

One Hundred Years of Papal Thought on Nature

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1. INTRODUCTION

This article illuminates the presence of a common thread of understanding that spans the various encyclicals, and underlines a common problem throughout one hundred years of papal thought on nature. The papal encyclicals in this study present human beings as stewards over the natural world: they are endowed with a rational capacity that recognises natural law, and with a conscience that makes them aware of their obligations to others as images of God. Nature is viewed as God's gift to human beings, unlimited in its bounty. Human beings are bid by God to subdue the earth as its masters.¹ By following this divine command to be masters, they are empowered to serve their neighbours and to bolster human dignity. Human beings thus serve God by transforming the natural world through their labour according to the dictates of Christian love of neighbour, or charity. From this common papal view of the relationship between God, human beings, and the rest of creation arises a problem: the emphasis on the proper use of nature tends to overshadow any discussion of nature in itself. Nature becomes simply raw matter to

¹ Genesis 1:26-30.

be shaped according to Christian charity; nature lacks any intrinsic, inward essence, psychic substance, or “soul.” The encyclicals adopt a “technological orientation” towards nature, and it is according to this technological vision that the use of nature for the purposes of production and consumption has generally progressed. In order to clarify my general criticism of the papal view of nature, I will briefly examine the theoretical analysis of technology offered by the Canadian political philosopher, George Grant.

(i) George Grant’s Analysis of the Technological Orientation Towards Nature

Technology is commonly defined as “an array of instruments, lying at the free disposal of the species which creates them.”² It is generally seen as a neutral instrument to be used for good or bad depending on the freely willed purposes of its users. However, Grant argues that technology is not a neutral instrument; rather, it imposes upon us the ways that it should be used. Technology arises as our “civilizational destiny,” or as “the fundamental presuppositions that the majority of human beings inherit in a civilization, and which are so taken for granted as the way things are that they are given an almost absolute status.”³ In Grant’s view, technology makes impositions upon us insofar as our society is shaped to its very core by its assumptions.

² George Grant, *Technology and Justice* (Toronto: Anansi, 1986), 19.

³ Grant, *Technology and Justice* 22.

Technology rests upon a particular paradigm of knowledge in which the world is only properly understood as a non-franchised object – as raw material that we mould and shape to our purposes as its master. To understand the world is to uncover the facts about the world, and to uncover the facts about the world requires objectivity. From the technological perspective, one cannot know the world as a lover; knowledge is only acquired through dispassionate observation. Clearly, there is a disjunction in technology between knowing and loving.⁴ The love that arises from the experience of wonder at the goodness of God’s creation (as in Genesis 1-2:4), or from the participatory experiences of truth and beauty is not part of knowing the world as a dispassionate object. From the technological point of view, participatory experiences such as wonder at the existence of the natural world, contemplation of its essence or being, or ruminations concerning its participation in God’s goodness are dismissed in favour of scientific inquiry into the phenomenal, the apparent, or the observable, since the latter sort of investigation is most useful in furthering our abilities at manipulating and transforming matter. Indeed, our ability to manipulate the natural world is enhanced considerably when we are released from obligations to recognize its essential beauty, its goodness, or any purposes that intrinsically derive from its nature.

⁴ In opposition to this modern disjunction, Grant argues that the ancients held that knowing and loving are intimately connected. He writes specifically about Plato’s emphasis on *eros*, or love, as the way from ignorance into knowledge, and he stresses the importance of the Christian statement that “God is love” (1 John 4:8).

Applied scientific knowledge has enabled technological society to manipulate the natural world with incredible skill as a field of objects. And yet technology also purports to have rendered science metaphysically neutral. Grant laments that we have lost a sense of boundary or limit to what we make with our arts. Immersed within our “civilizational destiny” as a technological society, we are unable to judge reasonably what is good because we resist attentiveness to the inward nature of the “good order” or *cosmos* -- to its essence, its psychic life, or its being. Grant writes, “technology is the ontology of the age”;⁵ it is the way that we understand existence and being. However, the technological “ontology,” or its “words about being,” is effectively a denial of being. Without knowledge of being or essences, it is impossible to develop an understanding of the proper ends or purposes of things. In the absence of any such ends, human beings, as manipulators of a vast field of objects, must create their own ends; they must give their own arbitrary meaning to the things they master through technological manipulation.

