

CHRISTIANITY AND ISLAM — THE DEVELOPMENT OF MODERN SCIENCE AND THE GENESIS OF THE MODERN (JUST) STATE

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ABSTRACT

This article focuses on the formal similarities between Christianity and the Islam present during the later middle ages — a period in which both legacies subscribed to a relatively totalitarian societal condition manifested in the existence of their respective *empires*. The ideal of the *Corpus Christi* as the *societas perfecta* of medieval Christianity is explained in the light of the contest between church and state during the later middle ages. This legacy was eventually challenged by an intellectual movement initiated by John the Scott and William of Ockham that caused the breaking apart of the former ecclesiastically unified culture. The alternative development within the Islam world is sketched before the spirit of modernity is explained as a secularization of biblical Christianity. Humanism initially inspired explicitly totalitarian theories of the state. It was only within the Protestant countries of Europe that the modern constitutional state under the rule of law emerged, accompanied by a process of societal differentiation unparalleled in world history. Although the more recent attempts of Islamic countries to benefit from the fruits of the modern natural sciences inspired them to introduce the teaching of the natural sciences within the Muslim world, these countries did not succeed in benefiting from the significant transformation of the medieval empires into modern democratic states. Since the Muslim world is still embedded in the relatively undifferentiated embrace of a societal setting guided and integrated by the Muslim faith it did not succeed as yet to transcend the inherent limitations entailed in a typical *empire* in the classical sense of the word.

1. ORIENTATION

The historical roots of Christianity reach further back than those of the Islam although both traditions draw upon central teachings of the Old Testament. An important shared feature is found in the prevailing undifferentiated condition of human society. Different walks of life were still integrated in an all-encompassing societal setting — with definite totalitarian and absolutistic traits. This enabled both traditions to participate in social practices that were abusive and destructive, although the reverse side of the

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coin also tells the story of a positive and constructive contribution to the development of humankind.

The significance of Christianity and the Islam for the development of modern science and for the emergence of a truly democratic legacy can only be assessed against the background of the nature of an undifferentiated society. We shall argue below that it was only through a process of societal differentiation that sufficient intellectual space was opened up for the development of modern science and those societal institutions accommodating them — particularly universities.

Modern highly differentiated industrial societies are all relatively dependent upon the role of universities as academic institutions. Even during the initial genesis of modern Western universities that took place in the late medieval period and the early modern era, faculties such as those of *divinity*, *law* and *medicine* intended to provide society with *pastors*, *lawyers* and *doctors*. During the past five hundred years the scholarly scope of the academic enterprise broadened its reach to such an extent that there is almost no single domain within society which does not have intimate links with important competencies and skills that can be acquired through pursuing some or other course obtainable from studying at a university.

2. SOME HISTORICAL CONSIDERATIONS

2.1 The rise of Islamic empires

Founded in Arabia during the 7th century the Islamic religion from the outset established a close link between *religion* and *politics*. Mohammed, who was born round about 570 at Mecca, belonged to a leading tribe of the day. Yet his own clan (the Hashem), which was of minor importance — perhaps explaining why the following generated by his emerging actions as a prophet, more or less in the year 610, attracted almost exclusively people from the lower layers of society. Fears for the possible adverse effect of the new religion, during July 622, not only caused Mohammed and his followers to flee, but also initiated his role as a political leader. This adds weight to the meaning of the word “Islam”, which refers to “resignation” and to a submission to God’s will and to the preference of adherents to this religious legacy to call themselves *Muslims*.

That this close connection between religion and politics manifested itself in the form of an all-encompassing societal collectivity is particularly seen in the Muslim understanding of the holy war (fight in the path of God) — which is the meaning attached to the word *jihad*. Within a period of 80

years after the death of Mohammed the power of the Muslim world was expanded to include the entire Arabia as well as North Africa. In addition it also stretched from the Pyrenees to the Indus. Western Europe was constantly threatened by the Islam — at least until the end of the 17th century (lastly by the Ottoman Turks).²

The close connection between religion and politics also had an effect on the inter-Islamic disputes which centred mainly on the question of who should be the head (called the *caliph* or *imam*) of the entire Muslim community, i.e., who should become Mohammed's successor. We can leave aside the factions formed in this historical process by merely highlighting the fact that by and large Muslim societies continued to exist within the confines of *empires* similar to those found in the West.³

Viewed in terms of its own internal dynamics the hegemony between religion and politics initially enhanced the impact of the Islam. Yet, one may also argue that eventually it weakened and fragmented this impact.

