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TOWARDS A THEOLOGY OF ECOLOGY

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This study establishes and assesses the status quaestionis of theological writings in English concerning the ecology. In the light of this assessment a proposal is made for the foundations of a Christian theology of ecology answering to the present ecological needs and counteracting the major non-Christian influences found in the literature.

A factor common to all the literature reviewed is that in some way or other it is a reflection of the new ecological awareness. This awareness is provoked by the realisation that man, on an ever larger scale, is behaving in such a way as to damage the natural habitat which he shares with all the other living creatures. Two theological endeavours stem from this observation. The first concerns discovering the reasons behind this behaviour. The second is an attempt at developing a theology of man's relationship with the environment so as to encourage ecologically healthy behaviour. These two intents are used as the framework within which the status quaestionis is presented.

The roots of the ecological crisis as described in the literature can be divided into four main classes. These are the biblical mandate of dominion, dualism, modern secularising influences and modern science and technology. Of all the conjectured roots it is the first—the biblical mandate for man to have dominion over all the earth—that is most commented upon in the literature. Largely this is in reaction to the accusation that this teaching is the basis of all the present ecological problems. The accusation implies—at least indirectly—that either the Bible is not divinely inspired (and hence, as any other merely human text, may well be erroneous and lead to problems), or that God is perverse in that he has misled man into destroying his own habitat. It is of little wonder, therefore, that among Catholic authors at least there is almost unanimous rejection of this accusation—although some suggest that a misinterpretation of the Bible may be partly to blame.
Responses to the ecological crisis are very wide-ranging — understandably so in the light of the fact that they come from authors of many different fields of interest. Various ideas from other quarters are rejected by the theologians as being inadequate responses to the crisis. These proposals include romanticist retrogression or zero growth, the ecological egalitarianism proposed by deep ecologists and a return to animism or nature worship. The theological responses put forward cover general points such as the need to respect the order in creation or exercise dominion over the earth in the form of responsible care. They also include specific proposals such as fomenting a sacramental view of the natural world or emphasizing the patristic doctrine of exemplarism.

Major concerns in the literature are the relationship of God to creation, the value of creatures and the relationships between them. There is an underlying desire to stress the closeness of God to creatures, the unity of all creation and the value of each and every creature. Unfortunately several authors appear to be strongly influenced by seemingly attractive non-Christian ideas such as are found, for example, in process thought. As a result the transcendence of God is compromised and the doctrine of creation ex nihilo is put in question. An ecological appreciation of the natural world means first of all accepting its utter dependence on God who transcends it. Some authors indeed point out the need of stressing the doctrine of creation in order to promote a healthy attitude to the ecology. Forgetting the teaching on creation means devaluing creatures.

An ontology that lacks a teleological dimension and a lack of adhering faithfully to Revelation lead some authors to invent artificial values for creatures. From within these systems it is not possible to appreciate the unique position of man in creation nor to reach a full understanding of the deeply moral nature of the ecology crisis.

A theology of ecology —both to be theologically acceptable and to promote behaviour favourable to the ecology— must be firmly based on reality. An appreciation is required of the ontology of creatures, including man, as also of the effects of sin and redemption. Divine Revelation clearly has an invaluable role to play in this matter: it clarifies many truths about the natural world that would otherwise be subject to doubt and uncertainty.
The excerpt from the thesis presented here is principally from the chapter which bears the same title as the thesis itself. It develops the theme of the value of all creatures and the order among them. In particular it describes how the hierarchy of creatures exists for the enrichment of all creation. Hierarchy leads to unity in diversity. In the discussion on the role of man in world it is stressed how the task of caring for the earth—tackling the environmental problems—necessarily has a social dimension. The anthropological section is completed with a consideration of the effects of sin in the whole of creation and the way in which the universe is ordered towards the new earth (cf. 2 Pet. 3: 13) through Christ. A final section indicates how the theological virtues can be related to environmental concern, perfecting the natural human response to the ecological crisis.

Finally, this opportunity is taken of expressing once again our deepest gratitude to Prof. José Morales for his guidance, advice and encouragement throughout the research leading to this thesis.
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(* These articles are not actually cited in the study but are nevertheless included as part of the background material.)

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I. INTRODUCTION: THE ECOLOGICAL QUESTION

1. Theological Interest in Ecology

«Equally worrying is the ecological question (...)»7 So begins a paragraph of a recent Encyclical Letter of John Paul II, which goes on to describe man's «senseless destruction of the natural environment». The next paragraph says that «people are rightly worried —though much less than they should be— about preserving the natural habitats of the various animal species threatened with extinction».8 Pope John Paul also dedicated his message for the 1990 Day of Peace to the theme, talking of an «ecological crisis».9 Earlier, Pope Paul VI in his message to the Stockholm conference in 1972 on the human environment highlighted the Church's interest in ecological problems as being linked to the integral development of man.10

The Catechism of the Catholic Church describes the need to respect the integrity of creation: «Animals, like plants and inanimate beings, are by nature destined for the common good of past, present and future humanity (cf. Gen. 1: 28-31). Use of the mineral, vegetable and animal resources of the universe cannot be divorced from respect for moral imperatives. Man's dominion over inanimate and other living beings granted by the Creator is not absolute; it is limited by concern for the quality of life of his neighbour, including generations to come; it requires a religious respect for the integrity of creation.»11 The same Catechism also reminds those in charge of companies that their responsibility to society is not limited to economic matters but also concerns ecology.12
With these and other pronouncements the Magisterium of the Church has addressed the theme of ecology which has been popularised by the secular press over the past few decades.

The texts cited make clear that this ecological question involves both dogmatic and moral considerations. It is a theme of intense theological interest. And, indeed, there is already a considerable volume of theological material published on the topic in both books and journal articles.

Ecological awareness is one of the signs of the times. It can be the occasion of adopting a greater sense of responsibility towards the divine mandate of exercising dominion over the earth and all that is in it (cf. Gen. 1: 28). And yet it is also linked to causes that are far from Christian—for example, homosexual «rights» and abortion on demand. The manifestoes of some «green» politicians witness to this. It is thus important that ideas about environmental concern compatible with Christian beliefs be disseminated. Only if respect for the dignity of the human person is universally upheld can the world make real progress. Thus there is a genuine catechetical reason for developing a theology of the ecology. Moreover, Christian concern for the ecology is inspired in the account of creation in the book of Genesis, and by the fact that the Creator himself is known «per ea quae facta sunt». An ecological attitude is not a new thing in the Christian tradition, although the current scientific interest in the environment has given a significant impulse to this aspect of theology.

2. A Description of Ecology

In popular usage the word ecology is used to refer to the study of the earth under the aspect of its suitability for supporting life, particularly human life. Man’s environment is a complex system involving both living and non-living beings in a state of dynamic equilibrium. One of the motivations for ecological studies is the concern that if this equilibrium is disturbed too much then the earth will no longer provide an adequate setting or home for life in all its multiple forms.
Some aspects of the science of ecology itself expose it to being exploited by ideological groups seeking a popular emotive cause to unite their adherents. A better appreciation of the science is useful, therefore, so as to weigh up the real significance of popular or even scientific publications on the topic.

The object of ecology is an enormously complex system which is only very partially understood. In general the natural world seems fairly robust and remarkably capable of regenerating itself. However, experience shows that some actions wreak long-lasting ecological havoc or destruction. There are well known examples of water, air and soil pollution from which mankind has learnt serious lessons. Man’s actions can make life difficult or impossible in whole regions of the globe. Hence care is required to avoid these mistakes—and research is needed to try and identify problems before they take on disaster proportions and become unmanageable. These two lines of advance—avoiding repeating mistakes and the prediction of possible problems—need to be treated each in its own proper way.

With regard to avoiding old errors, the difficulty sometimes arises more from a lack of will than from the nature of the physical problem itself. There are often moral, social and political obstacles which cause mankind to fall time and again. A local ecological problem may become serious and take on crisis dimensions as the result of a lack of international solidarity and resolve. The proliferation of local ecological problems for which the solution is clearly known and understood points to a global moral crisis. Sadly this sort of ecological problem—particularly in poorer countries—makes the headlines only when a real human tragedy has resulted.

The other aspect of ecology—prediction of new problems—is, in general, judged by the media much more newsworthy. There is no shortage of published predictions of disaster lying around the corner, and other reports that there is no real problem at all. Confusion reigns. It should be borne in mind that the ecology is far more complex and far less understood than the weather situation. And in spite of the vast global network of sensors feeding meteorological data into sophisticated mathematical models on huge computers, weather forecasting is notoriously risky. Good short-term local weather forecasts are possible, but
the quality tails off rapidly as the time scale is extended. It is easy, therefore, to appreciate that global predictions concerning the ecology are neither clear nor certain. Research is required. But when the media convert scientific working hypotheses into proven fact they do a disservice to genuine ecological concern. Exaggerated or alarmist claims only serve to diminish interest in the real problems of environmental care and play into the hands of all sorts of dubious ideologies seeking a cause.

Not all ecological events are man made. A volcanic eruption that sends tons of dust into the atmosphere is an obvious example of nature's own ability to cause air pollution. It must be accepted that the earth is not a static system. It inevitably changes: sometimes for the better, sometimes for the worse. Environmental concern must be directed towards maintaining the earth as a suitable home for man, trying to ensure that the general trend is one of improvement rather than deterioration. Thus, ecological work includes not only trying to understand better the effects of man's activities, but also trying to understand, predict and control (when necessary) nature's own processes.

II. TOWARDS A THEOLOGY OF ECOLOGY

A theology of ecology necessarily touches upon a wide range of themes. Man's relationship to God; the esteem in which he holds created things; his understanding of the human role in the creation; his own behaviour and the appreciation of the purpose of existence itself: all these factors determine and colour man's relationship with his surroundings. A theology of the environment is not something that can be developed as an independent, isolated discipline. Just as the study of ecology itself involves an investigation of diverse elements and their interaction, so too a theology of ecology is moulded and forged in the consideration of the many facets of the fullness of reality.

This chapter, therefore, cannot pretend to offer the semblance of a sealed package covering the full breadth and depth of a theology of the natural world and man's relations with it. A theology of the environment can be likened to a tree in that its roots and its branches (ramifications) potentially fill all the dimen-
sions of theological space. What is presented here is a spectrum of ideas that initiate the growth of a well-balanced, sturdy tree. It is but a sketch of the more important aspects: a multidimensional though relatively sparse matrix.

The first section considers some of the principal ideas of importance to a theology of ecology that are found in Revelation. The biblical truths must form the basis of all theology—including a theology of the environment. The Bible, particularly the teachings of Genesis, interpreted by Tradition and the Magisterium, gives a very balanced view of man, his place in the creation and his relation to other beings. Hence this section on Revelation precedes the other sections of the chapter which deal in more depth with the major dimensions of this matrix of a theology of ecology. The infallible outline of the whole framework is already latent in the divinely revealed truths, and only remains to be drawn out and built upon using the human tools of philosophy and theology.

The second section, with the title «Ontology», studies the status of created beings and their value. Following this is a section that considers man and his influence on the rest of creation: his pre-eminent position and his task in the world, and his itinerary through sin and redemption with their implications for the whole of creation.

The final section presents some brief considerations on a possible personal response to the environment based on the theological virtues of faith, hope and charity.

There is inevitably a certain amount of repetition involved in this approach, especially in the first three sections. This scheme, however, with its progress from creatures in general to man, and from man as initially created to man the sinner and then the redeemed, facilitates a thorough appreciation of the present situation of the created world.

1. The Importance of Revelation

By contemplating created things and reflecting upon them man is able to reach an understanding of them: their value, the order among them, and their purpose. However, divine Revelation
in general, and the Bible in particular, is indispensable for attain­
ing this knowledge with greater ease and certainty. The Bible, in
a few rich, simple and succinct sentences conveys a description of
the world: its origin, its present condition, and its destiny. All the
important theological truths concerning man’s environment and
his relationship to it are contained therein and are interpreted
through Christian Tradition and the Magisterium of the Church.
Thus it is that a theology of the ecology has an invaluable con­
tribution to make towards resolving the contemporary en­
vironmental problems.

Specific truths encountered in biblical teaching are mention­
ed and elaborated upon in the other sections of this chapter. Here
it suffices to indicate in a more generic manner those parts of the
sacred Scriptures that are most relevant to a theology of ecology.

Any attempt at developing a theology of the natural world
must be founded upon the truths of creation and man’s rebellion
against God. The basis of these doctrines is found in the first
eleven chapters of the book of Genesis. These chapters cover the
creation of the world and all in it, including the first man and
woman (cf. Gen. 1-2); the account of the original sin and its im­
mediate consequences (cf. Gen. 3); the early history of the human
race with its ever deeper involvement in sin (cf. Gen. 4-6); the
new beginning with Noah and his family (cf. Gen. 7-8); God’s
covenant with Noah, his descendants and every living creature in
the ark (cf. Gen. 8: 20-9: 28); and the subsequent expansion of the
human race over all the earth, up to the call of Abram from Ur
of the Chaldeans to the land of Canaan (cf. Gen. 10-11).

One point that is made abundantly clear in the account of
creation is that all things are good. The sacred author repeatedly
states that «God saw that it was good» (cf. Gen. 1: 4, 10, 12, 18,
21, 25), and after the creation of man —«male and female he
created them» (Gen. 1: 27)— when God contemplates the fullness
of creation «God saw everything that he had made, and behold,
it was very good» (Gen. 1: 31). The point needs stressing, as it
is all too easy to be misled by the experience of evil in the world
and attribute evilness to the essence of things. Manichean dualism
witnesses to this fact in human history. The whole of the Bi­
ble is imbued with this sense of the goodness of creation. God
the Almighty loves all things that exist: without his love they
would not have been created: «For thou lovest all things that exist, and hast loathing for none of the things which thou hast made, for thou wouldst not have made anything if thou hadst hated it» (Wis. 11: 24). And if God loves them, they must be good. Creatures manifest the love and wisdom of God: «In wisdom hast thou made them all» (Ps. 104: 24). «The works of the Lord are all good» (Sir. 39: 33). The passage Sir. 42: 15-43: 33 is a veritable hymn in praise of the splendour (42: 21), the completeness (42: 24), the beauty (43: 11, 18), and the marvel (43: 25) of all things as made by God, who yet is «greater than all his works» (43: 28). Whilst transcending all creatures God makes himself known through the things he has created. Indeed the real beauty in created things—that is a reflection of God—has led men to worship creatures themselves, whether by religious idolatry or secular materialism.