There is no real “should” to describe the ideal use of technology. The “should” of technology only arises from outside of technology in the volition of human masters. It arises as a remnant of those purposes that technology has denied, yet which are also used to substantiate much technological development, such as the elimination of suffering and the liberation of mankind: “Modern human beings since their beginnings have been moved by the faith that the mastery of

⁵ Grant, *Technology and Justice*, 20.

nature would lead to the overcoming of hunger and labour, disease and war on so widespread a scale that at last we could build the world-wide society of free and equal people.”⁶ However, without an introspective attentiveness to the natural world and its participation in goodness as part of God’s creation, there is no reason to believe in the goodness of these purposes. In fact, to pretend that there is inherent purpose or worth behind any action within the technological paradigm of knowledge is to contradict oneself with regard to the negation of being that lies at the heart of this orientation.

Without some knowledge of the good ends or purposes towards which human enterprise might be directed, there is little grounds for believing that our technological advances and the various means of making at our disposal will be of great service to ourselves, to our neighbours, or to our collective human dignity. As a rejection of being, the driving force behind technology is the “nihilistic will to will which is emptied of all conceptions of purpose.”⁷ Grant points out that the resulting imperative of the technological drive to mastery is that whatever can be done should be done. This pure will to mastery is, in Grant’s view, the sickness that we have inherited from technology.

⁶ Grant, *Technology and Justice*, 15.

⁷ George Grant, *Technology and Empire: Perspectives on North America* (Toronto: Anansi, 1969), 27.

(ii) The Technological Orientation Towards Nature as Present in the Papal Encyclicals

The technological orientation as outlined in Grant's work is present to various degrees throughout the encyclicals in this study. Adopting a fact-value distinction, the papal documents clearly suggest that human science and technology are the tools by which we must uncover the "facts" that will allow us to dominate nature, and that Christian charity must provide the "should" imperative, or the "values" whereby we decide what we ought to do with our technical prowess. However, even if we espouse Christian "values" of neighbourly love and charity as the directive principle for the implementation of our technological prowess, we still have not escaped Grant's "impasse":⁸ namely, without an attentiveness to the natural world and its participation in goodness as part of God's creation, there is no reason to believe in the goodness of these Christian purposes or "values." Following Grant's insights concerning technology, I argue that it is disingenuous to hold simultaneously to Christian "values" and to abide by the technological paradigm of knowledge that denigrates being and the relation between loving and knowing. The papal encyclicals, even though they make clear that the Christian imperative of love must underlie the technological mastery of nature, are unable to overcome this impasse. To try to balance the technological paradigm of knowledge which denies any intrinsic worth of being with Christian love of God which recognizes the value

⁸ For a more involved discussion of this quandary, see Dennis Lee, "Grant's Impasse," in *By Loving Our Own: George Grant and the Legacy of Lament for a Nation*, ed. Peter C. Emberley (Ottawa: Carleton UP, 1990), 11-39.

of being is simultaneously to deny and affirm the goodness of God's creation. A consequence of this papal view has been a loss of wonder at the non-human world, and a lack of sensitivity to the inward or psychic life of the *cosmos*, its beauty and its essence as diagnosed by Grant in his elucidation of technology.

The problem of technology has pervaded various encyclicals over the past hundred years, and different popes have been aware of it to greater or lesser degrees. The danger in this papal portrayal of nature is that, by accepting the technological orientation, Christian attentiveness to beauty, essence, and the relation of essence to the divine is overlooked. A loss of wonder ensues, since wonder arises when human beings are made aware of the presence of being and beauty in visible things, and thereby of the message of the invisible God who created them. Human dignity arises not from strict attention to the potential uses of things, but from responding to the call of God that is contained in the being of all things. Attention to essence is of paramount importance, since one can only make proper use of things and properly enjoy the gift of God's creation by being attentive to its essence. By failing to recognize nature as a *cosmos*, or that the natural world too has a living inwardness or "soul" that participates in God, human beings have become deafened to "the call of God." The technological orientation, even when it is applied according to Christian "values," hampers the ability of human beings to respond to God in a truly dignified manner.