2.2 The medieval Roman Catholic synthesis

The initial development of the West during the Middle Ages wrestled with a number of issues. Intellectually the Platonic and neo-Platonic influences dominated the scene — both within the West and within the Islam. After its original negative attitude towards the growing Christian communities, the Roman Empire at the beginning of the fourth century changed its orientation. In AD 303, just before Diocletian was succeeded by Constantine, the former issued three further decrees for the persecution of Christians. However, on May 1, AD 305, Constantine succeeded in taking over the reign of the Western and Eastern parts of the Empire (respectively, from Chlorus and Galerius). In 313, Christianity was put on equal footing next to other (pagan) religions. Yet it was only during the reign of Theodosius — through the edict “De fide catholica” issued in 380 — that the Christian church acquired the status of *imperial church*.

The Roman Catholic and Islam Empires that originated during the medieval period encompassed all of life. Already the Greek ideal of *paideia* established the starting-point for this practice. According to both Plato and Aristotle the state is destined to bring its citizens to the fulfilment of their

- 2 The teachings of Mohammed contain a variety of elements — from Semitic views, Old Testament and rabbinical conceptions as well as the contributions of Jewish Christians and ideas derived from the apocryphal tradition.
- 3 Sometimes a religious movement (such as the Wahhabis) turned into a political movement which eventually gave birth to a new state (such as Saudi Arabia).

lives within the all-encompassing ethical perfection of the *polis* (the Greek City State). The dominant analytical tool is the whole-parts relation, and its application to the state and to society does not leave any room for the distinctness and independent nature of any non-political societal institutions.

The medieval synthesis accomplished by Roman Catholicism did not break through this relatively undifferentiated *polis*-idea — although it transcended the Greek view in superimposing on top of the state the Church as a supposedly perfect supernatural divine institution of grace. The ecclesiastically unified medieval culture thus fused the ancient Greek ideal of the perfect society (*societas perfecta*) with the Roman Catholic ideal of the *Corpus Christianum*.

Already Augustine interpreted the *earthly world* as the *temporal* and *changeful*, which, as such, displays an inherent *defect* in relation to God. The earthly state is understood in the sense of the classical Greek *totalitarian* state. In this dispensation, both are related and mixed. Yet, the earthly state is merely a *copy* of the City of God — their relationship is conceived according to the Platonic scheme of ideal form and its copy. This copy is inherently *bad* — explaining why it is also designated as *Babylon* and why its monarch is called *Diabolus*. It should also be kept in mind that the *City of God* does not coincide with the temporal church institution, for as sacramental institute of grace, the *Corpus Christi* (Body of Christ) is elevated above all societal institutions and is intended to encompass the entire life of the Christian. By confusing *creation* and *fall* Augustine understood the opposition between *sin* and *redemption* in terms of two totalitarian spheres of life (the *City of Babylon* versus the *City of God*).

The invasion by the Germanic tribes eventually caused the final collapse of the western part of the Roman Empire in AD 476 — although the Eastern part lasted until 1453. To the latter part, we owe the phenomenal codification of classical Roman law by Justinian — accomplished between 528 and 534 (the *Corpus Juris Civilis*) — a jural legacy that largely disintegrated in the western part. The initial Roman idea of a holy empire (*sacrum imperium*) was continued in the Byzantine Empire, and since Charlemagne (800) and his successors, it returned in the shape of the idea of the *Corpus Christianum* as the perfect society (*societas perfecta*).

While conquering many countries, the Frankish king laid claim to unoccupied land and then started to hand it out to servants and the nobility as a reward for their support during the wars. This developed into the *feudal system* where the owners of large pieces of land acquired within their own domain an exclusive military, judicial, and political power. With governmental authority viewed as a *private entity*, it was not possible to come to a

territorial *monopolisation* of this power — cities, guilds, market communities, and so on — all disposed over pieces of governmental authority. The Frankish empire of Charlemagne viewed itself as the successor of the Roman Empire, but its division in 843 paved the way for the powerful counts and dukes — in combination with the church — to develop into the real bearers of governmental authority during the subsequent medieval period.

2.3 Church, state and university during the late Middle Ages

The increasing political power claims of the church were based on its relatively differentiated position, which enabled it to integrate the relatively *undifferentiated* substructures of medieval society under its umbrella. In this capacity, the church gave shelter to the *sciences* — the learned people and the jurists of the medieval era are *clergymen*; the academic chairs at the newly developing universities of Paris, Montpellier, Bologna, and so on are occupied by the *clergy*; the free arts (*artes liberales*) — subdivided in the *trivium* (grammar, rhetoric, and dialectics) and the *quadrivium* (arithmetic, geometry, music, and astronomy) were practised as preamble (*prolegomena*) to a study in *theology*. Within the confines of the church, medieval *art* developed, and in Latin, the church disposed over a developed language (see Hommes 1981:41).