Revelation leaves no doubt as to the goodness of created things. The biblical evidence is clear. Moreover, the capital truths of the Christian faith reaffirm and strengthen this fact. For example, the Incarnation of the Second Person of the Blessed Trinity who takes upon himself human flesh (cf. Jn. 1: 14) is a most eloquent statement of the appreciation in which God holds the human condition (and, necessarily associated with it, the human environment). And if anyone should be tempted to think that the taking of flesh is merely an unavoidable step to enable the divine reconciliation of the human race with God, let it be recalled that Jesus rose from the tomb with his same human body (cf. Mt. 28: 9; Mk. 16: 9-14; Lk. 24: 36-43 and Jn. 20: 14-29) and ascended with it into heaven (cf. Mk. 16: 19; Lk. 24: 51 and Acts 1: 9-11). God has united himself with visible creation in the unique and marvelous never-to-be-dissolved hypostatic union. Furthermore Christ has ordained that the manner of participating in the fruits of his passion be through the Sacraments. Elements of the material, physical creation have been elevated to act as effective signs of the operation of grace. And most wonderful of all, Jesus Christ, the Second Person of the Blessed Trinity, has chosen to remain on earth—Body, Blood, Soul and Divinity—under the appearances of bread and wine. No greater honour can be paid to the created order than that which God himself has paid it.

The first chapters of Genesis also refer to other basic truths concerning man and his surroundings, some of which could only
be the subject of wild conjectures were it not for their having been revealed by God. Man has been given «dominion» over everything else on earth (cf. Gen. 1: 28 and Ps. 8: 6). But this dominion is not absolute. It belongs to man as created in the image and likeness of God (cf. Gen. 1: 26). Man cares for creation on God’s behalf. God is described as being able to rest «from all his work» only after man is given dominion (cf. Gen. 2: 3). But God remains the absolute Lord and Master of all creation. Man is created and given the task of taking care of the earth by his work (cf. Gen. 2: 15). This task —his work— is initially a joy for man. The picture of the garden of Eden painted by the sacred author is one in which man coexists in peaceful harmony with the other creatures: man knows their natures and is thus able to give them their proper names. The perfections and delights of the garden of Eden included the harmony within man himself: his dominion over his own faculties (as seen by the lack of concupiscence); the harmony between individuals, specifically between man and wife; the harmony between man and the rest of creation; and the harmony within creation itself. This picture of harmony is appreciated most clearly in the description of its loss through the sin of Adam and Eve (cf. Gen. 3: 14-19).

The initial harmony is destroyed by man’s sin: a sin described in the language of Genesis in terms of a disrespect for God’s law concerning part of creation —the prohibition of eating the fruit from a specific tree (cf. Gen. 2: 17; 3: 6). The result of the sin of Adam and Eve is not only that man is at war with himself and others (cf. Gen. 3: 16) and subject to death (cf. Gen. 3: 19), but also that the earth is cursed and is in rebellion against man (cf. Gen. 3: 17-19; 4: 12).

The doctrine of original sin is essential for a correct understanding of the ecological situation. If original sin and its effects are not taken into account then it is not possible to resolve the ecological crisis. The Christian truths of original sin and the fall of man enable man to understand that, in spite of all the signs to the contrary, nature itself is not perverse. The original harmony in creation is lost through original sin. But creation, although in disarray, is not entirely corrupted. The real problem at the root of the ecological crisis is a moral one.24
God who has created out of wisdom and love does not abandon his creation after man’s fall.\textsuperscript{25} He calls man immediately after the fall (cf. Gen. 3: 9) and even in pronouncing sentence on man God includes a hint of his saving plan (cf. Gen. 3: 15 — the protoevangelion). This salvific design is further revealed and takes on an ecological dimension in God’s covenant made with Noah (cf. Gen. 8: 21-9: 17). This covenant is truly universal. It is made with Noah — the new Adam and father of the human race — and his descendants, «and with every living creature (...) as many as came out of the ark» (cf. Gen. 9: 9-10). And it is ecological in that God promises that the earth will be constant henceforth until the end in its natural patterns and will never again wreak universal destruction avenging man’s sin: «the Lord said in his heart, ‘I will never again curse the ground because of man, for the imagination of man’s heart is evil from his youth; neither will I ever again destroy every living creature as I have done. While the earth remains, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease’» (Gen. 8: 21-22). Thus hope in the future is re-awakened for the whole of creation — an ecological hope of which the rainbow is a sign (cf. Gen. 9: 14-16).

The contents of this hope begin to become reality with the Incarnation of the Word of God. According to the pact with Noah creation continues functioning, but it is disfigured by sin and its passage through time is laborious and accompanied by strife. God, in his infinite wisdom, supplies the most perfect remedy. He respects the nature he has created and the free choice that man its caretaker has made — with all the consequences of this choice. God could re-create things anew, abolishing the damage of sin as if it had never occurred. This would imply destroying the nature that God created at the beginning of time, replacing it with one impervious to sin, one which is not subject to man’s dominion — and hence not able either to give glory to God through man’s free and loving response to him. But God does not want to «sacrifice» nature in such a way. The «burnt offering» of wounded nature is not what pleases God, but rather man’s repentance and love.\textsuperscript{26} And to achieve this repentance God becomes man. Jesus, the «one mediator between God and men» (1 Tim. 2: 5) comes «to reconcile to himself all things» (Col. 1: 20) showing in a most perfect way God’s solidarity with his creation in spite of sin. Visible creation is «in bondage to decay» (Rom.
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8: 21), «groaning in travail» (Rom. 8: 22), so God takes upon himself a visible nature. The divine Exemplar in creation becomes a human exemplar in the new «creation». Creatures have strayed from the path prepared for them by God; the Creator responds by emptying himself, taking the form of a servant and being born as man, all so as to rescue creation (cf. Phil. 2: 7). The Word through whom the Father created the world (cf. Heb. 1: 2) takes human flesh so as to speak «the words of eternal life» (Jn. 6: 68), «to unite all things in him» (Eph. 1: 10), and to enable creation to «obtain the glorious liberty of the children of God» (Rom. 8: 21).

Many beautiful considerations arise from contemplating the history of the fall and the way in which God has wrought the redemption. Suffering and death are the punishment for sin (cf. Gen. 3: 16, 19). But God’s punishments have medicinal value. And this is seen taken to its limits when God becomes man so as to undergo suffering and death in himself and hence conquer sin. The parallel, too, between «the tree of knowledge of good and evil» (Gen. 2: 17) and the cross of Christ is also well-known.27 Another correspondence —though but a small detail—is seen in the thorn. Part of nature’s rebellion against man is stated as: «thorns and thistles it shall bring forth to you» (Gen. 3: 18). And one of the instruments of the Passion is woven from these thorns (cf. Mt. 27: 29).

For all mankind the task of caring for creation has become, through sin, one that requires effort and sacrifice (cf. Gen. 3: 17-19) —and at times this will seem fruitless (cf. Gen. 4: 12). But God’s salvific will is that this effort can always be supernaturally fruitful. «Made a partner in the paschal mystery» and «configured to the death of Christ» the Christian is called to the resurrection.28 The effort (incurred by sin) that is required to prevent further degeneration in the disorder of nature acquires a special value when offered through Christ (cf. 2 Tim. 2: 11-12 and 1 Pet. 4: 13). Thus the divine plan respects nature, respects the effects upon the natural world of human action, and even uses these effects to bring about the renewal of creation.

Man’s work carried out in a Christian spirit contributes to reconciling all things in Christ (cf. Col. 1: 20).29 But this reconciliation is properly achieved only in «the fullness of time» (Eph.
1: 10) when takes place «the redemption of our bodies» (Rom. 8: 23). And there is no linear continuity between the present times and the fullness of time. For, distorted by sin, «the form of this world is passing away» (1 Cor. 7: 31) and must be transformed in some manner unknown to man. Revelation does, however, speak of a transformation and not an entirely new beginning. And thus man's present exercise of dominion should be carried out in the knowledge that in some mysterious way it contributes towards the new heaven and the new earth (cf. Apoc. 21: 1).

2. Ontology

Ecological concern is about caring for the environment, understanding the relationships between things and maintaining a life-supporting equilibrium in nature. There is a realisation that science and technology alone do not suffice for protecting the environment. They must be linked to a moral or ethical system that will ensure their correct use —their ecological use. Individuals, organisations and the human community as a whole must have—and behave in accordance with—a correct attitude to their surroundings. Thus, in the light of the ecological crisis, much has been written about why civilized society appears so often to lack an ecologically healthy attitude to the natural world. And, furthermore, many suggestions are made as to how to promote a frame of mind that embodies a respectful attitude to created things.

The danger here, above all in a rationalist climate, is of approaching the natural world (or creatures in general) in two distinct movements. The first is a value-free observation of things, a gathering of objective scientific data about a physical, chemical, biological —and even psychological— world. The second stage is to try and attribute value to things in such a way as to maximize some (often subjective and relativist) importance function. Such a dual procedure is in evidence in many of the attempts to promote concern for the natural world. Any emphasis on instrumental value is rejected as leading to an abusive exploitation of the environment. Instead some empirical property of things is sought that can serve as a metric for value. And clearly this search is
driven and directed by the desire to promote or justify a pre-conceived set of values that are perhaps best described as preferences. Hence it is that all sorts of incongruous ideas are found among ecologists. For example, an admirable respect for wild-life, coupled with a total lack of respect for human life in the womb; or a desire to help animals live according to their nature, together with efforts to foment all kinds of unnatural behaviour in humans.

Faced with this situation the task of theology is to use the sources of Revelation so as to help clarify ideas about the natural world: about its value and the relationships of one thing to another. These two aspects —the value of creatures and the order in creation— form the subdivisions of this section.

2.1. The Value of Creatures

«In the beginning God created the heavens and the earth» (Gen. 1: 1). This first fact encountered in the Bible is a fact of fundamental importance for a theology of the environment. Without a deep appreciation of this fact it is not possible to understand the world as it exists. The objectivity or reality of value in the natural world is a datum of experience that must be accepted as a first principle. In a biblical context the goodness of created things (cf. Gen. 1: 31) is described as a reflection of the divine goodness: «The heavens are telling the glory of God» (Ps. 19: 1) and «the work of the Lord is full of his glory» (Sir. 42: 16). This reflection of God is true because «in wisdom hast thou made them all» (Ps. 104: 24). Thus it is that the Second Vatican Council affirms that «by the very terms of creation, all things are endowed with their own stability, truth and goodness, their own order and laws».34

This key phrase of the Constitution describing the rightful autonomy of created things hints at how a trace of the Blessed Trinity is found in creatures. The «stability, truth and goodness» correspond respectively to traces of the Father, the Son and the Holy Spirit. Creation, as an act ad extra, is the work of the Trinity, but, by appropriation, creation can be associated with the individual Persons. Such appropriations result from viewing
creatures from different perspectives or in the light of different perfections. All three possible appropriations are suggested by the words of the Nicene-Constantinopolitan Symbol recited in the liturgy: «We believe in one God, the Father, the Almighty, maker of all things, seen and unseen. (...) We believe in one Lord, Jesus Christ (...). Through whom all things were made. (...) We believe in the Holy Spirit, the Lord, the giver of life (...).» 36

It is proper of paternity to beget a self-likeness. Creatures participate in being (received from God the Creator), and in this way show a likeness to God, who is being by essence. Thus a trace of God the Father is found in creatures—in so far as they have being, which is the perfection of perfections. The stability of being is appreciated more forcefully when it is considered that God creates and maintains all creatures in being by a single, indivisible creative act. This in no way affects the contingency of creatures—which arises from the fact that God creates freely, with no necessity.37

With respect to the other two Persons, stressing the idea of creation through the Second Person of the Blessed Trinity, the Word, corresponds to considering creatures as imbued with truth, and creation through the Holy Spirit corresponds to the existence of order and goodness in creation. Scriptural bases for appropriation to the Son, Jesus Christ, can be found in the gospel of St John and in the writings of St Paul.38 Biblical support for creation through the Holy Spirit is less explicit. He is usually associated with living creatures («the giver of life»).39

The reason for lingering over this idea of appropriation is to add emphasis to the notion that «all things are endowed with their own stability, truth and goodness». This endowment is their very being—the being which they have received from the Being. Every perfection in creatures is received from God and depends on God for its whole being. And yet the «stability, truth and goodness» belong in a very proper sense to creatures: when God gives, he gives unstintingly, he cannot be outdone in generosity. Creation is the work of the Trinity, and each of the divine Persons places his unmistakable mark in creatures. Each of the three properties, «stability, truth and goodness», really belongs to creatures, and they are constitutive aspects of being.
The notion of creation *ex nihilo* makes this «stability, truth and goodness» still clearer. There are no pre-conceived essences or natures in some sense outside of God which are, as it were, forms or patterns that God uses in creation. God does not simply supply real existence to forms that enjoyed a prior logical existence independent of God. He creates absolutely *ex nihilo*. And thus the nature and being of creatures is a real—though limited—reflection of the divine nature. The value of created things corresponds to their goodness—which is really theirs as being a reflection of God. It is not something super-added by the human mind, nor even a kind of after-thought from God, a decision to give his creatures value to make them worthwhile.

«The Lord has made everything for its purpose» (Prov. 16:4). By investigating this purpose a still better grasp can be attained of what it means to be a creature. God is infinitely good, is infinite in all perfections. Creation can, therefore, add nothing at all to God. It can only be a receiver of perfection (of a participation in perfection) from God, and a manifestation of those perfections. Thus the Church teaches that the world has been created to give glory to God. God created out of nothing «not to increase his blessedness nor to acquire blessedness, but to show forth his perfection through the good things he imparts to his creatures». Clearly this giving glory would be fictitious if creatures did not really possess perfections but only signified them. Similarly creatures would not «show forth his perfection» unless God had indeed bestowed good things on them. The finality of creation implies the truth of its nature.

The «stability, truth and goodness» of creatures underlies the Thomistic concepts of essence and nature: that in each thing there is a reality, a well-determined mode of being. This concept is not, however, universally accepted. Those who fail to understand or reject the notion of natural law, for example, are, at least implicitly, rejecting the concept of nature. Curiously, though, the rejection of natural law in ethical matters often goes hand in hand with a fervent devotion to laws observed through the empirical sciences and even to hypotheses which attempt to extrapolate from these laws. Ecology, as other sciences, relies upon the fact that each thing has a specific nature to which it remains true. Scientific laws would be worthless (if indeed they could be dis-
covered) were creatures not to have a certain fixedness in their way of being. The natural sciences imply acceptance of stability at least in material beings. This is the stability of the material world implicitly guaranteed by God in the Noachic covenant (cf. Gen. 8: 22) and reaffirmed as a guarantor of the promises made to David. The acceptance of scientific law coupled with a rejection of natural law morality seems to indicate a rationalist interpretation of reality. Science is deemed to discover value-free laws: laws that material beings are bound to follow, but which are unrelated to goodness. Such laws are the result of materialistic atheism, or of conceiving them as a sort of a priori to which God has to conform in creating. In contrast is the doctrine of creation ex nihilo: that God has created all things, has in his infinite wisdom endowed them with their essence and their being—which includes (not as a kind of second pass, but as their very make up) all their perfections and properties. And he has wanted to do this that creation might show forth his glory.