2. THE ENCYCLICAL DOCUMENTS

(i) *Rerum Novarum* (1891)

In *Rerum Novarum*, Pope Leo XIII says that human nature is informed by natural law. As rational beings, humans are given an awareness of the natural and moral order that pervades all of creation, and their task is to cultivate this order according to their natural reason. Reason is portrayed in this document as an innate human ability to uncover natural law, to investigate being and the good order of God's creation. *Rerum Novarum*, in its attention to being and its emphasis on natural law, is to this extent free from the technological approach. Human beings are called by God to obedient self-governance under the eternal law. Serving as God's stewards over the earth, humans may possess not only the fruits of the earth, but also the earth itself.⁹

By their rational nature, human beings know the future as joined to the present. By tending to God's creation in the present, they also make plans for the future. They live in obedience to God's eternal law when they follow the natural law that informs their reason, and it is through this accord that they bring out the earth's abundance. The earth's fruitfulness is not simply given to human beings for their enjoyment, but must be drawn out by them from nature's inexhaustible fertility through their own work and skill. When human beings live in accordance with the natural law of reason, the earth -- the subject of their stewardship -- "utterly changes

⁹ *RN*6.

its conditions."¹⁰ It is transformed from “wild barrenness” to a “fruitful abundance.” Not by violating nature, but through the cultivation, care, and skill that follow from obedience to the natural law are human beings able to alter and improve upon nature by realizing the potentials with which God has endowed nature.

Already in *Rerum Novarum*, where stress is laid upon ownership of the natural world, upon its mastery, and upon the radical transformation of nature, the beginnings of the technological dichotomy between knowing and loving can be seen. On the one hand, the goodness and the order of the natural world as God’s creation are recognized through rationality and attention to natural law. Reason in this regard provides some resistance to the technological drive to mastery; on the other hand, nature is also treated as an object that must be mastered and transformed. The papal project of “utterly” changing the conditions of the natural world according to its divinely-given potentialities requires an examination of the natural world itself and of its goodness as God’s creation, on the one hand, and an applied scientific readiness to manipulate and to master the natural world on the other. Already in *Rerum Novarum*, we begin to see the difficulties of Grant’s impasse emerging.

¹⁰ RN8.

In *Rerum Novarum*, human beings are said to impress their personalities upon nature,¹¹ for having thus altered and improved upon the earth, they become so truly a part of it "as to be in a great measure indistinguishable, inseparable from it."¹² By living in accord with the natural law that makes them aware of the good and moral order given to creation, human beings come to love the earth as their own.¹³ *Rerum Novarum* portrays the proper and natural relation between human beings and the rest of nature as one of loving "ownership." As stewards freely cultivating the earth, human beings freely choose to live reasonably in accordance with natural law, and therefore with the eternal law, which is God. Human willingness to live in a correct relation to the natural world adds to its abundance.

(ii) *Quadragesimo Anno* (1931)

In this document, Pope Pius XI further develops the appeal to natural law made in *Rerum Novarum*: "Natural law, or rather, God's will manifested by it, demands that right order be observed in the application of natural resources to human need."¹⁴ As "stewards" or loving owners of God's creation, human beings are responsible for acting in accordance with the natural order that God gives to creation, and that they discern by their rational capacity and dignity as images of

¹¹ *RN*7.

¹² *RN*8.

¹³ *RN*35.

¹⁴ *QA* 53.

God. The *imago Dei* arises in *Quadragesimo Anno* as the human ability to discern God's goodness in the natural order of things and to master nature in service of the neighbour. As in *Rerum Novarum*, the importance of attention to being is maintained by the papal insistence upon rational attentiveness to the good order of God's creation as the *imago Dei* in human beings. However, the novel stress in *Quadragesimo Anno* on the importance of reason as the *imago Dei* in human beings also suggests that what makes human beings most akin to God is their ability to transform and to master nature. In this respect, the natural world is rendered as an object, and the papal project of world transformation becomes technological in its orientation. P. Travis Kroeker notes this link between the *imago Dei* and natural law in the earlier encyclicals:

The earlier documents, beginning with Pope Leo XIII's *Rerum Novarum*, are rooted more firmly in a neo-scholastic reading of the classical natural law tradition, where the human dignity of the *imago Dei* is pre-eminently expressed in the rational capacity of human beings to know the fundamental structures of human existence and to dispose of natural resources in a manner that serves their own basic needs and those of the common good.¹⁵

In *Quadragesimo Anno*, Pope Pius XI, like Leo XIII before him, emphasizes that human ownership of God's creation must be ordered, and that this order is to be found and cultivated in nature. Not only must non-human nature be ordered by

¹⁵ P. Travis Kroeker, *Christian Ethics and Political Economy in North America* (Quebec City: McGill Queen's UP, 1995), 93.

human influence according to reason, human beings themselves must live according to the natural order with which they have been divinely endowed as rational beings. This is the nature of their dignity; in order to be dignified, human beings must realise their nature as images of God. Pius XI bids human beings to establish this inner ordering by warning against the disorders of ambition and greed,¹⁶ and against the inordinate lust for transitory things.¹⁷ In *Quadragesimo Anno*, the impasse of the technological orientation towards being is further developed.