2.4 The “corpus Christianum” as “societas perfecta”

When Thomas Aquinas entered the scene in the thirteenth century, his account of medieval society was based on an attempted synthesis between Aristotle’s philosophy and biblical Christianity. He accepted the dual teleological order of Aristotle with its hierarchy of substantial forms arranged in an order of lower and higher. It was designated as the *lex naturalis* (natural law), which is related to the transcendent *lex aeterna* (eternal law) as contained within the Divine intellect. By virtue of its substantial form, the human being depends on the community for the satisfaction of its needs.

The state (both the *polis* and the *Holy Roman Empire*) is viewed, in line with the conception of Aristotle, as the all-encompassing, self-sufficient community (*societas perfecta*). The provision is that Thomas Aquinas applies this only to the natural terrain. As the highest community within the domain of nature, the state embraces all other temporal relationships. These lower communities do possess a *relative* autonomy, subsumed under what is known as the *principle of subsidiarity*. However, this principle does not eliminate the universalistic starting point operative in St. Thomas’s view of society, since the so-called *relative autonomy* of these lower communities remains connected to the nature of the state as *parts* of a larger *whole*. What is part of a whole

shares in the same structural principle as the whole. As a result, the view of St. Thomas does not allow for the acknowledgement of societal collectivities that are *structurally different*. In line with the conception of Aristotle, the family for Thomas also remains the *germ-cell* of society. The hierarchical ordering of these communities coheres with each other according to the mutual relationship of a *means* to an *end*, of *matter* to *form*.

As the encompassing community within the natural domain the state actually only forms the *natural foundation* for the church as overarching *superstructure*, as the *supernatural* institute of *grace*. The state carries human beings to their highest *natural* aim in life, namely, *goodness*, whereas the church elevates them to their supertemporal perfection, *eternal bliss*.

Similar to the conception of Aristotle the view of society found in the thought of Thomas Aquinas correlates with his view of the human being. According to him, the essential rational nature of the human person is not radically affected by the fall into sin, that is, the fall does not touch the *root* (*radix*) of human existence. The fall into sin only caused the *loss of faith*. Redemption, therefore, means that through the church faith is given back to the human person as a *supernatural gift of grace*. Within the natural domain, human reason is *autonomous* — it can even provide natural proofs for the existence of God (cf. *Summa Theologica* 1, 2, 3). Yet, the supernatural *revealed truths* have to supplement and *perfect* these insights.

2.5 On the verge of breaking the synthesis

Soon after the rise of universities by the end of the 12th century it became clear that modern society will have to reckon with three future powers: the church, the king and the academic podium (*sacerdotium, imperium, studium*) (cf. Rashdall 1936:2, 573; Romein 1947:2 and Stellingwerf 1971:136). At this stage the all-encompassing grip of the church started to fade, particularly through developments occurring during the early 14th century.

The speculative philosophical influence (Plato and eventually Aristotle) upon the synthesis of medieval Christianity precluded the rise and development of the modern scientific dispensation. The fusion of this metaphysical legacy with theology resulted in a *fundamentalism* (with regard to the speculative philosophical legacy) and a *biblicism* (in respect of the “integration” of biblical texts with the various domains of intellectual pursuits). A similar development could be observed within the Islamic tradition. In Christianity and Islam the influence of a speculative *theo-ontology* is found (an after effect of Platonism and neo-Platonism). The intellectual style of this theo-ontology duplicates properties found within creation by projecting them into the

“essence” or “mind” of God and then they are considered to be the standards or models that ought to be copied again into creatures. Thus the unity of creation or the unity of science would be derived from the supposed alternative and superior (elevated) unity of God. Thomas Aquinas inherited the opposition of “essence” and “appearance” from the metaphysical Greek concept of *substance*. In his *Summa contra Gentiles* (I,34) and in his *Summa Theologica* (I,13,1) Thomas Aquinas explains that we can know God through His creatures because, in an eminent way, God bears all the perfections of things *within* Himself. We know God by means of the perfections as they flow from Him into creatures (*procedentibus in creaturas ab ipso* – S.Th. I,13,3). Suhrawardi, a Muslim philosopher from the 12th century believes that the world is identical to God’s knowledge of the world and that our search for knowledge of the world therefore results in our human grasp of God’s knowledge of the world (cf. Bakar 1999:7-8). This view closely approximates the Scholastic distinction between ideas “ante rem” and “in re” mentioned below.