The value—the goodness—in creatures is true value, is real, and infallibly accompanies them as a feature of their very being. This theological understanding of the status of creatures recognises a value in things that is far more intrinsic than that which can be suggested by any rationalist system or relativist philosophy.

The human response to creation is determined by its being endowed with truth and goodness. All men have a personal responsibility to seek the truth. The natural interest in his environment is an interest which man, to a certain extent, shares with other animals. But man, being morally bound to seek the truth, has a moral obligation to enquire into his surroundings. From Adam’s naming of the animals (cf. Gen. 2: 19) and appreciation of the nature of woman (cf. Gen. 2: 23-24) it is deduced that he knew everything necessary before the fall to exercise dominion over other creatures effectively and wisely. Only with knowledge of things could Adam act as a true image and likeness of God in the task he had received. Since the fall, human nature is affected by ignorance and error. Hence the moral obligation to get to know the truth of creatures is not always easy to fulfil well. Christians, therefore, who have the benefits of Revelation, have a responsibility towards other men and, indeed, to all creatures on earth, of recognising and proclaiming «the intimate
nature of all creatures, their value and their ordering to the glory of God». 48

Besides truth, creatures are imbued with goodness. This is what attracts the will and facilitates the intellect’s grasping of the truth of things. This, too, is where the importance of moral uprightness is seen to be crucial. If man’s will is disordered, so that he is motivated by selfish ends rather than by the goodness in things (corresponding to the glory of God) then he cannot grasp the full truth of creatures. Selfishness distorts the vision of reality. The environmental crisis thus has moral roots.

Man, then, needs to contemplate creation, led by its goodness to discover its truth. Contemplate, that is, with all his strength. He must use all his physical senses as well as his intellect, his will, his imagination, and his memory. He must consider and reflect upon individual creatures and creation as a whole: himself, his family, the whole human race, his environment—even as far as the distant stars... and beyond: to the Creator of all. 49 Man’s intellect and will give him the capacity to reach the truth and goodness in creation. 50 But the successful exercise of this capacity in the contemplation of the universe depends on moral uprightness and an openness to the truth.

2.2. The Order in Creation

Man must contemplate creation so as to understand and appreciate it better, and, through it, grow in knowledge of and love for its Creator. Through contemplation is perceived the intimate nature of created things, the reality with which God has endowed them. Contemplation discovers in things what creation means for them, namely «their own stability, truth and goodness, and their own order and laws». 51 The first part of this phrase from the Council—«stability, truth and goodness»—has been commented upon in the previous section. This section concentrates on the second part: the «order and laws» with which creatures are endowed. It is not possible, however, to separate the two sets of concepts entirely. Stability and truth, for example, imply some sort of law, and law is difficult to conceive without stability and truth. The notions are not independent: they represent different perspec-
tives on the same unique reality, providing different lights under which to contemplate the same created world.

Before considering manifestations of «order and laws» in creation, it is first necessary to clarify what is meant by the terms. The first subdivision of the section does this. The next two subdivisions discuss how the order in creation appears both as unity and multiplicity: as solidarity among creatures and the diversity of creation. The final part of the section introduces the notion of change —corruption and renewal— in the created world.

a) *The Concept of Order*

Order has to do with arranging things in relation to an end or a design. Laws govern the way of being or behaviour of a thing. And this way of being or behaviour is called ordered in so far as it conforms to some defined pattern or tends to a specific goal. The key element of order is the acting for some end or purpose. When the term ordered is used to refer to a set of things conforming to a specific pattern, the immediate end that is sought in the process of ordering may be no more than conformity with the pattern. But when order is observed in the natural world, the patterns in themselves are not a sufficient explanation (or final cause) of the conformity. Order in nature is not simply harmonious interaction for its own sake: it points to an end or purpose above or outside of itself.

Before looking further at order, it is worth clarifying —especially as the current age has a strong bias towards experimental science— what it means to say that created things have their own laws.

All sorts of patterns are observed in the natural world: from the way in which sub-atomic particles behave, to cosmological facts about the behaviour of whole galaxies. The study of ecology is immersed in these patterns and marvels at the way in which earth systems involve countless agents cooperating in maintaining a constantly evolving state of dynamic equilibrium. These facts, which can be observed and studied in the experimental sciences, all speak of a harmony in creation, of the existence at all levels of creation of laws that establish patterns. Creation manifests itself as a cosmos, rather than chaos.
Moreover, the natural world presents itself to man through these laws as something rational: the interactions among creatures are not repugnant to reason. The laws may not be self-evident and they may be extremely difficult to discover or describe. But in general man remains convinced that the effort to discover the secrets of nature is well worthwhile. The rationality of the created world relates to the wisdom with which God has made it (cf. Ps. 104: 24), and to its being created through the Logos, the Word of God.

Modern science investigates a particular aspect of the rationality of creation in attempting to construct mathematical models of the behaviour of creatures. But the rationality of creation does not necessarily constrain it to conforming to mathematical laws. Rationality in itself is a perfection, not a limitation. It implies a reflection of God —of the Logos. The laws of nature are not constrained to conform to the exactness expressed in mathematical science. The rationality of creation is best expressed as a negative assertion with respect to human intelligence: that the laws of nature do not contradict human reason, they are not nonsensical. That reason is not necessarily mathematical is appreciated by considering how mathematics has been applied to analysing some of the features of beauty—for example, the golden mean or expressions of Fibonacci’s series in nature. The fact that some examples of beauty are susceptible to a mathematical representation does not lead to the conclusion that all beauty must be mathematical or else be rejected as unreasonable. Neither do the mathematical formulae in themselves explain why their expression in the natural world should be beautiful. Similarly, mathematical models have been discovered that underlie many aspects of the behaviour of creation. But it does not follow that all the laws in creation can be expressed mathematically. Discoveries such Gödel’s incompleteness theorem in mathematics itself, or Heisenberg’s uncertainty principle in physics, already point to limitations inherent in these systems for describing reality. And just as mathematics does not explain beauty, nor does the existence of mathematical models reflecting some of the behaviour of creatures contribute anything to explaining that behaviour—why creatures operate according to laws.

The laws observed in creation, their reasonableness, the harmonious interaction that results from their being obeyed: all point
towards the existence of order in creation, the existence of a purpose. That creatures are law-abiding indicates some uniting purpose which rules over them—as a conductor over an orchestra. St Thomas argues directly in his «fifth way» from the existence of purposeful behaviour in beings that lack knowledge to the existence of God as the intelligent being by whom all natural things are directed to their end. Some might object that the Angelic Doctor makes too big a leap, and that purpose in creatures can be explained without recourse to God, calling on some general principle such as survival of the fittest or even an anthropic principle. But such principles that remain within creation—that do not transcend it—are insufficient to account for their own existence. The existence of laws points to order, and ultimately to God as the only sufficient ordering principle.

Once again a consideration of beauty can help in appreciating the meaning of order in creation. Beauty is an objective value: to call something beautiful is to enunciate a property of that thing. It is not just to describe a subjective reaction. Something is beautiful—or not— independent of the presence of observers. Now beauty is reasonable (it is not repugnant to reason), it is best appreciated through contemplation, and it speaks to man of God. God presents himself to the human person through beauty. God is the exemplar of all perfections in creation and in a particular way is appreciated as the source of beauty. The laws that give rise to the rich, seemingly limitless, variety of patterns of behaviour found in creation are analogous to beauty. They are reasonable. The approach to them which most benefits the human person is via contemplation. The fact that mathematical models have been discovered to represent some of these laws should not prevent man from seeking to go deeper into their meaning through their contemplation. Through contemplation the laws in creation speak to man of God. They point to God as the principle of order. And order itself—which is one of the sources of goodness in creation—reflects the perfection of God.

As well as being the ordering principle, God himself is also the (ultimate) final cause of all creatures and the order in creation. Order exists so that creation might give glory to God. Just as the multiplicity and diversity of creatures better represents
the divine goodness than any given single creature, so too the complexity and diversity of the expressions of order in creation is a richer reflection of the divine than would be a more uniform and homogeneous order. Thus in the created world there is an interwoven structure of ends and purposes. Each creature has its own immediate end or final cause, but it also fits within a whole structure of purposes that ultimately converges in the single end of giving glory to God. The ecosystem of the earth functions within the local solar system, together with which it forms an evolving unit in a corner of a particular galaxy. And the whole universe exists, from microscopic interactions to galactic effects, so that glory be given to God: «The heavens are telling the glory of God; and the firmament proclaims his handiwork» (Ps. 19: 1).

Recent scientific discoveries of order at all levels of creation—from the microscopic to the macroscopic, in the most apparently inert material to the most living—contribute to illuminating the figure of God in the great canvas of creation. However, this figure can only be discerned through contemplation. The scientific discoveries can either feed this contemplation or smother it with value-free data. To benefit from experimental science, man’s attitude must be one of humble admiration. When he discovers things about creation, man needs to refer these things to God. «Even though he may not be aware of it, one who humbly and perseveringly tries to fathom the secrets of things, is being led, as it were, by the hand of God who, sustaining all things, makes them what they are.» Science does not conquer creation: it reveals to mankind yet more and more details of its seemingly inexhaustible richness and mystery. Man’s reaction to scientific discovery should therefore be one of admiration at the marvel of God’s work, and thanksgiving that he reveals it to him.

b) The Solidarity of Creatures

That which unites more than having a common origin is possessing a common purpose. All created things share the same origin—created ex nihilo by God— and cooperate towards a common purpose: to give glory to God. This says much more than, for example, the materialist claim that all things form a unit because they all originated in the same big-bang. This latter idea,
if left to stand alone, is mere sentimentalism. It might be used as an argument (and a rather weak one, at that) to encourage man to behave ecologically, to feel at one with the rest of creation—but it goes no deeper. The true unity that results from having come forth from nothing at God's command and being directed to giving him glory is a positive and powerful affirmation. There is a real basis to the expression the «universal brotherhood of being». 

The fact that in recent times some cosmologists have begun to refer to an anthropic principle (whatever the merits or defects of the principle may be in a cosmological context) is significant. Reflecting upon their experimental results, scientists cannot but notice that there is universal order in creation, that things cooperate. Each thing in seeking its own perfection, in achieving its end, simultaneously contributes to the perfection of the whole. The order in creation is an order expressed in the solidarity of all creatures. Each being, by the very fact of being, participates in the good of the universal order. From a physical point of view, the universe shows itself to rely upon a conglomeration of highly improbable factors. And each of these factors cooperates to produce an environment suitable for human life.

c) The Diversity in Creation

The unity and solidarity in creation is not based on uniformity. The very form of describing God's work of creation in the first chapter of Genesis is as a task of distinguishing one thing from another. And the division of the work of creation into six days corresponds to some sort of hierarchy of creatures, with animals and man at the top as the crowning accomplishment of the sixth day.

Each and every creature—from the smallest sub-atomic particle, wave or bundle of energy to the universe as a whole—reflects the perfection of God. And each creature does so in its own particular way: a particular way that is always limited because of the creature's way of being. As St Thomas argues, the multiplicity and diversity of creatures is a better representation of God's goodness than any single creature could be. For the same reason the diversity is expressed as a gradation of perfections or goodness.
Creation as a whole is to give glory to God. The different parts of creation can contribute towards giving this glory in two possible ways. One way is through their own being, through their own reflection of the divine goodness. The other way is by being part of something else, part of another entity which is more than the simple sum of its parts. This second way of giving glory to God is possible within a hierarchy of beings. When something in a hierarchical manner forms part of, or contributes to, a superior entity, its own value, its own individual giving glory to God is not lost. But this value is enhanced—and may even be totally eclipsed—by the participation acquired in the perfection of the higher being.

The existence of hierarchy in creation—which is implied in many biblical passages—is a fact of creation. There are three aspects to the hierarchy of being observed in the sciences. The first is that beings can be divided into distinct levels according to their mode of being as manifested principally in their range of behaviour. There is a whole spectrum of being from sub-atomic particles (or waves of energy) through chemical compounds to living beings. And in living beings creation fans out into a range between the simplest organisms, through plant life and animal life to human life. Each class of being has its own proper behaviour, and these behaviours determine a genuine hierarchy. The behaviours are not simply different, but some are manifestly richer than others. There may be some beings that seem to straddle the boundary between two classes, but this does not prevent the description of discrete levels in the hierarchy of being. There is a division between non-living and living beings, between plants and animals, and between all the other animals and human beings. And in this taxonomy there is a real hierarchy of behaviour patterns, the higher beings having additional capabilities to those possessed lower down the scale. Although having its own peculiar properties, living matter does not lose the properties common to all non-living matter; animals incorporate, but exceed, the possibilities of purely vegetative systems; and man is the animal who is uniquely endowed with rationality. In their mode of being, higher creatures are less limited than the lower ones. From this it follows that the higher a being is in the hierarchy, the better it reflects the perfection of God and the more it is able to contribute towards the glory that creation as a whole gives to God.
The second aspect of this hierarchy of being observed in the sciences is that the higher beings are formed as a result of the cooperation of beings lower down in the hierarchy. There is a tendency towards constructive patterning that characterises material being at all levels. Sub-atomic particles group together to form the component parts of the atom; atoms associate in patterns to form molecules and chemical compounds; molecules combine to construct living cells; and living cells reproduce forming enormously varied structures — commonly known as plants and animals — with remarkable capabilities and instincts. Furthermore, the patterns formed in grouping together appear (in some cases at least) to form codes that determine the behaviour of beings higher in the hierarchy. Thus the discrete electron patterns in an atom, which seem to be determined by properties of the sub-atomic particles, determine some of the physical and chemical properties of an element. Another example is the determining role that genes play in living beings. So it seems that the «order and laws» pertaining to each created being include the information which enables it to cooperate in specific ways with other well-defined beings and thus be instrumental in forming higher beings.