(iii) *Mater et Magistra* (1961)

In this encyclical, Pope John XXIII describes the church, and not the earth, as the mother of humankind. As in the earlier encyclicals, the relation between human beings and the rest of creation is described as one of ownership. The inexhaustibility of nature that is announced in *Rerum Novarum*¹⁸ is re-affirmed in *Mater et Magistra*.¹⁹ Recognizing the great over-abundance of nature, human beings are called by God to fill the earth and subdue it.²⁰ More than in the earlier

¹⁶ *QA* 109.

¹⁷ *QA* 129.

¹⁸ *RN* 6.

¹⁹ Nature's inexhaustibility is affirmed in Pope John XXIII's notion that the world can manage any population increase (*MM* 186).

²⁰ See *MM* 196. To my knowledge, this is the first explicit mention in the encyclicals of God's mandate to subdue the earth. Perhaps this marks a new emphasis and direction in these documents, as subduing the earth becomes a central concern in later writings.

encyclicals, subduing the earth takes on a heightened significance in *Mater et Magistra*. As part of God's mandate to humanity, mastery of nature becomes the central focus of this and later encyclicals.

Pope John XXIII still maintains the authority of natural law throughout this encyclical. For instance, he grounds the right to private property in natural law;²¹ human dignity too is acquired through the correct use of external goods, which is understood as use according to nature.²² However, a new emphasis is placed upon subduing nature in *Mater et Magistra*, as well as how this might be efficiently and productively achieved: "Prudent foresight and common need demand that not only more goods be produced, but that this be done more efficiently."²³ Hence, there is in *Mater et Magistra* a new central concern and fixation with the potentialities of technology.

Pope John XXIII has much praise for technological advancement.²⁴ He says that technology broadens the scope of human dominion over the world by enabling human beings to subdue ever more of nature and to harness nature's potentialities. Technology is considered an indispensable tool that can help human beings to fulfil their needs in the world and to assume their role as masters over the earth.

²¹ *MM* 109.

²² *MM* 102.

²³ *MM* 168.

²⁴ *MM* 47.

However, already in this encyclical questions concerning the dangers and ambiguities of technology arise. As in *Quadragesimo Anno*,²⁵ the application of natural resources to human needs is recognized as requiring a proper ordering. John XXIII warns that technology and its applications lead to “monstrosities” when this order is lacking. At the time, the Cold War and the threat of nuclear annihilation would certainly have loomed large for the Church. Without adherence to natural law, “recent discoveries of science, technical advances and economic productivity are transformed into means whereby the human race is led toward ruin and a horrible death.”²⁶ Elsewhere, John XXIII warns against technological mastery over nature when it is undertaken without a corresponding development of human dignity. Dignity here requires the right use of external goods, and it is given to human beings insofar as they live “according to the right norm of nature.”²⁷ John XXIII diagnoses this unbalanced increase in technological know-how and decrease in human dignity as the problem of our times; human beings have successfully uncovered many external laws of the physical world but have become less conscious of the internal law that is both natural and moral. Here, John XXIII has understood something of the technological impasse as delineated by Grant; the modern concern with science and technology emphasizes but one part of existence, and this part has

²⁵ *QA* 53.

²⁶ *MM* 198.

²⁷ *MM* 114.

been emphasized at the expense of others. In modern times, this unbalanced orientation to existence has made human beings "monstrous"; it has transformed them into "giants" as regards the order of nature, "yet in the order of the supernatural and the eternal," they have become like "pygmies."²⁸

At this point, we might pause to wonder whether a technological account of our "use" of the non-human world is indeed compatible with the natural law teachings of the earlier encyclicals. John XXIII suggests that these two understandings may indeed be reconciled. He treats technology as a neutral instrument; it is a tool that human beings may use to better themselves and to achieve their highest end "in both the natural and the supernatural orders."²⁹ In this regard, John XXIII seems to accept the technological understanding as a true portrayal of at least part of existence. He locates the dangers of technology not in the technological understanding itself, but in the absence of any spiritual sensitivity that should accompany this understanding, and that would provide the proper moral vision with which human beings might use these "neutral" instruments of transformation. However, as we have seen from Grant's critique of modernity, technology is not a neutral instrument, nor is it possible to genuinely reconcile the technological orientation that divorces knowing from loving with the Christian understanding that finds knowing and loving intimately related.