We have to realize that the emphasis is upon what is supposed to “pre-exist” within the “essence” of God. What we consider *good* in creatures “pre-exist” in God, albeit in a *superior* and *alternative* way:

Cum igitur dicitur: Deus est bonus; non est sensus: id, quod bonitatem dicimus in creaturis, praeexistit in Deo: et hoc quidem secundum modum altiore (S.Th. I,13,2).⁴

Similarly the Quran also asserts that cosmic unity is a clear proof of “Divine Unity” (cf. Bakar 1999:2).

It is known that the translation of Greek works into Syriac took place already during the 3rd and 4th centuries and that eventually those works were also translated into Arabic. Confusion about some (neo-)Platonic works translated into the Arab language during the 6th, 7th, 8th and 9th centuries, erroneously attributed to Aristotle, caused a neo-Platonic interpretation of the works of Aristotle. What was designated as the *Theology of Aristotle* in the first half of the 9th century, for example, was merely the compilation of sections from the *Enneads* of Plotinus.⁵

- 4 Medieval scholastic metaphysics transposed Plato’s ideas into the “Divine Mind”, antecedent to creation (“ante rem”); it accommodated Aristotle’s view of the universal substantial forms of things as the universals within entities (“in re”); and it also accepted universals within the human mind (concepts or words) (“post rem”).
- 5 Similarly, a work of Proclus, known as *Liber de Causis*, was also attributed to Aristotle (see Copleston 1966:188).

Perhaps the two most prominent thinkers from the hay-day of Islam philosophy were Avicenna and Averroes. The former largely followed Aristotle but in fact did develop a distinct unified system of thought. Averroes is best known for his extensive commentaries on the philosophy of Aristotle. It is indeed one of the lasting contributions of Arab scholarship that it was instrumental to the introduction of Aristotle's works to the West.

Already during the 7th century A.D. there are instances of employing the natural scientific method of experimentation within the Islam (Bakar 1999:8 ff.). The prevailing image that Islamic science did not accomplish anything more than merely adding some comments and observations to what is received as Greek science is certainly mistaken and unfounded. An extensive argument to the contrary is found in the recent work of Iqbal where, amongst many other examples, particular attention is given to the contribution of the Islam to the questioning of the Ptolemaic world view (see Iqbal 2002:39-70). Already Neugebauer pointed out that the method employed by Copernicus for the correction of Ptolemy's lunar model was predated by 200 years in the approach of Ibn al-Shatir (see Neugebauer 1957:203 and Iqbal 2002:65ff. for interesting detail in this regard). Although constantly embraced by an overarching religious umbrella, the Islamic tradition constructively worked within and explored the domains of the various natural sciences.⁶

By and large medieval Christianity, encapsulated by the empire-like ecclesiastically unified culture, and the Islam, living within the confines of its various empires, exhibit a similar picture in the eyes of the observer. Both traditions managed to establish a synthesis within diverse traditions and succeeded in working this synthesis out within the domain of their religious convictions and their scientific conceptions. In both cases the dominance of theology and faith played a decisive role, and in both instances society is practically structured in a life-encompassing, totalitarian way. However, new developments since the beginning of the 14th century changed the scene irrevocably.

6 The theological control and sensorship of Islamic science has continued itself up to the present. Hoodbhoy refers to a *Scientific Miracles Conference* where the 70 accepted papers were "refereed by bearded theologians of the International Islamic University at Islamabad for their theological correctness" and then he adds the remark: "But no panel of scientists was asked to referee any paper for its *scientific* correctness" (1991:149).

3. AT THE CROSSROADS OF MODERNITY

The intellectual movement known as late scholastic nominalism not only challenged the authority of the pope and the church since during the Renaissance it also opened up new vistas. It explored the possibilities of intellectual pursuits as an infinite task — thus continuing views advanced by thinkers such as Nicholas of Cusa, Giordano Bruno and eventually Galileo, Descartes and Newton.