A third feature of the hierarchy of being is that it is observed to be filled with mutual dependencies. Not only are beings constituted by a structure built up from beings lower down in the hierarchy, but the whole life-span of every being is filled with relationships. No creature in the world is isolated or self-sufficient. Everything exists in an environment. The natural world is a complex of relationships: dependencies, complementarity and mutual service. These relationships at times support the survival of a being or its growth; but at other times they contribute to its decay — and the transfer of the lower beings that constitute it into different beings. Relationships give to the simpler beings an enormous potentiality for manifesting the perfections of God in different ways. Carbon atoms, for example, have a potential to form part of an organic compound; this compound has a potential to combine with others in the form of a living cell — which may be part of a flower. Thus a simple carbon atom can help (in an admittedly very small way) reflect God's perfection as captured in the unique and novel beauty of a flower garden. When the flower is burnt the atom changes its role and becomes a constituent part of a carbon dioxide molecule... and perhaps one day it will be
part of a diamond. All different ways of cooperating with other beings in the universe and contributing to creation's glorifying God.

Thus it is that the diversity of beings, their hierarchy and their relationships give rise to the beauty of order and harmony that exists in the created world: a reflection of the infinite beauty of its Creator. Moreover the beauty is not static but forever appearing in new forms —individual creatures come and go in an ever-changing pattern of existence and relationships.

d) Change

The purpose of creation is to give glory to God and «The Lord has made everything for its purpose» (Prov. 16: 4). Thus the order and laws with which each being is endowed exist so that the universe might give glory to God. As each creature follows its own order and laws the universe is made to unfold like an ever-changing kaleidoscope pattern. These changing patterns are part of the way in which the universe considered in its totality —from beginning to end, with all its history —glorifies God. Each moment reveals a new aspect of the perfection of God. The ceaseless cycle of birth and death, corruption and renewal is part of the divine reflection in creation.

There is nothing in Revelation to suggest that there is a continuing creation ex nihilo in the material universe. On the contrary, Scripture implies that material creation in its entirety was completed «in the beginning» (Gen. 1: 1). Scientific opinion also tends to reject the idea of a continuous creation. In potential at least, it seems, all material beings have existed from the beginning. What occurs in time is the unfolding of the potential of creation as it evolves. The right conditions are formed so that stage by stage more and more complex patterns of matter come to be. Scientists postulate a universe unfolding according to an expanding model —the big-bang theory—and that life has also evolved in ever-different and richer configurations. All this can be understood as an expression of the marvellous power and fruitfulness that God has communicated in creating. The history of the universe speaks of the magnanimity of God, of the potential he has placed in material being—which the Church has described
as the «stability, truth and goodness» and «order and laws» that belong to creatures.\(^{76}\)

The danger of contrasting the current state of the universe with the supposed dense homogeneity at the time of the big-bang, or of concentrating the attention too much on theories of evolution, is that of thinking that the passing of time naturally produces a continual material improvement in creation. But creation need not always show progress in the human sense. Indeed scientists themselves warn that one day the sun will burn out—and long before that happens life on earth will not be possible. Before the solar system was formed, human life was not possible. Similarly, as the sun cools down, there will be a future time when life will be impossible. From a human perspective this appears bad. It is a clear sign of the presence of physical evil in creation. And in spite of this evil—indeed, with this built in to it—the universe gives glory to God.

Physical evil does not detract from the created world. It is inherent in its way of being.\(^{77}\) The changing pattern of corruption and renewal expresses the goodness of God. The corruption of things, the extinction of species even, does not imply that God has lost control of creation. It is all part of the order that God has willed.\(^{78}\) For new things to be born others must die; what is good for some things is harmful to others. «The good of the whole is above the good of the part.»\(^{79}\) It is the universe in its totality, including all its change—its physical good as well as its physical evil—that has been created to give glory to God. And «if evil were taken away from certain parts of the universe, much of the perfection of the universe would be lost. For beauty arises through the ordered combination of good and bad things: evil things resulting from the absence of good, and even from these are obtained some kind of good things by the providence of he who governs.»\(^{80}\)

In the created world, therefore, the part exists to serve the whole. And this is evidenced in at least the three ways described above. First, in the hierarchy of diverse beings in which the higher creatures are composed of lower beings. Secondly, the universe at any moment of its history is a partial manifestation of the totality of its created existence. This partial manifestation in some sense exists to serve the whole. And thirdly, the inevitable
existence of physical evil in the material world is evidence that the glory given to God depends upon the universe taken in its totality. No single material creature, no partial expression of the material creation is absolutely essential to this purpose. Each material being with all its fleeting history is wanted by God, not for its own sake or as an end in itself, but for the sake of the whole of creation. And this being-for-others is manifested in the myriad of relations that each creature sustains with its environment. The only creature on earth whom God has wanted for its own sake is man. Man, for this reason, is unique in the created world. Thus so as to gain a better grasp on the natural world it is necessary to look to man and to the world’s relationship to him.

3. Anthropology and the Human Itinerary

Man is unique in the world: he is superior to all material things. Only men and women are made in the image and likeness of God. Only men and women are blessed and told «Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth» (Gen. 1: 28). These fundamental ideas introduced at the beginning of the Bible and recurring time and again throughout the sacred Scriptures are a necessary basis for understanding man and how he relates to the rest of creation. This section, starting from a consideration of these facts, describes the nature of man and his role in the world. The exposition must necessarily incorporate an historical perspective —given the reality of the «happy fault» that was committed by the parents of the whole human race. Thus the section is divided into three subsections. The first considers God’s design for man and his environment as revealed in the first two chapters of Genesis. The next subsection advances through the third chapter of Genesis and onwards to investigate the impact of sin on the ecological problem. And, finally, the third part looks to the fulness of time: the implications for the whole universe of the coming of Christ and the redemption.
3.1. *Man and his Task*

a) *The Image and Likeness of God*

«Sacred Scripture teaches that man was created ‘according to the image of God’, capable of knowing and loving his Creator, placed by him as lord over all earthly creatures (cf. Gen. 1: 26; Wis. 2: 23), so as to govern them and make use of them, glorifying God (cf. Sir. 17: 3-10).» 85 This text of the Second Vatican Council serves to elucidate the meaning of being created in the image of God. The passage of the Pastoral Constitution occurs within the chapter about the dignity of the human person. The sentence is immediately followed by an excerpt from Psalm 8: «What is man that thou art mindful of him, and the son of man that thou dost care for him? Yet thou hast made him little less than God, 86 and dost crown him with glory and honour. Thou hast given him dominion over the works of thy hands; thou hast put all things under his feet (Ps. 8: 4-6).»

The text has four elements: (i) «man was created ‘according to the image of God’»; (ii) he is «capable of knowing and loving his Creator»; (iii) man has been «placed by him as lord over all earthly creatures; (iv) «so as to govern and make use of them, glorifying God».

The second element, (ii), appears as an explanation of (i): being *ad imaginem Dei* means being capable of a personal relationship with God via the spiritual powers of intellect and will. The dominion over earthly creatures mentioned in (iii) could possibly be interpreted either as being a further explanation of what it means to be in the image of God, or as a separate mandate subsequent to being made in that image—the divine image in man enabling him to exercise this dominion fruitfully. The conciliar text itself could be interpreted in either way. The footnotes in the text, however, point clearly to the former interpretation: that possession of dominion is part of «the essential make-up of the human person» as image of God. 87 The clue that this interpretation is the one intended is that the reference to Wis. 2: 23 follows the mention of dominion. The scriptural verse reads: «for God created man for incorruption, and made him in the image of his own eternity». This phrase refers directly to the image, but not
explicitly to dominion. Unless image includes dominion it would be more apt to place the reference to Wis. 2: 23 after either (i) or (ii) of the conciliar text, rather than after (iii) along with the reference to Gen. 1: 26 (which mentions both image and dominion). Furthermore, that the reference to Sir. 17: 3-10 occurs alone after (iv) justifies the presumption that each reference is introduced in the text as soon as its contents have been expounded. So it is implied that the concept of the divine image in Wis. 2: 23 is not fully explained until dominion has been mentioned.

Thus the dominion of (iii) is an integral part of (i), of man being «according to the image of God». Made «according to the image of God» is a prescription that describes the dignity of the whole human person. «The human person (...) is a being at once both corporeal and spiritual»—and both aspects are implicated in the image of God. If this were not the case, if the image of God were restricted to the spiritual powers of man, then the essential unity of the human person would be compromised. There would be a danger of seeing the body—and the whole natural world—as some sort of unfortunate companion, not really essential for man to know and love God. The capacity of «knowing and loving his Creator» of (ii) is the primary expression of being in God's image: to know and love God is indeed the purpose for which man has been made. But the specific way in which the human person—as opposed to a purely spiritual being—achieves this end includes his offering the whole of creation to God.

The whole of creation exists so as to give glory to God. Or put another way, one aspect of God's relation to creation is to elicit his glory from it. Man, in exercising the gift of lordship over creatures, directs the created world, in some sense facilitating its glorifying God. Thus he is a true image of God in the world—cooperating in God's function of eliciting glory from creation. Using words from Psalm 8: man is made «little less than God» (v. 5), he has been given «dominion over the works of [God's] hands» (v. 6): man has been given the responsibility that belongs properly to God of directing creation to glorifying God.

Part (iv) of the conciliar text, «so as to govern them and make use of them, glorifying God», indicates that the lordship aspect of being in God's image is, indeed, like all created goods, for the purpose of giving glory to God. And it specifies how
lordship is to be exercised so as to achieve the glory of God. Man is to govern creatures. That is, he must order them and manage them. He must get to know and respect the nature of each thing so that he can help all creatures to express their way of being to the full. In this way man is God's good and faithful steward who ensures that the things entrusted him by God yield all they can in terms of the glory of God. 91

The Council adds in (iv) that man is also to «make use of» all earthly creatures. This is an important phrase that must be understood in the hierarchical context of creation. Man’s dominion is exercised —and God is glorified— not by a sort of mutual tolerance between man and the rest of creation. A tolerance which caricatures the Anglo-saxon sense of privacy: a tolerance in which man respects the distance between himself and other creatures. This is the attitude behind the proposals of some ecologists in which man is treated as a blight in the natural world, and culture and civilisation are in some way regretted. If man must not abuse the created world, then neither can he be content just to live with it, keeping relations to a minimum.

Man has a task in the natural world: to govern it. And in governing he is to make use of it. That is, he is to take earthly creatures and given them a new purpose —a purpose which man determines. Man is to associate other creatures with his own life. When other creatures serve man, when they are used by him (assuming this use is in accord with man’s true end), they are enriched. 92 They are associated in some way with man’s personal relationship with God. This is the most sublime example of the hierarchical pattern and instrumentality seen at all levels of the created world.

A passage which occurs later in the same chapter of the Pastoral Constitution explains how it is that man is qualified to act before God on behalf of material creation. «Man, one in body and soul, through his very bodily condition, draws together in himself elements of the material world. Thus through him they reach their summit and raise their voice freely in praise of the Creator.» 93 That man is corporeal as well as spiritual constitutes him in solidarity with the material world whilst also equipping him with the ability to raise his «voice freely in praise of the Creator». This free voice is an expression of his intellect and will.
Solidarity with the material creation is forged in the hierarchical structure of creation and given its final form and beauty through the exercise of dominion. Man is firmly rooted in the hierarchy of creatures by the very composition of his body and by his need to enter into relation with matter for his every need: for food and clothing, to move around, to breathe, and even for more spiritual activities such as communication with others. The human person is nothing without matter. But the material world has no free voice without man.

If this free voice is to be raised effectively in praise of the Creator then it is necessary (continuing the metaphor) that God be ready to listen. Man’s claim to be heard is that he is a creature—the only one on earth—whom God has wanted for its own sake. In fact God converses with him in the garden of Eden. Indeed man was chosen by God «before the foundation of the world» (cf. Eph. 1: 4): the world is subsequent to the divine election of man, it is created for man. Of all the created world only man is called through grace to an alliance with the Creator: an alliance which enables him to respond to God’s call, to enter into dialogue with him.

In paradise, through the grace of the original holiness, man lived in harmony with all creation. And the whole of creation is designed to give glory to God in harmony with man. Material goods contribute to the expression of the person, and man in his personal relationship with God has to take all creatures to God. Man and other creatures are mutually involved in giving glory to God: neither can do so properly without the other. But, in true hierarchical fashion, the whole world exists for man, to give glory to God through man and to be used by him for his own purpose of glorifying God.

b) Ordering Creation

«Man, created according to the image of God, received the command that he rule the world in justice and holiness subjecting the earth with everything it contains to himself (cf. Gen. 1: 26-27; 9: 2-3; Wis. 9: 2-3); acknowledging God as Creator of all things, he would carry his own self and the totality of things back to Him, and thus, with all things subjected to man, the name of
God would be majestic in all the earth (cf. Ps. 8: 6 and 9).”

This text of the Council on the value of human activity indicates the way in which man is to exercise dominion over the earth, that dominion implicit in being according to the image of God. Two elements can be identified in the conciliar description of the divine command. First it contains the instruction to subject earthly creatures to himself, and, secondly man is to «rule the world in holiness and righteousness» (Wis. 9: 3). That man is to subject the earth to himself implies some action on his part. God gave man dominion (cf. Gen 1: 26; Wis. 9: 2): he «put all things under his feet» (Ps. 8: 6), and he told him «into your hand they are delivered» (Gen. 9: 2). This gift to man is not half-hearted. God gives the totality of creatures to man, with their own «stability, truth and goodness» and «order and laws». Things are under man’s authority—but have their own essential make-up and way of being. The continuance of the divinely willed subjection of things to man relies, therefore, upon man’s recognising the nature and purpose of each thing. Things are wholly subject to man; but man does not possess the power of altering their truth or goodness, or of modifying the order and laws they obey.

The second part of the conciliar description of the command to have dominion confirms the active nature of man’s role in the world. He is to «rule the world in justice and holiness». This means governing and making use of things, but always subject to «justice and holiness». In the context of the hierarchy of beings, man is empowered to use things, modify them, and construct new things whilst destroying others. But justice—giving to each its due—implies not only ensuring an equitable distribution of material goods, but also that each thing itself is treated as it merits. In other words, to rule the world in justice implies respecting the order and laws and the other inherent goods of beings. This is not a prohibition against, for example, genetic manipulation. Such works respect the laws of genetics. Clearly, though, the implications of justice are not exhausted by respecting the physical laws alone. Teleological considerations are also included, as is the dignity of creatures. Thus ruling in justice is linked in part to realising the subjection of creatures to man. The other qualifier of man’s rule, holiness, has to do directly with the ultimate end of all creatures: giving glory to God. It means that man himself seeks the glory of God through his own ordering and use of the world.
In summary, it is proper to the image of God in the world to organise and order the created world, respecting its own laws and ways of being. In carrying out this task man is freely to seek his own end—that is, to give glory to God. In the process he draws all earthly creatures with him to God, so that they too praise God with him and through him.