²⁸ *MM* 243.

²⁹ *MM* 246.

John XXIII embraced the technological orientation to nature. He sees its incredible power and utility, and although he recognizes its potential for destruction, he attributes this destructive tendency not to the technological orientation itself, but to a modern malaise of neglect in which no spiritual sensitivity has been cultivated alongside our ever-increasing technological capacities. The problem, as John XXIII understands it, is that, without Christianity, there are no commonly acknowledged, good spiritual values that might provide a proper use for technology. He thinks that the "neutrality" of technology can be harnessed for good purposes when it is applied to nature according to a good Christian spiritual understanding.

Like Grant, Kroeker notes the problem that arises when the instrumentalist conception of the technological means of production as a "value-neutral" tool is assumed to be valid. Such an understanding "fails to discern that economic institutions and technological instruments have a goal, the production and consumption of commodities. The ends are present within the means and they affect the ways in which we take up with the world."³⁰ Following the analysis of technology offered by both Kroeker and Grant, I argue that John XXIII's belief that the technological and Christian orientations towards nature are reconcilable is unsound. Technology is neither a benign nor a neutral tool; rather, the technological orientation to the world is itself responsible for the neglect of the higher aspects of human existence. It is precisely this neglect that John XXIII

³⁰ Kroeker, 104.

laments as having made human beings monstrous. Contrary to John XXIII's suggestion, the neglect of both human and non-human nature is not the result of some problem external to technology. The problem of this neglect cannot be sorted out simply by finding appropriate Christian values that might best manipulate and apply these technologies; such a solution would commit the error of misunderstanding the Christian orientation towards nature as itself technical: as strictly concerned with use, and without any concern for essences, or the essence of nature.

Without concern for essence, the nature and purpose of each thing cannot be properly understood. The end or purpose that is naturally given to each essence is overlooked, with the result that the ends of essences are thought to be wholly external to the essences themselves, and found only in the use that human subjects choose to give to them. By speaking encouragingly about the reconciliation of the technological and Christian orientations towards the world, John XXIII commits an important error: he misunderstands the Christian orientation as though it could establish the ends and purposes of a "value-neutral" technological orientation. Unlike Grant, he does not realise that the technological understanding has its own ends built into its means. Nor does he see that these ends are destructive and contrary to the Christian orientation to nature, which is concerned not simply with the utility or potentiality of objects, but with their actuality and their essential being, as well as with that which transcends and informs their being. The spiritual neglect

that John XXIII laments cannot be alleviated by reconciling Christianity with technology; it can be overcome only by the whole-hearted rejection of the technological understanding, which itself rejects everything that is not simply phenomenal or able to be dealt with as an object.³¹

(iv) *Pacem in Terris* (1963)

John XXIII's conception of technology is further developed in this encyclical. *Pacem in Terris* begins with statements about the goodness of creation and the natural order. These statements help qualify some of the problems that arose in *Mater et Magistra* due to a general inattentiveness to essence. In *Pacem in Terris*, John XXIII makes explicit statements about essence. For instance, he notes how all things participate in God's order and how this divine order reigns in both living things and in the forces of nature. John XXIII points out that God creates all things out of nothing, and that God poured wisdom and goodness into everything. Likewise, all creatures are designed according to God's wisdom, such that God's majesty fills all the earth. Clearly, this pope wonders at the infinite greatness of God as it is disclosed in the order of things. However, he stresses technology as the means *par excellence* to discover the order of things and the infinite greatness of

³¹ For a discussion of the technological orientation towards nature, of its neglect for essence or substance, and of its vexation with appearances or phenomena, see Barry Cooper, "Phenomenalism," in *Action into Nature* (London: University of Notre Dame Press, 1991), 71-98.

God.³² He emphasizes technology as the mode of seeing or uncovering the natural goodness and the order of things such that human beings can harness nature's goodness for benefit.

In *Pacem in Terris*, human nature finds its illumination in natural law. Human beings are made in God's image as intelligent and free, and they have been given dominion over the earth by divine mandate.³³ Like *Rerum Novarum* and *Quadragesimo Anno*, this document shows some resistance to the technological orientation in its focus upon the rational capacity of human beings to know the good order of God's creation. Human beings can know the order of things amidst the disorder of the world because they have God's imprint upon their hearts. This imprint is revealed to them by the conscience, such that the human heart can see God's moral ordering. According to John XXIII, God has written a law on the heart of every human being, and this law is the natural law of reason. Kroeker notes:

Despite this growing awareness of the social, structural, and dynamic character of human nature, the basic elements of natural law theology and ethics persist. The assumption that objective and universal norms of justice and equity are self-evident to all "people of good will" who reflect upon the

³² *PT3*.