We have noted that up to this point Western culture constantly wrestled with the emphasis on the state as all-encompassing form of life capable of providing for all the human needs, thus emerging as a totalitarian institution. Both Plato and Aristotle adhered to such a totalitarian conception. They sacrificed all non-political dimensions of society to the concerns of the body politic — whether viewed as fitted in a strict “estate-order” (Plato), or whether society as a whole is dissolved in the Greek *polis* as highest *totality*. The state is considered to be the *perfect community*. In it human beings can find whatever they need for their full existence. As a “political animal” the human being has an inherent natural drive towards the formation of the state (cf. Aristotle *Politica*, 1253). It turned out that both Augustine and Thomas Aquinas continued this totalitarian conception, merely substituting the state with the church. Given the overarching position of the church during the high Middle Ages it is understandable that both the state and the university seriously wanted to liberate themselves from church domination.

4. THE ALL-PERVASIVE ROLE OF MODERN NOMINALISM

What were the effects of the rise of modern nominalism?

John the Scott and William of Ockham rejected the entire realistic metaphysics by denying any universality outside the human mind. They objected to the notion inspired by Greek philosophy, namely that there are eternal ideas (forms) within the Divine Mind which are copied in creatures. The so-called primacy of the intellect was substituted with the primacy of the will — the despotic arbitrariness of God could just as well have ordained an egoistic morality in stead of one of neighbourly love. Universality is only found within the human mind where a universal concept or word operates as the substitute for the true multiplicity of entities outside the human mind. These entities are strictly individual.

Instantly the entire hierarchical understanding of society in terms of the whole-parts scheme collapsed. The supernatural position of the Church disintegrates into a mere *multiplicity of believers* (*congregatio fidelium*) and even the tri-unity of God fell prey to nominalism, the heresy of tri-teism, accepting only three separate and individually different deities.

This new nominalistic orientation also found its way into social and political philosophy. By the beginning of the 14th century the contest between King Louis of Bavaria and Pope John II, in an ironic way, highlights the starting point of this new stream of thought that — alongside the rise of the new era — eventually contributed to the total subversion of the priority claims of the Roman Catholic Church. Together, Jean of Jandun and Marsilius of Padua completed their book, *Defensor Pacis* (in defence of peace) and in 1326, they presented it to the emperor. The new perspective emphasised in this work is that all forms of authority derive from the people, from which it follows that law could only be an expression of the *will* of the *majority*. Only the majority can make a law, change it, withdraw it, or interpret it (Kates 1928:37). Thus the *Defensor Pacis* introduced a state that does not acknowledge any limits to its power, anticipating the ideas of later theorists of humanistic natural law (such as Rousseau).

The modern spirit of the Renaissance aimed at transcending both the Greek understanding of fate (*Anankè, moira, fortuna, Schicksal, le Hasard*) and the Christian idea of *sin*. It secularised the biblical notion of freedom and transformed it into the modern idea of autonomy — as Rousseau later on formulated it: “freedom is obedience to a law which we prescribe to ourselves” (Rousseau 1975:247). The nominalistic undertones of modernity yielded a predominantly *individualistic* (atomistic) view of human society.

This secularisation of the biblical understanding of freedom (from sinful disobedience to redemptive obedience to God’s creational ordinances) was made possible by the inherent secularisation present in the nominalistic stance in respect of the *potestas Dei absoluta* (the supposed absolute despotic arbitrariness of God). Arbitrariness only makes sense when some or other (normative) *yardstick* is applied. That is to say, only whatever is *subjected* to some or other yardstick (norm, principle) can behave in violating the requirements of *ought to be* entailed in such a principle. This means that implicitly God was now subjected to His own law, that God was pulled into the cosmos and made part of it — God was secularised. The way was now opened for humanism to enthrone the human personality as such — in its supposed autonomy and freedom.

This ideal of a free and autonomous human personality required an *instrument* through which it can affirm its claims and it found such a tool in

the rise of the *modern natural sciences*. The latter therefore actually developed on the basis of the secularisation of the Christian understanding of freedom. Within this new science-ideal the on-going emphasis on the acknowledgement of *natural laws* still echoes an element of continuity with the Christian legacy, but soon it turned out that modern *nominalism* made it impossible to remain faithful to the idea of *ontic* laws.

While Plato stumbled upon the laws for creatures (and speculatively transposed them into his transcendent realm of ideas),⁷ Aristotle, started from the purely *individual* nature of his *primary substance*. But then (in order to safeguard the possibility of conceptual knowledge) he had to introduce the *secondary substance* as the *universal substantial form* of entities. Plato therefore gained an insight in the *order* for the existence of entities, the universal conditions making the existence of something possible. Aristotle explored the meaning of the *orderliness* of entities, such as the *houseness* of this house. In *being* this or that an entity, in a *universal way*, shows that it is subjected to the universal conditions (*order for*) its existence.