The idea of ordering creation is expressed in the Yahwist account of creation as follows: «The Lord God took the man and put him in the garden of Eden to till it and keep it (Gen. 2: 15).» It is through his ordinary work that man rules the world, subjecting it to himself and promoting its own good.102 In God’s plan, the very work someone does for their own and their family’s good should benefit the whole of society— and, indeed, the whole of creation.103 «This is God’s plan for the world: that men, in a spirit of unity restore the order of temporal things and make them ever more perfect.»104 And they are made ever more perfect when they are ordered and made use of according to God’s design. Thus man through his work, even the most humble and ordinary work, can become God’s fellow worker (cf. 1 Cor. 3: 9) perfecting creation.105

The created world has been made for man.106 Man is required to order it and make use of it—respecting its intimate nature—thus perfecting it and giving glory to God. For this he requires knowledge of created things: he needs to see things as they really are, see them as God sees them.107 The good of the created world depends upon man acting according to the image of God—as a son of God (cf. Rom. 8: 19).108

God, through the divine, eternal, objective and universal law, orders, directs and governs the whole world according to the design of his wisdom and love.109 Furthermore, he gives man a participation in this law of his.110 Thus it is feasible for man to govern the world in a knowledgeable way. It follows that he must seek the knowledge necessary to exercise his dominion wisely. The required knowledge is that of the «intimate nature of all creatures, their value and their ordering to the glory of God».111 Through its scientific research projects the whole of mankind sets about discovering those aspects of the «intimate nature» of things that are proper to each science.112 Scientific and technical knowledge finds new ways of ordering the world, to make use of
it, and hence to perfect it. This knowledge belongs to the ever expanding human patrimony. «These progresses may supply the material, as it were, of human advancement, but by no means do they actualise it on their own.»\textsuperscript{113} The consequence of «putting too much trust in the progress of the natural sciences and technical arts» is that of falling into «a kind of idolatry of temporal things, becoming their slaves rather than being their masters».\textsuperscript{114} Hence scientific knowledge, although a good thing in itself, may become harmful if approached in a disordered way. The partial aspects of the «intimate nature» of things revealed through the sciences must always be linked to «their value and their ordering to the glory of God».\textsuperscript{115} It is this latter knowledge of creatures that is more important. Moreover, if the true value and purpose of things is pushed aside and forgotten then all too easily the glamour and excitement proper to scientific discoveries become an end in themselves. Without reference to God, science and its accompanying technology become disorientated. Instead of contributing to the dominion of created things —to their ordering and use for the glory of God— they turn against the whole of creation (including man). Ignoring God leads to ignoring the true creaturely status of things: that they have their own values and laws. «By forgetting God the creature itself is impoverished.»\textsuperscript{116}

Knowledge of the value of things and their ordering to the glory of God is the most precious knowledge. It is what is required to evaluate and direct all the partial facts on which the experimental sciences throw light. This knowledge is accessible to all men of good will —although its acquisition is made difficult by sin. It is the fruit of a contemplative attitude towards created things: the effort to appreciate the dignity of creatures and see in them a reflection of their Creator, coupled with a desire to govern and use them for the glory of God.

c) The Social Dimension

«God destined the earth with everything it contains for the use of all men and peoples (...).»\textsuperscript{117} With this phrase the Church teaches unequivocally the universal destiny of earthly goods that is already implicit in the book of Genesis. The Priestly account of the creation of man in the first chapter of Genesis throws light
on this point. «So God created man in his own image, in the image of God he created him; male and female he created them (v. 27). And God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; (...) (v. 28).» Male and female are created in the image of God. Man from the beginning is a social being: he forms a communion of persons, which in itself is also a reflection of God —of the union of the Divine Persons. The complementary role of male and female in the first human couple (cf. Gen. 2: 23-25) —a married couple— implies that the whole of humanity is present in that first pair. In fact all the human persons existing at the time are physically present to receive the divine blessing, and as parents they pass on the blessing to their descendants: the whole human race. The single blessing is generic and comprises two parts. First, the instruction to multiply and fill the earth, and, second, the command to subdue the earth. The two parts are clearly linked. Subduing the earth —ordering and making use of it— is a task for a great number of people at any one time. Moreover, as time passes and people go to receive their eternal reward, so new generations are required to carry on the work of subduing the earth.

It is worth noting at this stage the implication that population growth is, in principle, a good thing for the earth. Creatures give glory to God through man, through being ordered by man for his use. Thus until an increase in population size implies unavoidable disorder, the more people the better. As the human population grows so greater levels of organisation are required to support it. More and more ingenuity is needed to order material things so as to provide for human society. God, in his magnanimity, has endowed the created world with great flexibility. It is man's task to draw on this treasure adapting the world's material resources to his needs and those of generations to come. Such effort is the way of expressing gratitude for the gift received and praising God through its use. This forms part of the responsibility of man towards the world entrusted to him.

The original divine blessing is received by the whole of mankind —and it remains the task of all mankind to exercise the dominion bestowed. The first humans receive the blessing as a family— as Eve is created for Adam and hence as his wife (cf. Gen. 2: 22-23). The blessing «be fruitful and multiply» is renewed in the
new beginning of the human race at the time of Noah (cf. Gen. 9: 1 and 7). This time it is to «Noah and his sons» (Gen. 9: 1) —that is, to the whole human race. Once again the representatives of the race form a family. The family is the recipient of the blessing of fruitfulness. It is precisely the fruitfulness that stems from the family that enables man to «fill the earth» (Gen. 1: 28 and 9: 1). From this (and the link between «multiply» and «subdue the earth») can perhaps be deduced that the human race’s effective dominion over the earth depends upon its living in fraternity or solidarity. Even if this is reading too much into the biblical text, the conclusion is fairly evident from experience and common sense. Furthermore, as man cannot develop his personal gifts without relating to others it follows that by living in solidarity with others each person is better able to contribute to the overall human effort.

Dominion over the earth, care for the environment, depends therefore upon human solidarity. One aspect of this unity is that between men and women. Harmony in the family is essential if the basic cell of society is to fulfil its role as «the first educator (...) where the child learns to respect his neighbour and to love nature». It is also necessary that men and women cooperate in society, recognising and making use of their complementarity. Neither extreme feminism nor male chauvinism favour the ecology in so far as they rupture the solidarity of the human race. In the ecological context solidarity with future generations is also important. But this concern can never be used as an excuse for not treating all people already existing —men and women, born or still in the womb— according to their dignity as persons. «Social order and its advancement must constantly yield to the good of persons, since the ordering of things must be subordinated to the order of persons and not the other way round (...).» Fear for the future of the environment cannot excuse offences against human dignity.

Solidarity in dominion means that all share —to varying degrees, each according to his possibility— the responsibility of caring for the environment. Those in charge of companies must answer to society for the ecological effects of their business. Legislators, too, must bear in mind the good of the natural environment as part of the common good. Persons cannot conceive of morality as
merely individualistic; each is bound to live in solidarity with others. States or nations are, in like manner, obliged to practice solidarity in terms of cooperative and peaceful relations.

If men do not live in solidarity with one another then all the created world suffers. One example of this is on the level of individual persons. Forgetful of his duty to help others man easily wastes the limited resources of the earth on satisfying his disordered appetites. This is the blight of hedonism and consumerism that affects modern society. Material goods are squandered and misused thus damaging the whole of creation. Lack of solidarity on an international scale results in enormous effort and resources being spent on building ever-more sophisticated weapons. And environmental damage is inevitable when war breaks out. If all the expenditure and machinery of war were re-invested in seeking to exercise dominion over the earth then, indeed, the environment — and all mankind — would benefit. It would be a sign that at last men were resolved to learn the ways of God and walk in his paths (d. Is. 2: 3) and that the words of Isaiah were being fulfilled: «they shall beat their swords into ploughshares, and their spears into pruning hooks» (Is. 2: 4).

3.2. Sin and Disorder

Man was to have exercised dominion over the earth in perfect harmony with God and in perfect harmony with all creation. His action should have conformed to his being made according to the image of God. But Adam and Eve, abusing their God-given freedom, chose to sin, to disobey God, deliberately going against his plan (cf. Gen. 2: 17 and 3: 6). In consequence the human family goes in fear of God (cf. Gen. 3: 8-10) and becomes subject to suffering and death (cf. Gen. 3: 16-19). The created world also takes on an unpleasant and hostile aspect before man (cf. Gen. 3: 17-18). This situation engendered by sin is described by the Second Vatican Council in the following words: «Refusing to acknowledge God as his source, man also breaks the due order to his last end, and at the same time upsets all his ordering, whether within himself or towards other men and all created things.»

The loss of harmony between man and visible creation is clearly the ultimate reason for ecological problems. This section analyses
how this harmony has been disrupted. It is divided in two parts: the first considers the effects of sin in the natural world itself, and the second, how man’s ability to exercise dominion over the earth is affected.

a) Sin in the Natural World

The biblical account of the fall of man indicates that the earth suffers with man as a result of sin: «cursed is the ground because of you» (Gen. 3: 17). This can be interpreted in two ways. One interpretation is that the intrinsic stability, truth and goodness of material beings is in some way damaged or corrupted. According to this theory not only is man himself affected by sin but the whole of his environment is intrinsically degraded. The justification for this vicarious punishment could be found in God’s desire to punish man through other creatures. Man’s frustrated efforts to dominate the earth—frustrated because of the earth’s damaged nature—would serve to help man expiate his sin. Furthermore, the damage in creatures would make them less attractive to man and thus facilitate man’s turning away from them and back to God. This theory also seems to fit the biblical references: «thorns and thistles it shall bring forth to you» (Gen. 3: 18). In the context of this interpretation the Noachic covenant that God makes with «all flesh that is upon the earth» (Gen. 9: 17) seems to mitigate to some degree the severity of this intrinsic damage to the natural world: «I will never again curse the ground because of man» (Gen. 8: 21). Moreover, Jesus’ answer to his disciples rejecting the idea of the blind man’s sin or that of his parents being the cause of his being born blind could also be taken as hinting at the existence of intrinsic defects in material things (cf. Jn. 9: 4).

In spite of these considerations the second possible interpretation is in some ways more satisfactory. In this second interpretation the causality in «cursed is the ground because of you» is not that wrought by a single intervention of God, but rather the on-going influence of man himself in the created world. The earth and the other creatures in it are made for man who has been given the mission of perfecting it, ordering it and making use of it. Man, in so far as he is corporeal, is part of the material
Thus his radical disorder through sin introduces disorder in the natural world. Given his key role in creation of dominating the whole earth and being its mouthpiece in giving glory to God, man's deviation from God has serious repercussions in all his environment. The resulting disharmony in creation should not be underestimated. Creatures have their own order—which is not like an optional added extra. It belongs to their way of being. That order is to give glory to God with all their being: an order capable of being enriched by man's making use of the creature for his own free quest for his last end. When man goes astray the natural world not only loses its master and guide, but it also encounters opposition to achieving its own end. Disharmony results. Man's attempts to dominate the earth become costly and frustrating: «in toil you shall eat of it» (Gen. 3: 17) and «when you till the ground, it shall no longer yield to you its strength» (Gen. 4: 12). The discord between man and his environment is radical. All man's actions are frustrated to some degree—not just those that are sinful in themselves—because he has lost the original state of holiness and friendship with God. Creatures, as it were, no longer recognise the image of God in man's actions. In this context the guarantee of nature's constancy given by God in the pact with Noah and his descendants (cf. Gen. 8: 22) can be interpreted in the light of the newly strengthened relationship between man and God. When man enters into this covenant, freely established by God, nature, too, experiences a certain calling to order.

In the case of the man born blind, Jesus only explicitly excludes the man's own sins or those of his parents as the cause of his blindness (cf. Jn. 9: 4). It is still possible that the general sinfulness of the human race—infected by original sin—be the cause of this particular evil. However, should Jesus' words be understood as denying any relationship whatsoever between the blindness and sin, then the defect would have to be interpreted as a mere physical evil that would have occurred (through genetic mutation or whatever cause) even in a world without sin. Note that in such a world the absence of physical sight would not be considered in the same way as it is in the presence state of the world. The blind man would be perfectly happy ordering his whole life to glorifying God, experiencing the love and attention of his neighbours in an especially acute way precisely because of his deficiency. Physical evil would have a very different connotation in a world perfectly ordered to
God than it has for men who have abdicated their government of material things on God's behalf in favour of becoming their slave.

This second interpretation of how the earth is cursed relies heavily upon stressing the solidarity between man and the visible creation. The first theory is more mechanical — relying upon a special intervention of God and in some way removing any mystery concerning man's relationship to his environment. In it the earth suffers because God decrees it, not because of any intimate relation uniting all corporeal beings. This is one reason why the second interpretation seems more satisfactory. It points towards an intimate relation between man and the natural world, a common purpose in which man's rule is not a mere circumstance affecting earthly creatures, but is something intrinsically linked to the existence and destiny of the visible world.

Another reason to prefer the second theory is that it is more optimistic than the first one. Explaining the curse on the earth in terms of disorder introduced into the visible world fits better with the effect of sin on man's nature being a like a wound. Lack of order is also like a wound: not destroying but weakening all creatures. The idea of intrinsic damage or corruption of material beings seems to share a bit of the same pessimism that leads to the error of saying that man's nature is totally corrupted. 133

Finally, the following text from the Pope's message for the Day of Peace also lends support to the idea that the effect of sin in the natural world is disorder: «When man turns his back on the Creator's plan, he provokes a disorder which has inevitable repercussions on the rest of the created order». 134

b) Sin and Man's Dominion

Through the original sin man lost his initial holiness and justice and was wounded in his natural powers. He became «subject to ignorance, suffering and the dominion of death, and inclined to sin». 135 Through sin man is weakened and disorientated in the world. Instead of ruling earthly creatures he lets himself become their slave, even falling into idolatry. 136

Lacking knowledge of the truth of things man does not know how to rule them or make use of them according to their ways of being. The earth appears to suffer under man's dominion or even
rebel against it. Instead of drawing the best out of other creatures, perfecting creation in harmony according to the plan of God, man all too easily seeks partial goods, neglecting the good of the whole. He so often seems to lack a sense of balance —the knowledge of how to help creation yield its full potential, or even of how to prevent upsetting the ecological equilibrium. Dominion over things can become an end in itself. The panorama is well summed up in the words of a recent encyclical: «Man thinks that he can make arbitrary use of the earth, subjecting it without restraint to his will, as though it did not have its own requisites and a prior God-given purpose, which man can indeed develop but must not betray. Instead of carrying out his role as a cooperator with God in the work of creation, man sets himself up in place of God and thus ends up provoking a rebellion on the part of nature, which is more tyrannized than governed by him.»

God’s blessing to Noah and his sons also contains a new element that was not present in the corresponding blessing given to Adam and Eve. God tells them: «The fear of you and the dread of you shall be upon every beast of the earth (...)» (Gen. 9: 2). In this way attention is drawn to the despotic government of fallen man. This is the fear generated by man who is not motivated by a desire to use creation so as to serve God, but rather for his own interest in selfish power or profit.