³³ *PT3*.

natural created order appears throughout these encyclicals and is most clearly expressed in the early paragraphs of *Pacem in Terris*.³⁴

In *Pacem in Terris*, natural law serves as the foundation for rights and duties.³⁵ It provides human beings with a means to judge the validity of human laws, since laws are only binding insofar as they find accord with natural law.³⁶ With the appeal to natural law, *Pacem in Terris* offers the same warnings as are found in Pius XI's *Quadragesimo Anno* and in John XXIII's *Mater et Magistra*, concerning the right use of God's creation. Pius XI stressed that the use of creation must be according to natural law,³⁷ and in *Mater et Magistra*, John XXIII stressed the need for a synthesis of technology and human dignity -- dignity being achieved through adherence to natural law.³⁸ In *Pacem in Terris*, this same synthesis of spiritual values and technology is sought in order to improve human beings.³⁹

(v) *Gaudium et Spes* (1965)

In *Gaudium et Spes*, the Second Vatican Council further develops John XXIII's understanding of human nature. His stress upon the *imago Dei* in human

³⁴ Kroeker, 96.

³⁵ *PT*28.

³⁶ *PT*51.

³⁷ *QA* 54.

³⁸ *MM*114.

³⁹ *PT*150.

beings is restated more strongly.⁴⁰ According to John XXIII, human beings know and love their creator as images of God. Human beings are appointed by God to master all of the earth and to use the earth for God's glory. This is how humanity ought to subject nature.⁴¹

There is a growing stress on the *imago Dei* in *Gaudium et Spes* and in later encyclicals. This doctrine emphasises human development as the primary goal of creation, and may therefore be designated as "anthropocentric utilitarianism." In *Gaudium et Spes*, human beings are described as the centre and crown of creation.⁴² This stress on the primacy of human beings and their fulfilment over everything else ineluctably leads to an inordinate concentration upon production through the transformation of nature, such that there arises an identification of the *imago Dei* with labour as the productive transformation and mastery of nature for human ends.⁴³ Production and consumption -- the focus of labour -- become the highest and most central concern for human beings. Labour is understood to be the *imago Dei* in human beings, and when labour is thought to be the only means, by which human beings come to know and to love God, then concern for essences, and for the essence of nature itself, fades away in neglect. Essence is overlooked in turn

⁴⁰ *PT*3.

⁴¹ *GS*12.

⁴² *GS*12.

⁴³ For further development of this criticism, see Kroeker, 101-102.

because of this new and total emphasis upon history,⁴⁴ or in this case, upon the transformation of nature through labour: the *imago Dei* in human beings. With this focus upon the *imago Dei* as work, the technological orientation towards nature becomes most prevalent in papal thought.

Other indications of this neglect of the essence of nature can be found in *Gaudium et Spes*. Human beings are said to surpass the material universe because they share in the light of the divine mind.⁴⁵ By their participation in this light, human beings are said to be categorically different from the rest of creation. Whereas human beings have mind, all else is simply matter in motion.⁴⁶ For instance, "the material world" is composed of "elements";⁴⁷ the universe is matter that needs to be transformed by human beings, who are said to win victories over nature by probing the material world and subjecting it to themselves.⁴⁸ By speaking of nature in this wholly mechanistic and materialistic fashion, *Gaudium et Spes* suggests that only human beings and God have spiritual substance. Attentiveness to

⁴⁴ I am following Cooper's account of how meditations on substantial meaning have been replaced by historical speculation. Cooper shows how, "when nature is 'dead' or morally insignificant, human beings look longingly to history for meaning." Cooper, 255.

⁴⁵ GS15.

⁴⁶ Vatican II writers are silent about the psychic life of the non-human universe in *Gaudium Et Spes*. Their depiction of human beings and the rest of nature is vaguely reminiscent of Descartes' discussion of the two substances, *res cogitans* and *res extensa*. Like Descartes, the Second Vatican Council suggests a mechanistic materialism in which only human beings and God possess *res cogitans*. All else is purely *res extensa*.

⁴⁷ GS14.

