnistheoretische Katholizität und strukturelle Weisheit. In *Seckler, Max. Glaubenswissenschaft und Glaube: Beiträge zur Fundamentaltheologie und zur Katholischen Tübinger Schule, Bd. 1*. Tübingen: Francke, pp. 257–87.
- Thomas Aquinas. 1888. *Summa theologiae*. Available online: <https://bkv.unifr.ch/de/works/sth/versions/summa-theologiae/divisions/2> (accessed on 20 November 2024).
- Thomas Aquinas. 1955–1957. *Summa contra Gentiles*. Available online: <https://web.archive.org/web/20181116104137/https://dhspriority.org/thomas/ContraGentiles2.htm#3> (accessed on 20 November 2024).
- Toepfer, Georg. 2004. *Zweckbegriff und Organismus, Über die teleologische Beurteilung biologischer Systeme*. Würzburg: Königshausen & Neumann.
- Toepfer, Georg. 2013. Teleologie [Version 1.0]. In *Glossar naturphilosophischer Grundbegriffe*. Edited by Thomas Kirchhoff. Available online: <http://www.naturphilosophie.org/teleologie-glossareintrag/> (accessed on 9 September 2024).
- Weber, Max. 1989. Science as a vocation. In *Max Weber’s Science as a Vocation*. Edited by Peter Lassman. London: Unwin Hyman, pp. 3–31.
- Weissmahr, Béla. 1973a. Gibt es von Gott gewirkte Wunder? Grundsätzliche Überlegungen zu einer verdrängten Problematik. *Stimmen der Zeit* 191: 47–61.
- Weissmahr, Béla. 1973b. *Gottes Wirken in der Welt. Ein Diskussionsbeitrag zur Frage der Evolution und des Wunders*. Frankfurt a. M.: Knecht.
- Weissmahr, Béla. 1997. Gottes Wirken in der Welt. Das Verhältnis von göttlicher und innerweltlicher Ursache. In *Glaube im Kontext naturwissenschaftlicher Vernunft*. Edited by Rainer Isak. Freiburg i.Br.: Herder, pp. 23–42.
- Whitehead, Alfred North. 1979. *Process and Reality. An Essay in Cosmology*. Edited by David Ray Griffin and Doland W. Sherburne. New York: Free Press.
- Zenger, Erich. 2003. Jenseits der Geschichte: Anmerkungen zur so genannten “Urgeschichte” der Genesis (Gen 1–11). *Bibel und Kirche* 58: 2–5.

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