The potential for disorder in man’s behaviour is enormous. «In the course of history the use of temporal things has been marred by grave defects.» It is not just a question of mistaking details. Man has transgressed each of the three principles set out by John Paul II. These principles of ordered dominion consist in the «priority of ethics over technology, in the primacy of the person over things, and in the superiority of spirit over matter». So often history shows that these are not respected: technology enslaves man, the human person is degraded, and a material explanation is sought for everything.

Nevertheless, although weakened, man is not totally corrupted. He experiences difficulty in getting to know the intimate nature of things and the requirements of order, but he can discover them and must strive to do so. Such knowledge requires a humility which recognises all things as creatures of God.
together with a desire to know the Creator who is reflected in them. Only through moral uprightness and a contemplative attitude towards creation can man hope to exercise dominion in an environmentally friendly manner. Furthermore, God has revealed himself to man to help him regain his orientation. Thus, too, Revelation has a role to play in assisting man govern the earth in greater security and with fewer mistakes.

3.3. Creation Redeemed

In spite of sin God did not abandon his creatures: "again and again you offered a covenant to man" so that "united with them, and in the name of every creature under heaven" man might praise God's glory forever.

"But when the time had fully come, God sent forth his Son, born of woman, born under the law, to redeem those who were under the law, so that we might receive adoption as sons" (Gal. 4: 4-5). "He has delivered us from the dominion of darkness" (Col. 1: 13). In these and other words the New Testament makes reference to man's deliverance from the power of sin through the new covenant that God has offered him. Through man's sin the whole of the visible creation was put in disarray: "creation was subjected to futility" (Rom. 8: 20), it "has been groaning in travail together until now" (Rom. 8: 22). The coming of Christ marks the beginning of the end of this time of travail, which will be finalised with "the revealing of the sons of God" (Rom. 8: 19) and "the redemption of our bodies" (Rom. 8: 23). And in the completion of redemption "creation itself will be set free from its bondage to decay and obtain the glorious liberty of the children of God" (Rom. 8: 21).

Thus just as man's sin upset the created order, so the coming of Christ is good news for all creation. This section describes the ecological dimension of redemption in its two phases: the ordering of all things in Christ and the completion of redemption with the coming of Christ in glory.

a) Order through Christ

Through his sin man rejected God's friendship and thus destroyed his harmonious relationship with other creatures.
How wonderful it is that God should take a human nature so as to restore that friendship. The Word of God, through whom all things were made, becomes flesh (cf. Jn. 1: 2, 14). Jesus Christ is perfect God and perfect man and thus through him man —and all creation through man— is reconciled with God.

God created the world for man. Man was to lead all the visible creation to God. That same divine ordering of things holds good in the context of the redemption. However, as man has lost his way through sin, God shows him the way in Christ: Christ is the way (cf. Jn. 14: 6). Thus man with «all things under his feet» (Ps. 8: 6) must lead all creation to God, subjecting himself to Christ. This is the purpose of the Church: «to make all men participate in the saving redemption, and through them actually to order the whole world to Christ».

Thus it is that Christians must seek holiness —union with Christ— in their work, in their activity of ordering the things of the world —ordering them also to Christ. This is what has been called the objective dimension of the universal call to holiness: that all the noble things of the world can and should be a means of arriving at communion with God. The Christian vocation has a truly cosmic dimension. The Christian is not content with the relatively passive aim of protecting the environment: his desire is to work towards a renewal of creation, to reconcile all things in Christ (cf. Col. 1: 20) through performing his everyday tasks with Christ as his model. In practice it may mean doing the same as someone merely trying to protect the environment: but his motivation derives from higher considerations.

From an ecological point of view there is a tremendous richness of meaning in the fact that God has taken human flesh. The Hypostatic Union is the greatest of honours that can be paid to the material universe. God assumes a human nature, thus instrumentalising matter through his body so as to carry out the redemption of man. The unity of creation is underlined yet further by Christ’s establishing the sacraments as a way to dispense the fruits of his paschal mystery. In the sacraments, visible signs—that is, signs of a material nature— are used which are capable of effectively conferring the grace they signify.

In the most wonderful of the sacraments bread and wine are changed into the Body and Blood of Christ. Transubstantiation im-
plies that in that point of material space where the appearance of bread remains, the reality which is present is Christ. The same Christ in whom all creation is to be reconciled. And each Christian is called to identify himself or herself with that Person, and so to lead all creation to its perfection. With good reason does Blessed Josemaría Escrivá speak of offering the sacrifice of the Mass in the company of all creatures. All creatures are, as it were, redeemed through man in Christ. Christ is the Priest of all creation—and God’s will is that all his people share in that priesthood (cf. 1 Pet. 2: 9).

b) The New Earth

God’s plan to unite all things in himself will be realised in the fulness of time. There is a deep relationship between the destiny of the material world and that of man. When man sinned, the earth that was made for him was cursed with him; when Noah offered a sacrifice pleasing to God, ‘the Lord said in his heart, ‘I will never again curse the ground because of man (…))’ (Gen. 8: 21) and God made an ecological covenant; the second Adam uses material things to heal the spiritual ills of man; and Christ’s second coming is awaited with eager longing by all creation (cf. Rom. 8: 21). That moment of «the redemption of our bodies» (Rom. 8: 23), «the revealing of the sons of God» (Rom. 8: 19), is when men will rise again, the just with glorious, incorruptible bodies. It is the beginning of the new heaven and new earth in which righteousness dwells (cf. 2 Pet. 3: 13).

The implication of Rom. 8 is that there will be a transformation rather than a new creation ex nihilo. This also appears compatible with our experience of the risen Christ. He allows the apostles to touch him and eats fish before them (cf. Lk. 24: 39-43). When glorified his actions show a perfect dominion over material things. There does not appear to be a need for more than a transformation of creation so that it be a suitable environment for the risen body. Features of such a transformation can be derived from considering how creation ought to be adapted to be a fitting environment for the glorious body of Christ—based on what the Scriptures say of that body. It must imply a cleansing from all stain, an illumination and a transfiguration.
When the image of God—the image of the risen Christ—is imprinted indelibly in man's body, then men will truly appear to all creation as the sons of God. And then, with the image restored, the whole of the visible creation will «obtain the glorious liberty of the children of God» (Rom. 8: 21) so as to give eternal praise to God through man and in perfect harmony with him. Perfect image means perfect dominion.

The continuity between the present earth and the world to come lies in the human family. Earthly progress in itself cannot be identified with the construction of the world to come. But human acts do contribute to building the kingdom of God. Hence indirectly man's efforts to exercise dominion wisely have an influence on the glory of the world to come. They build up the human family in the image of God, and contribute to the glory of God both in this world and the world to come.  

4. The Personal Response to Ecology

The previous sections of this chapter provide the foundations and guidelines upon and according to which the human person can form an adequate response to the current ecological crisis. It is the purpose of this section to sketch some elements of such a personal response. No technical answer is given: that is not the primary task of theology. The technical solutions are subsequent. The theological response is directed at facilitating knowledge of «the intimate nature of all creatures, their value and their ordering to the glory of God». It is only with this knowledge, complemented by scientific and technical data, that truly globally effective answers can be found to ecological problems. The starting point for any adequate response must be God, the Creator of all things. To emphasise this, this section is divided into three parts—corresponding to the theological virtues.

4.1. Faith: Contemplating Creation as Gift

An openness to God—an openness to faith—is a prerequisite to understanding created things. God is «clearly perceived in the things that have been made» (Rom. 1: 20). To refuse to be
open to this is to reject the evidence of the senses and reason. When God is excluded the best that can be hoped for is a partial understanding of created things, and this partial understanding is easily augmented with falsehood. When the Creator is perceived the creature stands in admiration. An open response is a humble one: a realisation of owing everything to God, that all the goodness in creation is from God.

As God is perceived reflected in creation ever more clearly—perhaps with the assistance of the gift of faith—so creatures are seen as more and more shrouded in the mystery of God himself. (This in no way diminishes the distinction between Creator and creature.) A new depth and beauty is revealed in the universe. The attitude required in order to capture this more profound significance of creation is an openness to God. It is necessary to see the Creator as distinct from all creatures, as transcending them, but also as present to their inmost being: as distant, yet not in the relation of «other» with respect to creatures. The subject who glimpses God through creation learns of his own relationship (as creature) to God. The realisation of this intimate relationship with the Transcendent who is Present brings with it intimations of God’s call to the human person—a call for commitment to a life consistent with the beauty and goodness revealed in creation. Hence the full appreciation of creation both requires and reinforces not only a humble attitude in man, but also a desire to live in uprightness. The beginnings of such a desire can be experienced as the serenity and longing for harmony with all creatures that is associated with contemplating, for example, a mountain landscape or a vivid sunset.

A contemplative attitude is required so as to be open to God. Thus also a contemplative attitude is necessary with respect to the environment. A truly holistic vision is called for: one which takes in the creature’s «sacramental» significance with respect to its Creator. The desire should be to grasp something of the beauty, the unity, the greatness, the goodness of the environment—and all the other attributes of God therein reflected. This holds good for all creation: not just the natural world but also the world as ordered and lived in by man, the world of civilisation.

The considerations that hinge around creation’s being a gift from God can be used to feed such a contemplative frame of
mind. In this analogy the giver is God the Creator, the gift is all creation, and the receiver is mankind—the only creature on earth whom God has wanted for its own sake. A gift is a token in which the giver imparts something of himself—as a memento, as a sign of love. (Creatures may also give to express gratitude. This cannot be God’s motivation: he creates gratuitously and he owes nothing to anybody.) The best gifts are those which are determined by the giver, who knows exactly what the receiver wants and needs. The gift is surrendered unconditionally: the one who receives it is free to do what he likes with it. But the manner of treating the gift is indicative of the esteem in which the donor is held. The gift of a loved one is treasured and respected for what it is: particularly when the giver has chosen it and constructed it himself. The donor’s love is shown not only in the act of giving, but also in the attention that he has put into constructing the gift. The receiver wants to discover all the potential and secrets the gift embodies. They are the reflections—albeit faint—of the personality and love of the giver. If the gift is complex, then care is taken to learn how to use it properly so that it is not damaged or destroyed. The giver is honoured when the receiver tries to use the gift as much as possible, when he shows great interest in wanting to get to know it. And he is always delighted to show the receiver, whenever he asks, hidden facets of the gift and how to make greater and better use of it.

All that is true in the case of a gift made by someone in love to their loved one holds too for God’s gift of the visible creation to man. The created world is not an empty token of God’s love: it contains a real reflection of his beauty and goodness. God wants man to take possession of the gift and make use of it for his own advantage: that advantage which is to draw closer to union with God. Possession means freedom to use it as he likes. But that use will only be really beneficial to man (and all creation) if he follows the instructions written in the gift—or discovered through prayer, through talking with the Creator. Going against those laws not only defeats the purpose of the gift—to be a memento of the Giver, to draw men closer to Him—but can also do damage to the present itself.

Reflection on the creation as a gift from God can serve to understand it better as a reality which speaks of its Creator.
Moreover, the special image of God in man, the creature God wants for its own sake, can be appreciated as calling for a very singular response. Respect and gratitude for this the human part of the gift is of primary importance, and if ignored it vitiates concern for the accompanying elements of the gift. It would almost be like preferring the wrapping to the gift itself!

4.2. Hope: Providence and Progress

By hope man looks forward to possessing the happiness of the kingdom of heaven and eternal life, trusting in Christ’s promises and the grace of the Holy Spirit. Although the theological virtue looks primarily towards the kingdom of heaven, it corresponds to the desire for happiness that all men have in their hearts here and now. This natural desire and theological hope are not opposed. The virtue of hope assumes all noble human aspirations and purifies them, ordering them to the kingdom of heaven. It wards off selfishness and leads on to charity.167

Hope must therefore inform the natural desire, shared by all, that looks to improving and caring for the surroundings. Caring for the environment, through hope, becomes a part of the overall purpose of life: knowing, loving and serving God. God is known through his creatures, through the imprint of his beauty and goodness that he has given them; when man in gratitude respects creation for what it is, he respects—and loves—the Creator; and when creation is ruled and made use of wisely man shows himself to be the good and faithful servant (cf. Mt. 25: 21, 23), serving God through his dominion over the earth. Thus hope raises environmental concern and shows it to be worthy of the dignity of the human person. It removes any fear of a dichotomy between care for the material aspects of the earthly kingdom and concern for the kingdom of God. The fully human way of seeking first the kingdom of God and its righteousness (cf. Mt. 6: 33) is a way that is ecologically sound and looks to improving the environment.

It is the virtue of hope, too, that avoids men being caught up in the unhealthy anxiety for material things that Jesus warned of in the passage leading up to the verse referred to above. «Do not be anxious, saying, ‘What shall we eat?’» (Mt. 6: 31)—or, a
modern corollary: «what shall we do to conserve energy?». Hope brings a trust in God that leads to peace and serenity: in spite of ecological problems. But this serenity is not a passive acceptance of the status quo. It goes hand in hand with every possible exertion to solve the problems, in the realisation that God has entrusted man with the task of caring for the earth (cf. Gen. 2: 15). This responsibility is exercised whilst trusting in God's providence— knowing that God does not ask anything of his creatures which is beyond the powers and graces that he bestows on them. If man strives to love God in all he does then everything will be for his good. And this holds true for each individual, in spite of the sin in the world.

Hope is the virtue that treads the middle path between presumption and despair. Presumption in ecological matters would be the false expectation that God will take care of the earth or sort out the problems man causes whilst man himself makes no effort to care for the environment. This presumption is a dereliction of duty —of the duty to dominate the earth and all that is in it. Despair, on the other hand, is the attitude of those who propose responses to ecological problems that involve going against the dignity of man. Alarmist calls for drastic population control measures— usually in the less wealthy countries —indicate a serious lack of hope. Although there often seem to be signs of selfish motives and vested interests behind such proposals, they also possess a certain logic of their own. Man is thought of as a problem for the environment when he is represented as no more than an animal who reproduces and consumes space and food. Indeed, if man were no more than an animal then animal-like population control would be justified. But it is despair that reduces the concept of man to the animal level: the lack of hope that with his intellect, will and other abilities he can support his needs whilst caring for the ecology. Hope values each creature according to its true worth. In particular, hope (as opposed to despair) in the human race provides the necessary impulse to educational initiatives aimed at finding and implementing fully human solutions to the environmental challenges.