Medieval realistic metaphysics integrated this legacy into its understanding of the earlier mentioned assumption of the ideas in God's mind (*ante rem*) that are copied into created things (inhering in them as their universal forms — *in re*). Finally it claims that our knowledge of these forms is based upon universal concepts within the human mind (*post rem*) — truth originates from the match between our universal concepts and the universal essential form of things (*adequatio intellectus et rei*).

The rise of early modern nominalism in fact rejected both the *order for* and the *orderliness* of things. Outside the human mind no *universality* can be found. This transformed factual reality (outside the human mind) into a heap of chaos — a structureless multiplicity (such as the chaotic sensory impressions in Kant's epistemology). However, this vacancy was soon filled — the motive of logical creation, already surfacing in the thought-experiment that Hobbes portrays in his work on corporeal things,⁸ emerged in service or elevating human understand to the level of *law-giver*.

- 7 Plato wrestled with the question concerning the possibility of knowledge if everything is always *changing* (see his dialogue *Cratylus*). He correctly realised that *change* is only possible on the basis of *constancy*. But in stead of reflecting on the *order for* creatures he explored his own metaphysical world of transcendent (static) ideal forms.
- 8 Hobbes attempted to create order in the chaos by employing the basic concept of a *moving body*.

The way in which Galileo formulated this principle of *inertia* strongly influenced Kant (cf. Holz 1975:345-358).⁹ C.F. von Weizsäcker (1971:128) framed Kant's problem in terms of the question: What is nature, that it must obey laws which the human being could formulate by using its capacity of understanding? Kant, in fact, in his conception of the categories, even moved a step further. Galileo formulated his thought-experiment, without taking account of any real sense-experience, to arrive at his law of inertia. This law is derived and prescribed to moving entities out of the pure understanding of man in its spontaneous subjectivity. This represents the crucial epistemological turn in ascribing the primacy no longer to the object, but to the *subject*. In a somewhat different context, Kant wrote about the difficulty involved in this turn, namely how

subjective conditions of thought can have *objective validity*, that is, can furnish conditions of the possibility of all knowledge of objects (B,122).

The way in which Kant tried to solve this problem, illustrates that, in line with the thought-experiment of Galileo, Kant drew the radical humanistic conclusion: the laws of nature are *a priori* contained in the subjective understanding of the human being:

The categories are conditions of the possibility of experience, and are therefore valid *a priori* for all objects of experience (B,161);

Categories are concepts which prescribe laws *a priori* to appearances, and therefore to nature, the sum of all appearances (B,163)

Understanding creates its laws (*a priori*) not out of nature, but prescribes them to nature (1783, §36, 320).

Indeed, Kant tried to consolidate and strengthen the preceding natural science-ideal. But he accomplished it in the restricted form elevating human understanding in a rationalistic way, proclaiming it to be — though limited to sensibility in order to save a separate super-sensory domain for the practical-ethical freedom of human autonomy — the *a priori lawgiver of nature!*

- 9 Before Galileo, the belief was held that any moving body needed some dynamic force to continue its movement. Galileo, however, claimed that a body in motion, will *continue* its motion endlessly, except when some force impinges on it. In his *Dialogues and mathematical demonstrations concerning two new sciences* (1638; the German translation, 1973; Darmstadt), Galileo formulated this idea in terms of a thought-experiment: I imagine a body being placed on a horizontal plane without any impediment, from which it follows ... that the movement of this body on the plane would be uniform and ever-enduring, if the plane is extended into infinity. Also see the authoritative work of Dijksterhuis (1961) on the "mechanization of the World Picture".

4.1 Totalitarian theories of the state

During the initial phase of the development of modern humanism it only succeeded in producing totalitarian and absolutistic theories of the state.

The basic question of humanist political theory at this preliminary stage was the following: who possesses the highest power or competence in the state? The French thinker, Jean Bodin, was the first to introduce the term “*sovereignty*” in order to capture the governmental authority present within the state. In opposition to Machiavelli, Bodin accepted that the government was bound both to natural and divine law. He, therefore, supported the classical principle of *natural law*, *pacta sunt servanda*, which states that contracts should be respected and kept. Yet, the weak point of his theory is found in his conviction that the state, as such, disposes of an absolute and original competence to the formation of law within the boundaries of its territory.