⁴⁸ GS15.

the psychic life of the *cosmos* -- and therefore to its divinely given good purpose and end – is somewhat lacking in *Gaudium et Spes*.

This materialistic conception of nature has implications for how human beings ought to relate to the rest of creation. In *Gaudium et Spes*, human beings are said to discern their proper place in nature and to know how they should use nature by looking to their own hearts. In the individual heart, each human being will feel the eyes of God making judgements and giving commands:

In the depths of his conscience, man detects a law which he does not impose upon himself, but which holds him to obedience. Always summoning him to love good and avoid evil, the voice of conscience can when necessary speak to his heart more specifically: do this, shun that. For man has in his heart a law written by God. To obey it is the very dignity of man; according to it he will be judged.⁴⁹

In *Gaudium et Spes*, conscience is depicted as the voice and the law of God in human beings. Given this law in the heart, human beings are not free from responsibility in the world. Their divinely mandated reign over the rest of creation is itself subordinate to God's rule and God's law. All human beings are given to understand that there is a natural and moral order to things. They have this awareness due to their conscience, which recognizes natural law.⁵⁰ Their human

⁴⁹ *GS* 16.

⁵⁰ In this document, Kroeker finds a shift away from natural law towards a "Christocentric humanism" which takes Christ as the measure of conscience. He writes that "*Gaudium et Spes*

dignity comes not from the manipulation of nature according to the changing whims and fancies of humankind, but rather from the strict obedience of human beings to the law of their conscience.

In *Gaudium et Spes*, the technological orientation towards the world is accepted as necessary in order to fulfil the dictates of conscience. As illustrated above, human dignity arises from obedience to the law of conscience. The individual's obedience to the law of conscience must be "free"⁵¹ and according to "the light of Christ"⁵² -- hence the stress on the protection of the individual's rights and duties in these encyclicals. Second, the individual must have the technical means and the skills to fulfil the dictates of conscience with effective actions in the world.⁵³ The demands of conscience encourage and perhaps necessitate the use of technology, such that "by the work of his hands or with the aid of technology, man develops the earth so that it can bear fruit and become a dwelling worthy of the whole human family ."⁵⁴

Like John XXIII, the Vatican II Council offers some qualifications concerning technology and its uses. It recognizes the modern loss of wonder and

seeks to address all people, not in the light of universal reason or natural law, but 'in the light of Christ'." See Kroeker, 96. With this shift, the sinfulness of human beings, and therefore the limitations and distortions affecting their capacity to reason, are recognized. Kroeker argues, however, that this shift is only partial.

⁵¹ *GS* 17.

⁵² *GS* 10.

⁵³ *GS* 17, 30.

⁵⁴ *GS* 57.

awe at the world. This loss has occurred because people have ceased to contemplate the goodness and being of God's creation. For this reason, people have overlooked the transcendent purposes and ends given to all things naturally. In *Gaudium et Spes*, attempts are made to allow for experiences of wonder and the contemplation of being.⁵⁵ The Council acknowledges that modern society adversely affects our ability to wonder. Like John XXIII, the Council asserts that this problem can be alleviated without rejecting the technological orientation towards nature. Also like John XXIII, the Council embraces this orientation as descriptive of part of reality, and it stipulates that religion and morality must keep pace with science and technology in order to apply these technologies properly.⁵⁶ Human beings still ought to acquire technology and science, but Christian charity is required in order to know how to apply them properly.⁵⁷

The dichotomous relation between technical reasoning and Christian faith that is delineated by the Council is much akin to the modern fact-value distinction.⁵⁸ In *Gaudium et Spes*,⁵⁹ science and technology are held to operate with "legitimate autonomy" from Christian faith in a kind of "just liberty" as a separate

⁵⁵ *GS* 59.

⁵⁶ *GS* 62.

⁵⁷ *GS* 72.

⁵⁸ For an analysis of the fact-value distinction and its role in positivism, see Eric Voegelin, *The New Science of Politics* (Chicago: University of Chicago Press, 1952), 1-26.