Hope inspires genuine efforts for progress in this world, including progress in ecological terms. But the ultimate goal of hope is the happiness of the world to come. There are no delusions of
achieving a state of perfection on earth. This does not diminish the will to fight here and now: the prize is elsewhere but it is won through the present life. Neither does it mean indifference as to whether there is progress or not here on earth. Hope seeks progress in environmental care and always believes progress to be possible. This expectation, however, is not founded on a naive concept of inevitable advance in material terms. Rather it is based on a confidence in divine providence and the knowledge that real progress is giving glory to God. Hope looks to ordering the world moment by moment to its last end, its Creator. Genuine ecological progress is achieving this ordering. Thus from this perspective progress is primarily in the human heart and does not depend upon the actual realisation of an earthly paradise.

4.3. Charity: Holiness and Ecology

Charity is love of God above all things for his own sake, and love of one's neighbour as oneself for love of God. 168 Although it may not be correct to extend the use of the word charity to man's relation to non-rational creatures, 169 man nevertheless has some affection for and duty towards all these other elements that surround him. Creation as a gift from God must be respected for God's sake: God has made man responsible for it. In this sense ecological concern is an analogical extension to the environment of the virtue of charity.

Environmental action fits within the hierarchy of responsibilities determined by the virtue of charity. The principal elements in this hierarchy are those which are the direct object of charity itself: God above all and then one's neighbour as oneself. Other concerns are motivated by charity in so far as they are directed towards the love of God or the love of others and self. Thus caring for and making use of the natural world for the glory of God is informed by charity. The desire, too, to leave the earth a fit place for future generations can also be motivated by the virtue of charity towards neighbour. Love for God leads to respect for all his creatures; love for neighbour implies concern for his environment. Such manifestations of charity are evident in the lives of many of the saints. St Francis and St Benedict are two well-known examples of men whose lives embraced a particular
concern for all creation. If the hierarchy of charity—God first, then neighbours and self for God—is ignored then all creation suffers. Breaking the law of God or debasing the dignity of the human person in reaction to ecological crises is no solution, but rather results in further harm to the global environment.

Charity is forgetful of self; it implies self-giving. Given man’s fallen nature, charity is demanding. The greatest example of charity is that given by Christ, and following his example means taking up the cross (cf. Mt. 10: 38). Dominion over the earth according to the image of God—the image of Christ—can only be exercised in a spirit of self-sacrifice. The current ecological crisis, as a call to exercise dominion in wisdom and love, is also a call to holiness. The words of Josemaría Escrivá ring true even in an ecological sense: «these world crises are crises of saints». The genuine health of man—his spiritual health—and the good of all the earth are intimately bound together. The ecological crisis is a moral problem.

True charity—love of God—naturally brings with it all the other virtues: it is the greatest of all the virtues and the form of them all. It is clear that some virtues are more directly related to tackling ecological problems than others. Among those which merit special attention are the following. Solidarity—the social dimension of charity—is an aspect of the love of one’s neighbour. It implies respect for all human life and for the dignity of the human person—a respect to which care for the environment must be directed and subordinated. Solidarity also means effort to achieve a just distribution of the world’s resources. Solidarity with future generations means bearing in mind their needs when considering effects of pollution or depletion of resources. Humility is the virtue which guards against the tendency to love self more than others. It implies acknowledging all creatures as coming from God, and exercising dominion as God’s servant and not as a self-appointed tyrant. Finally, «simplicity, moderation and discipline, as well as a spirit of sacrifice» are the virtues motivated by charity that are required with special urgency today in the wealthier countries. They are the only means to overcome the hedonism and consumerism which are rife and which do direct harm to all creation: to man himself and to all the earth.
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3. This is proposed in ARNE NAESS, «The Shallow and the Deep, Long-Range Ecology Movement. A Summary», Inquiry 16 (1973) 95 as «biospherical egalitarianism». Almost all theological authors reject the deep ecologist stance.


6. Cf. JOSEPH SITTLER, «Called to Unity», Ecumenical Review 14 (1962) 183: «The doctrine of creation has been made a devout datum of past time. The mathematization of meaning in technology and its reduction to operational terms in philosophy has left no mental space wherein to declare that nature, as well as history, is the theatre of grace and the scope of redemption.»


9. Cf. JOHN PAUL II, Message for the 1990 World Day of Peace Peace with God the Creator – Peace with all Creation. This message differs in many ways from the style of the Encyclical Letters which refer to ecology. Not only does it use the term «crisis», with its possible alarmist connotations, but it also (in paragraph 6) gives a brief description of some of the popular ecological concerns.

10. PAUL VI, Message to the Stockholm Conference on the human environment (1-VI-72), «Interés de la Iglesia por los problemas ecológicos en orden al desarrollo integral del hombre» in PABLO VI, Enseñanzas al Pueblo de Dios: 1972, Ciudad del Vaticano 1973. On page 342 is the following: «En efecto, surge hoy la conciencia de que el hombre y su ambiente natural
son, como nunca, inseparables: el ambiente condiciona esencialmente la vida y el desarrollo del hombre; éste a su vez, perfecciona y ennoblece el medio ambiente con su presencia, su trabajo, su contemplación.

«Pero la capacidad creadora del hombre no producirá frutos auténticos y duraderos sino en la medida en que el hombre respete las leyes que rigen el impulso vital y la capacidad de regeneración de la naturaleza: uno y otro son, pues, solidarios y comparten un futuro común.»

15. Cf. for example JOHN HADLEY, «Doomwatch and be Vigilant: a review of N. YOUNG, *Creator, Creation and Faith*, London 1976», *The Clergy Review* 67 (1977) 507. The reviewer argues from the fact that Young makes alarmist statements about the ecology that «it will lead people who don’t believe that ecological disaster is imminent to disregard the book».
16. Cf. JOHN PAUL II, Message for the 1990 World Day of Peace *Peace with God the Creator — Peace with all Creation*, 2: «For Christians, such a world view is grounded in religious convictions drawn from Revelation.»
17. Cf. CHRISTOPHER DERRICK, *The Delicate Creation: Towards a theology of the environment*, London 1972. Derrick describes the constant reappearance under different guises of this heresy throughout the whole of human history right up to the current day.
18. «The heavens are telling the glory of God; and the firmament proclaims his handiwork» (Ps. 19: 1). «Ever since the creation of the world his invisible nature, namely, his eternal power and deity, has been clearly perceived in the things that have been made» (Rom. 1: 20).
19. «If through delight in the beauty of these things men assumed them to be gods, let them know how much better than these is their Lord, for the author of beauty created them» (Wis. 13: 3).
20. In one of the earlier theological articles touching on ecology, Joseph Sittler alluded to the way in which the physical reality of light has taken on a richer significance after the Incarnation. Cf. JOSEPH SITTLER, «Called to Unity», *Ecumenical Review* 14 (1962) 187: «This radio-active earth, so fecund and so fragile, is his creation, our sister, and the material place where we meet the brother in Christ’s light. Ever since Hiroshima the very term light has ghastly meanings. But ever since creation it has had meanings glorious; and ever since Bethlehem meanings concrete and beckoning.»
21. Cf. JOHN PAUL II, Message for the 1990 World Day of Peace Peace with God the Creator — Peace with all Creation, 3: «God entrusted the whole of creation to the man and woman, and only then — as we read — could he rest ‘from all his work’ (Gen. 2: 3).»

22. Cf. for example: «For every beast of the forest is mine (...) and all that moves in the field is mine» (Ps. 50: 10-11); «Our God is in the heavens; he does whatever he pleases» (Ps. 115: 3); «Woe to him who strives with his Maker, an earthen vessel with the potter!... (Is. 45: 9-12); and «But who are you, a man, to answer back to God?» (Rom. 9: 20).

23. «So out of the ground the Lord God formed every beast of the field and every bird of the air, and brought them to the man to see what he would call them; and whatever the man called every living creature, that was its name» (Gen. 2: 19).


25. Cf. Roman Missal, Eucharistic Prayer IV: «You formed man in your own likeness and set him over the whole world to serve you, his creator, and to rule over all creatures. Even when he disobeyed you and lost your friendship you did not abandon him to the power of death, but helped all men to seek and find you.»

26. «For thou hast no delight in sacrifice; were I to give a burnt offering, thou wouldst not be pleased. The sacrifice acceptable to God is a broken spirit; a broken and contrite heart, O God, thou wilt not despise» (Ps. 51: 16-17).

27. «From a tree death had come into the world; and from a tree life was born again. By a tree the enemy triumphed; by a tree he was destroyed, through Christ who is our Lord.» (Roman Missal, Preface for the Feast of the Exaltation of the Holy Cross.)


29. Cf. Catechism of the Catholic Church, no. 2427: «Work can be a means of sanctification and a way of animating earthly realities with the Spirit of Christ.»


31. Cf. ibidem, 39. Also, with respect to the human condition, «What is sown is perishable, what is raised is imperishable» (1 Cor. 15: 42).

32. See «Roots of the Ecological Crisis» in the Chapter «Status Quaestionis».

33. A popular work that makes this point abundantly clear is C. S. LEWIS, The Abolition of Man, Oxford 1943.

34. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 36: «Ex ipsa enim creationis condicione res universae propria firmitate, veritate, bonitate propriisque legibus ac ordine instruuntur (...).»

35. Cf. also ST THOMAS AQUINAS, Summa Theologiae, I, q. 45, a. 7.

36. Roman Missal, The Creed. See also DS 150.
37. Cf. ETIENNE GILSON, Being and Some Philosophers, Toronto 1949, 178-179:
«As understood by Thomas Aquinas, being appears therefore as both radically contingent and literally indestructible in virtue of its composition of essence and existence. (...) What the contingency of existence means is, that all actual beings are contingent with respect to their cause, and this is but another way of saying that they might not exist; but, if they are actually produced by their cause, they do exist, and what they are in themselves is being. The primacy of existence means precisely that the radical contingency of finite beings has been overcome, and, once it has been overcome, we should no longer worry about it.»

38. «In the beginning was the Word, (...) and the Word was God (...); all things were made through him» (Jn. 1: 1-3). See also Col. 1: 16; 1 Cor. 8: 6 and Heb. 1: 2.

39. «When thou sendest forth thy Spirit, they are created» (Ps. 104: 30); and «By the word of the Lord the heavens were made, and all their host by the breath of his mouth» (Ps. 33: 6) — which can be understood as a reference to both the Son and the Holy Spirit.

40. Cf. FIRST VATICAN ECUMENICAL COUNCIL, Session III (24 April 1870), Dogmatic Constitution Dei Filius, Chapter 1, «De Deo rerum omnium creatore», Canon 5: DS 3025.

41. Cf. FIRST VATICAN ECUMENICAL COUNCIL, Session III (24 April 1870), Dogmatic Constitution Dei Filius, Chapter 1, «De Deo rerum omnium creatore»: DS 3002: «Hic solus verus Deus bonitate sua et omnipotente virtute non ad augendam suam beatituidinem nec ad acquirendam, sed ad manifestandum perfectionem suam per bona, quae creaturis impertitur, liberrimo consilio simul ab initio temporis (...) de nihilo condidit creaturam (...)»

42. The Anglican Ronald Preston appears to follow this school. See RONALD PRESTON, «Humanity, Nature and the Integrity of Creation», Ecumenical Review 41 (1989) 559: «However, there are two conclusions which are being drawn in many of the WCC study papers which should not be drawn. «1. That Creation is fixed in its basic features and inherent structures, and that attempts to modify it by, for example, genetic engineering, should be ruled out on the ground that it assumes God’s creation lacks sufficient wisdom and is in need of restructuring. This is a version of the old Natural Law argument, and subject to all the difficulties which have led to a drastic reconstruction of Roman Catholic Moral Theology.»
This text seems to imply that Preston rejects a natural law approach to morality, whilst he has no doubt that there are genetic laws which are intimately concerned with the «features and inherent structures» of things. The natural law he rejects seems to be based on the premise that nature is something which man must not change, precisely because it is nature. It ignores the true basis of natural law, which is that the «stability, truth and goodness» belonging to a being of a particular nature gives that being a dignity that must always be respected. How the dignity should be respected depends upon what it (the dignity) is. Preston's concept of the laws of nature appears to consider them as value-free: law for law's sake, devoid of any teleological dimension.
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43. It is important to appreciate that corruption in things arises from their being composites and hence susceptible to decomposition, not from a mutability or instability implicit in being itself.

44. «The word of the Lord came to Jeremiah: ‘Thus says the Lord: If you can break my covenant with the day and my covenant with the night, so that day and night will not come at their appointed time, then also my covenant with David my servant may be broken (…)’ » (Jer. 33: 19-21).

45. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Declaration on Religious Freedom Dignitatis Humanae, 2: «All men in accord with their dignity, because they are persons, that is, beings endowed with reason and free will and thus blessed with personal responsibility, are both impelled by their nature and have a moral obligation to seek the truth.»

46. «He bestowed knowledge upon them and allotted to them the law of life» (Sir. 17: 11). See also ST THOMAS AQUINAS, Summa Theologiae, I, q. 94, a. 3.

47. Cf. Catechism of the Catholic Church, no. 405. Also ST THOMAS AQUINAS, Summa Theologiae, I, q. 85, a. 3.


49. Cf. JOHN PAUL II, Encyclical Letter Centesimus Annus, 37. Having described the «senseless destruction of the natural environment», the Pope says: «In all this one notes first the poverty or narrowness of man’s outlook, motivated as he is by a desire to possess things rather than to relate to the truth, and lacking that disinterested, unselfish and aesthetic attitude that is born of wonder in the presence of being and of the beauty which enables one to see in visible things the message of the invisible God who created them.»

50. Cf. ibidem, 38: «Man receives from God his essential dignity and with it the capacity to transcend every social order so as to move towards truth and goodness.»


52. Cf. JOHN PAUL II, Encyclical Letter Sollicitudo Rei Socialis, 34. Also Gen. 1: 2 can be understood as contrasting the works of creation with a state of chaos.

53. Some sort of support for this conviction is provided by: «But thou hast arranged all things by measure and number and weight» (Wis. 11: 20).

54. Cf. Jn. 1: 1-3; 1 Cor. 8: 6; Col. 1: 16 and Heb. 1: 2. The expression recurrently used in Genesis — «And God said (...) And it was so» — (Gen. 1: 6-7, 9, 11, 14-15, 24) can also be interpreted as indicating that it is through His Word that God creates.

55. Cf. ST THOMAS AQUINAS, Summa Theologiae, I, q. 2, a. 3c.

57. This idea is firmly made in C. S. LEWIS, The Abolition of Man, Oxford 1943, Chapter 1: «Men without Chests». See also DIETRICH VON HILDEBRAND, Ética Cristiana, Barcelona 1962, Chapter 3: «Categorías de Importancia», especially page 67. Although beauty is independent of observers, there is always necessarily at least one observer: God, whose reflection constitutes beauty.