4.2 Ambiguities in understanding the “sovereignty” of the state — Bodin

This view must, of course, be assessed against the background of the relatively *undifferentiated* medieval society, dominated by the Roman Catholic Church as superstructure. The medieval guilds — artificially constructed with the old Germanic sib as example — and the feudal manorial communities, which acquired various relations of super- and subordination (*villae*, *domaines*), displayed a marked *undifferentiated* character. In none of the societal forms of organisation is a centralised *monopoly* of the power of the sword found. Against this background, it is understandable why Bodin would have interpreted every original claim to the formation of law as a claim to original sword power that would amount to a threat to the idea of the state as a *res publica* (cf. Dooyeweerd 1951:87ff.; 1996-III;546ff.).

Within the undifferentiated structure of the late medieval “substructure” of society, governmental authority was still a commercial item, a *res in commercio*. The sovereign lord disposed over it freely. When private persons or corporations took hold of it, it formed part of their inviolable rights. Governmental authority was in no way as yet seen as a *public office*, called to serve the interests of the public (the *res publica*). It was particularly the all-encompassing nature of the guild system that precluded the realisation of a genuine state organisation.

However, the aim of Bodin’s theory of sovereignty was to create an absolute monarchical power through the monopolisation of the power of the sword. This central form of governmental authority would have had an exclusive competence to the formation of positive law. What he did not real-

ise was that such an integration of governmental authority in practice contributed to an enhancement of the process of societal differentiation that at once gave birth to distinct and independent non-political societal collectivities (including the newly developing modern universities). But this process of differentiation, with an inner necessity, gave rise to *original spheres of competence distinct from that of the state* — each of them evincing an original juridical competence to form law within its own domain!

In other words, the *way* in which Bodin envisaged that the aim could be realised — namely, the differentiation of different spheres of law — in fact displayed an inherent tension with the aim itself — namely, identifying every competence to the formation of law with the state sovereign!

4.3 Differentiation and the rise of the modern state

The remarkable historical fact is that the Protestant countries of modern Western Europe not only succeeded in sustaining the on-going process of societal differentiation, but also opened up the independent space required for a prosperous development of the natural sciences and the humanities within the modern universities.

This historical process of differentiation and unfolding witnessed the rise of the modern state as a genuine *res publica* — as a public legal institution destined to integrate the multiplicity of legal interests within its territory into one public legal order.

Whereas a *kingdom* belongs to a king — as his private property — the state is a *public legal institution* that is destined to serve the *public interest*. This is the true meaning of the Latin expression *res publica*. A state in this public legal sense of the term only came into existence through a long and gradual process of civilisational development. In the West this process witnessed the *differentiation* of human society through which distinct societal collectivities crystallised, such as the firm, the club, the nuclear family, the school and university, the church and, of course, also the state itself. Through this process of differentiation, a diversity of sphere-sovereign societal forms of life emerged *distinct* from the state. Each one of these non-political societal collectivities had its own *form of organisation* and *sphere of law*. Together, they co-constitute a diversity of societal interests that ought to be united and integrated within the public legal order of the state. As soon as this process managed to set itself through society entered a condition that is no longer compatible with the structure of the Roman Catholic and Islamic *empires*.

This public legal character of the state entails that *by definition* the state is a *republic*, a *public legal institution*. Therefore, strictly speaking, it is not

correct to employ the term “republic” as designating this or that *form of organisation* of the state. By referring to the *republican* nature of the state, no specific *form of government* ought to be envisaged. As was the case with the former communist “people’s republics”, a state can be organised as a *totalitarian* and *absolutist* state (“power-state”; “Machtstaat”), or it may be organised as a “just state” (“Rechtsstaat”), which is neither totalitarian nor absolutist.

5. CONCLUDING REMARK

During the Middle Ages both Christianity and the Islam were organised into (relatively undifferentiated) *empires*. Both traditions significantly contributed to the development of intellectual pursuits in many-sided ways. However, after the Renaissance the rise of modern Humanism and Protestantism contributed to an increasing differentiation of modern Western societies resulting on the one hand in the rise of the modern constitutional state and on the other in the emergence of the modern university as a sphere-sovereign institution. The Protestant countries witnessed a process of societal differentiation unparalleled in world history up to that time. Although the more recent attempts of Islamic countries to benefit from the fruits of the modern natural sciences inspired them to introduce the teaching of the natural sciences within the Muslim world, these countries did not succeed in benefiting from the significant transformation of the medieval empires into modern democratic states. Since the Muslim world is still embedded in the relatively undifferentiated embrace of a societal setting guided and integrated by the Muslim faith it did not succeed as yet to transcend the inherent limitations entailed in a typical *empire* in the classical sense of the word.

If the interaction between the West and the Islamic world can contribute to a significant process of societal differentiation the positive scope of democratic states — public legal institutions under the rule of law — may render an important service to the improvement of the relations between the Islam and the rest of the world.

BIBLIOGRAPHY

ARISTOTLE

1894. *Politica*. Text edition by F. Susemihl and R.D. Hicks: *The politics of Aristotle, a revised text*. New York: MacMillan & Co.

BAKAR O

1999. *The history and philosophy of Islamic science*. Cambridge: Islamic Texts Society.

COPLESTON F

1966. *A history of philosophy. Vol. II (Augustine to Scotus)*. New York: An Image Book, Doubleday.

DOOYEWEERD H

1951. The contest about the concept of sovereignty in modern jurisprudence and political science. *Free University Quarterly* 1:85-106.

1996. A new critique of theoretical thought. Series A (Vol. 1-4) of *The collected works of Herman Dooyeweerd*, General ed. D.F.M. Strauss. Lewiston: Mellen Press.

DIJKSTERHUIS E J

1961. *The mechanization of the world picture*. Translated by C. Dikshoorn. Oxford: Clarendon Press.

EHLER S & MORRALL J B (Eds. and translators)

1954. *Church and state through the centuries. A collection of historic documents with commentaries*. London: Burns & Oates.

GIERKE O

1915. *Grundbegriffe des Staatsrechts*. Berlin: Weidmann.

GRUNDMANN H

1960. *Vom Ursprung der Universität im Mittelalter*. Darmstadt: Wissenschaftliche Buchgesellschaft.

HOLZ F

1975. Die Bedeutung der Methode Galileos für die Entwicklung der Transzendentalphilosophie Kants. *Phil. Natur.* 15:344-358.

HOBBS T

1651. *Leviathan*. Baltimore: Pelican edition 1968.

HOMMES H J

1981. *Hoofdstlijnen van de geschiedenis der Rechtsfilosofie*. Second impression. Deventer: Kluwer.

HOODBHOY P

1991. *Islam and science, religious orthodoxy and the battle for rationality*. London: Zed Books.

KAMMLER H

1966. *Der Ursprung des Staates, Eine Kritik der Ueberlagerungslehre*. Köln: Westdeutscher Verlag.

KANT I

1781. *Kritik der reinen Vernunft*. First ed. Hamburg: Felix Mainer Verlag (1956 ed.).
1783. *Prolegomena zu einer jeden künftigen Metaphysik die als Wissenschaft wird auftreten können*. Hamburg: Felix Mainer Verlag (1969 ed.).

KELSEN H

1925a. *Hauptprobleme der Staatsrechtslehre*. Reprinted Berlin: Scientia Aalen 1960.
1925b. *Allgemeine Staatslehre*. Bad Homburg: Gehlen.

IQBAL M

2002. *Islam and science*. Hampshire: Ashgate Publishing Company.

MEKKES J P A

1940. *Proeve eener critische beschouwing van de ontwikkeling der humanistische rechtsstaatsboriën*. Utrecht: Libertas.

NEUGEBAUER O

1969. *The exact sciences in antiquity*. New York: Dover (originally published by the Brown University Press 1957).

RASHDALL H

1936. *The universities of Europe in the Middle Ages*. Vol. I. London: Oxford University Press.

ROUSSEAU J J

1975. *Du contrat social et autres oeuvres politiques*. Paris: Editions Garnier Frères.

ROMEIN J

1947. *Universiteit en maatschappij in de loop der tijden*. Leiden: Brill.

SCHNATZ H

1973. *Päpstliche Verlautbarungen zu Staat und Gesellschaft, Originaldokumente mit deutscher Uebersetzung*. H. Schnatz (ed.), Darmstadt: Wissenschaftliche Buchgesellschaft.

STELLINGWERF J

1971. *Inleiding tot de universiteit*. Amsterdam: Buijten en Schipperheijn.

STÜTTLER J A

1969. *Kirche und Staat*. Aschaffenburg: Pattloch.

THURNWALD R

1935a. *Werden, Wandel und Gestaltung von Staat und Kultur*. Berlin: Duncker & Humblot.
1935b. *Die menschliche Gesellschaft in ihren ethnozoologischen Grundlagen*. Vol. 4. Berlin: Duncker & Humblot.
1950. Entstehung und Wandel von Staatsgebilden. *Scientia* 44:53-58.

1957. *Grundfragen menschlicher Gesellung*. Berlin: Duncker & Humblot.

VON WEISZACKER C F

1971. *Voraussetzungen der Naturwissenschaftlichen Denkens*. München: Herderbücherei.

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