58. Cf. DIETRICH VON HILDEBRAND, Ética Cristiana, Barcelona 1962, 188: «La belleza sublime de la naturaleza supera el valor ontológico de esos seres en los que captamos la belleza: en su cualidad refleja a Dios de un modo más íntimo.»

59. Cf. ST THOMAS AQUINAS, Summa Theologiae, I, q. 6, a. 3c: «Everything is called good according to its perfection. And the perfection of anything is threefold: first, according to the constitution of its own being; secondly, in respect of any accidents added that are necessary for its perfect operation; and thirdly, perfection is that through which something attains to something else as its end.»

60. Cf. ibidem, I, q. 44, a. 4.

61. Cf. ibidem, I, q. 47, a. 1c.

62. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 36: «Immo, qui humili et constanti animo abscondita rerum perscrutari conatur, etsi inscius quasi manu Dei ducitur qui, res omnes sustinens, facit ut sint id quod sunt.»

63. Cf. Catechism of the Catholic Church, no. 344.

64. Cf. ETIENNE GILSON, Being and Some Philosophers, Toronto 1949, 187.


66. Cf. ST THOMAS AQUINAS, Summa Theologiae, I, q. 47, a. 1c.

67. Cf. ibidem, I, q. 47, a. 2c.

68. For example Gen. 2: 4-24, the J account of creation, which describes the symbiotic harmony intended by God; Sir. 33: 7-15 which insists on it being God’s prerogative to exalt some things and not others; and Mt. 10: 31 and 12: 12 where a man is valued by Jesus more than «many sparrows» or «a sheep» respectively.


71. Cf. ibidem, 341.

72. Cf. FIRST VATICAN ECUMENICAL COUNCIL, Session III (24 April 1870), Dogmatic Constitution Dei Filius, Chapter 1, «De Deo rerum omnium creator», Canon 5: DS 3025.

73. «And on the seventh day God finished his work» (Gen. 2: 2). Also: «The works of the Lord have existed from the beginning by his creation» (Sir. 16: 26).

74. In ERNAN MCMULLIN, «How should Cosmology Relate to Theology?» in The Sciences and Theology in the Twentieth Century, ed. A. R. Peacocke,
London 1981, 28-40 the author discusses the cosmological reasons against the steady-state (or continuous creation) model proposed by Fred Hoyle.

75. Cf. ERNAN MCMULLIN, «How should Cosmology Relate to Theology?» in The Sciences and Theology in the Twentieth Century, ed. A. R. PEACOCKE, London 1981, 30: «The current version of this model postulates a singularity somewhere between ten and twenty billion years ago, from which this expansion of the universe began.»

76. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 36.

77. Cf. Catechism of the Catholic Church, no. 310. Also ST THOMAS AQUINAS, Summa Contra Gentiles, III, 71: «Quod Divina Providentia non Excludit Totaliter Malum a Rebus».

78. A biblical passage that illustrates this very well is Sir. 16: 26-30. It reads as follows: «The works of the Lord have existed from the beginning by his creation, and when he made them, he determined their divisions. He arranged the works in an eternal order, and their dominion for all generations; they neither hunger nor grow weary, and they do not cease from their labours. They do not crowd one another aside, and they will never disobey his word. After this the Lord looked upon the earth, and filled it with his good things; with all kinds of living beings he covered its surface, and to it they return.»


80. Cf. ibidem, III, 71: «Sed si malum a quibusdam partibus universi subtraheretur, multum deperiret perfectionis universi, cuius pulchritudo ex ordinata malorum et bonorum adunatione consurgit, dum mala ex bonis deficientibus proveniunt, et tamen ex eis quaedam bona consequuntur, ex providentia gubernantis.»

81. «For a thousand years in thy sight are but as yesterday when it is past, or as a watch in night» (Ps. 90: 4). «With the Lord one day is as a thousand years, and a thousand years as one day» (2 Pet. 3: 8).

82. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 24: «[Hominem] in terris sola creatura est quam Deus propter seipsam seipsam voluerit (...).»

83. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 14: «Man is not deceived when he regards himself as superior to corporeal things and more than just a little part of nature (...).» Cf. also Gaudium et Spes, 13.

84. «Let us make man in our image, after our likeness; (...) So God created man in his own image, in the image of God he created him; male and female he created them» (Gen. 1: 26-27).

85. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 12: «Sacrae enim Literae docent hominem ‘as imaginem Dei’ creatum esse, capacem suum Creatorem cognoscendi et amandi, ab eo tamquam dominum super omnes creaturas terrenas constitutum (cf. Gen. 1: 26; Sap. 2: 23), ut eas regeter, eisque uteretur, glorificans Deum (cf. Eccli. 17: 3-10).»
86. The text of the Constitution cites the version: «Minuisti eum paulo minus ab angelis».

87. Cf. THOMAS F. DAILEY, «Creation and Ecology - the 'Dominion' of Biblical Anthropology», The Irish Theological Quarterly 58 (1992) 4: «Rather, as it concerns God's intentional decision in forming this special creature (Gen. 1: 26), so it constitutes the essential make-up of the human person: human beings realise who they are as God's image in and through what they do in like correspondence to their human vocation.» Dailey makes reference in his article to the fact that Barr insists that dominion merely bears a consequential relation to being in the image of God (cf. JAMES BARR, «Man and Nature - the Ecological Controversy and the Old Testament», The Bulletin of the John Rylands University Library Manchester 55 (1972) 20). The preferred interpretation of the text of Gaudium et Spes decides this disagreement in favour of Dailey.

88. Catechism of the Catholic Church, no. 362.

89. Cf. ibidem, no. 358.

90. The other translation «little less than the angels» has the same weight in this context as the angels are like to God in being his envoys for eliciting glory.

91. Here it is necessary to recall the ideas presented in the section «Ontology» of this chapter to appreciate how order relates to the glory of God.

92. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Decree on the Apostolate of the Laity Apostolicam Actuositatem, 7: «This natural goodness of theirs receives a certain special dignity from their relation with the human person for whose service they are created.»

93. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 14: «Corporis et animae unus, homo per ipsam suam corporalem condicionem elementa mundi materialis in se colligit, ita ut, per ipsum, fastigium suum attingat et ad liberam Creatoris laudem vocem attollant (cf. Dan. 3: 57-90).» (The verse numbering given for the book of Daniel is that of the Vulgate. In the RSV the corresponding verses are 35-68.)


96. Cf. JOHN PAUL II, Discourse «La Providenzi Divina e il destino dell'uomo: il mistero della predestinazione in Cristo» (28 May 1986), 4 in Insegnamenti di Giovanni Paolo II: IX, 1 (1986) 1699: «(... ) possiamo dire che Dio vuole «prima» comunicarsi nella sua divinità all'uomo chiamato ad essere nel mondo creato sua immagine e somiglianza; «prima» lo elegge, nel Figlio eterno e consostanziale, a partecipare alla sua figliolanza (mediante la grazia), e solo «dopo» («a sua volta») vuole la creazione, vuole il mondo, al quale l'uomo appartiene.»

The idea is also supported by: «And the Lord God planted a garden in Eden, in the East; and there he put the man whom he had formed» (Gen. 2: 8).

ac aliae in bona exteriora dominii privati formae ad expressionem personae conferant, (....).»

98. Cf. JOSEMARÍA ESCRIVÁ, Letter 19-III-1954, no. 7: «Todas las cosas de la tierra, pues, también las criaturas materiales, (....), han de ser llevadas a Dios (....), cada una según su propia naturaleza, según el fin inmediato que Dios le ha dado (....).»


100. Cf. ibidem, 36.

101. As seen in the previous sub-section «The Image and Likeness of God».

102. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 34. Immediately following the text earlier cited is the following: «Quod etiam opera penitus quotidiana respicit.»

103. Cf. ibidem, 41: «li vero, qui laboribus saepe duris incumbunt, oportet ut humanis operibus seipsum perficiant, concives adiuent, totamque societatem et creationem ad meliorem statum promoveant, (....).»

104. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Decree on the Apostolate of the Laity Apostolicam Actuositatem, 7: «Circa mundum vero consilium Dei est, ut homines concordi animo ordinem rerum temporaliue instaurent.»


106. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 12: «Believers and unbelievers are almost unanimously agreed that all things on earth are to be ordered to man as their centre and summit.» («Secundum credentium et non credentium fere concordem sententiam, omnia quae in terra sunt ad hominem, tamquam ad centrum suum et culmen, ordinanda sunt.») See also Gaudium et Spes, 24 and 39.

107. «He filled them with knowledge and understanding, and showed them good and evil. He set his eye upon their hearts to show them the majesty of his works» (Sir. 17: 7-8).

108. Cf. Catechism of the Catholic Church, nos. 306-308 on God’s use of secondary causes in his providence; and for the harm done by defective secondary causes see ST THOMAS AQUINAS, Summa Contra Gentiles, III, 71: «(....) itemque ostensum sit (....) quod malum et defectus in his quae providentia divina reguntur, accidat ex conditione secundarum causarum, in quibus potest esse defectus (....).»


110. Cf. ibidem, 3: «Huius suae legis Deus hominem participem reddid (....).»
111. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Dogmatic Constitution on the Church Lumen Gentium, 36.

112. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 36 on the respect for the rightful autonomy of the sciences and how it is God himself who leads the humble and persevering researcher to discover the secrets of nature.

113. Cf. ibidem, 35.


115. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Dogmatic Constitution on the Church Lumen Gentium, 36.

116. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 36: «Immo, per oblivionem Dei ipsa creatura obscuratur.»

117. Cf. ibidem, 69.

118. Cf. ibidem, 12.

119. Cf. Catechism of the Catholic Church, no. 1702.


121. Cf. Catechism of the Catholic Church, no. 373.

122. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Pastoral Constitution on the Church in the Modern World Gaudium et Spes, 12.


124. Cf. JOHN PAUL II, Encyclical Letter Centesimus Annus, 37: «... humanity today must be conscious of its duties and obligations towards future generations.»


129. Cf. Catechism of the Catholic Church, nos. 1940 and 1941. Also JOHN PAUL II, Message for the 1990 World Day of Peace Peace with God the Creator — Peace with all Creation, 10.


132. Cf. the previous section: «Man and his Task».

133. Cf. Catechism of the Catholic Church, no. 405.


135. Catechism of the Catholic Church, no. 405.
136. «For although they knew God they did not honour him as God or give thanks to him, but they became futile in their thinking and their senseless minds were darkened. Claiming to be wise they became fools, and exchanged the glory of the immortal God for images resembling mortal man or birds or animals or reptiles» (Rom. 1: 21-23).

137. Cf. JOHN PAUL II, Message for the 1990 World Day of Peace Peace with God the Creator — Peace with all Creation, 3-5.


139. SECOND VATICAN ECUMENICAL COUNCIL, Decree on the Apostolate of the Laity Apostolicam Actuositatem, 7.


144. Cf. JOHN PAUL II, Message for the 1990 World Day of Peace Peace with God the Creator — Peace with all Creation, 5, which describes a source of environmental problems as being «the behaviour of people who show a callous disregard for the hidden, yet perceptible requirements of the order and harmony which govern nature itself».

145. Cf. SECOND VATICAN ECUMENICAL COUNCIL, Dogmatic Constitution on the Church Lumen Gentium, 36: «The faithful, then, must recognize the intimate nature of all creatures, their value and their ordering to the glory of God (...)».

146. Roman Missal, Eucharistic Prayer IV.


150. «For in him all the fulness of God was pleased to dwell, and through him to reconcile to himself all things» (Col. 1: 19-20).

151. «When all things are subjected to him, then the Son himself will also be subjected to him who put all things under him, that God may be everything to everyone» (1 Cor. 15: 28). Also «all are yours; and you are Christ’s; and Christ is God’s» (1 Cor. 3: 23).

152. Cf. Second Vatican Ecumenical Council, Decree on the Apostolate of the Laity Apostolicam Actuositatem, 2. See also paragraph 5: «The work of Christ’s redemption, whilst in itself it concerns saving men, embraces the restoration of all the temporal order.»

153. Cf. Second Vatican Ecumenical Council, Dogmatic Constitution on the Church Lumen Gentium, 36: «(...) et per opera etiam saecularia se invicem ad sanctiorem vitam adiuvare debent, ita ut mundus spiritu Christi imbuatur (...)».

See also the teaching of Bl. Josemaría Escrivá on the sanctification of work. For example Josemaría Escrivá, Christ is Passing By, Dublin 1974, «Homily on the Feast of Christ the King, 22 November 1970», no. 183: «Jesus reminds all of us: ‘And I, if I be lifted up from the earth, I will
draw all things to myself’ (Jn. 12: 32). If you put me at the centre of all earthly activities, he is saying, by fulfilling the duty of each moment, in what appears important and what appears unimportant, I will draw everything to myself. My kingdom among you will be a reality.»


155. Cf. Josemaría Escrivá, Christ is Passing By, Dublin 1974, «Homily on the Feast of Christ the King, 22 November 1970», no. 183: «We must, each of us, be alter Christus, ipse Christus: another Christ, Christ himself. Only in this way can we set about this great undertaking, this immense, unending task of sanctifying all temporal structures from within, bringing to them the leaven of redemption.»


157. «For he has made known to us in all wisdom and insight the mystery of his will, according to his purpose which he set forth in Christ as a plan for the fulness of time, to unite all things in him, things in heaven and things on earth» (Eph. 1: 9-10).

158. The resurrection itself is the strongest evidence of this dominion. It is also seen at the transfiguration (cf. Mt. 17: 1-6) and in Jesus’ appearances between his resurrection and his ascension.


160. Cf. ibidem, 39.


162. Cf. Catechism of the Catholic Church, no. 300.


164. This imperative towards uprightness that accompanies perceiving the Absolute in creation is analogous to the moral imperative that accompanies the gift of faith. The latter call for coherence is described in John Paul II, Encyclical Letter Veritatis Splendor, 88-89.

165. Cf. John Paul II, Message for the 1990 World Day of Peace Peace with God the Creator — Peace with all Creation, 14: «Our very contact with nature has a deep restorative power; contemplation of its magnificence imparts peace and serenity.»


168. Cf. ibidem, no. 1822.

169. Cf. St Thomas Aquinas, Summa Theologiae, II-II, q. 25, a. 3.

171. «Greater love has no man than this, that a man lay down his life for his friends» (Jn. 15: 13).

172. Cf. John Paul II, Message for the 1990 World Day of Peace *Peace with God the Creator — Peace with all Creation*, 3: «Adam and Eve were to have exercised their dominion over the earth (Gen. 1: 28) with wisdom and love.»


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