⁵⁹ See *GS* 59.

order of knowledge. The pursuits and goals of science are not set, and should not be set, according to Christian charity or religion. Rather, each science sets its pursuits and goals according to its own method. Scientific reasoning is not restricted or ordered by faith, but works in "just liberty" from the claims of faith. Reason, science, and technology are therefore "value-neutral" or "value-free" tools. They simply establish "the facts." The problem the Council addresses here is that -- assuming these sciences and technologies are in fact "valueless" and make no claims about the good -- these sciences cannot know, or even claim to know, the good of their objects; only faith can know the true good of each thing, and therefore how each technology ought to be applied. Consequently, faith must come later to master reason, and to place its value and its use upon both the "value-neutral" tools it employs, and the world that the tools are meant to master; the world ostensibly lacks any value without being given the value of its proper use by a human understanding that is rooted in faith. In this way, faith uses reason to shape the world and to make it valuable, according to the Vatican II Council. Faith takes the facts and applies them, giving them value. In this document, faith has become a technique to manipulate reason.

(vi) *Populorum Progressio* (1967)

Populorum Progressio adds nothing new to the papal understanding of nature. The materialistic portrayal of non-human nature found in *Gaudium et*

Spes is simply re-affirmed in this document. Pope Paul VI notes that human beings are called by God to "fill the earth and subdue it."⁶⁰ He describes human beings fulfilling this divine mandate as creators bent over material that resists their efforts.⁶¹ By struggling over this material, human beings work to give it their "imprint"; they stamp it with the *imago Dei*. Clearly, the technological imperative found in *Gaudium et Spes* is maintained in *Populorum Progressio*.

It is worth noting the shift that has occurred by the time of this document in papal understanding since *Rerum Novarum*. Whereas human beings were said to impress their "personality" on things through their efforts and care in the earlier document,⁶² in *Populorum Progressio*, this impression seems to have acquired a slightly different character. Human beings, made in the *imago Dei*, are now considered to be co-creators with their creator, such that man "must cooperate with his Creator in the perfecting of creation and communicate to the earth the spiritual imprint he himself has received."⁶³ The human imprint upon nature is not simply one of "personality"; it is the "spiritual imprint" of the *imago Dei*. As in *Gaudium et Spes*,⁶⁴ the importance

⁶⁰ *PP* 22.

⁶¹ *PP* 27.

⁶² *RN* 17.

⁶³ *PP* 27.

⁶⁴ *GS* 35.

of brotherhood is stressed in determining the ends to which technology and human labour will be applied. Only when work is done in common do men "find themselves to be brothers."⁶⁵

(vii) *Octogesima Adveniens* (1971)

Pope Paul VI expresses environmental and ecological concerns in this encyclical. He writes: "by an ill-considered exploitation of nature man risks destroying it and becoming in his turn the victim of the degradation."⁶⁶ This encyclical takes important steps towards addressing the inherent problems underlying the technological orientation towards nature. Paul VI seems to be the first pope in this study to notice that the technological and Christian orientations towards nature may be antagonistic, and perhaps irreconcilable. He notes the dangers of technology, which he refers to as a "new positivism":

The present time may be favourable for an openness to the concrete transcendence of Christianity. It may also be a more accentuated sliding toward a new positivism: universalized technology as the dominant form of activity, as the overwhelming pattern of existence, even as a language, without the question of its meaning being really asked.⁶⁷

⁶⁵ *PP* 27.

⁶⁶ *OA* 21.

⁶⁷ *OA* 29.

Paul VI is the first pope in this study who explicitly questions the meaning of technology. He notes that, as a "new positivism," technology reduces human beings to a single dimension.⁶⁸ Much as nature seems to have been reduced to matter in previous encyclicals, so too can human nature be stultified when the holy desire to serve and to revere God is displaced, and when it consumes itself in ideological pursuits which, even if they suggest certain paths to human liberation, end up by turning free human beings into slaves.⁶⁹ As other ideologies "retreat" in "the present time," Paul VI notes that technology, the "new positivism," has become the dominant ideology. He laments this new orientation towards nature because of its slavishness; for now, "having subdued nature by his reason... [man] in turn becomes the object of science."⁷⁰ With the aid of the technological orientation towards nature, human beings seek to master not simply the world, but also to engineer their own needs; even "a generous desire to serve"⁷¹ is not safe from the dangers of the drive to technological mastery.

(viii) *Laborem Exercens* (1981)

There is a decisive shift in the meaning of the *imago Dei* in Pope John Paul II's encyclical, *Laborem Exercens*. In the earlier documents of Leo XIII and Pius

⁶⁸ OA 30.

⁶⁹ OA 28.

⁷⁰ OA 38.

⁷¹ OA 28.

XI, the *imago Dei* is described as the human capacity to discern the natural and moral ordering of existence. As images of God, human beings are therefore given to live according to this rational insight, in obedience to natural law. John Paul II shifts the emphasis of the *imago Dei* to stress that, as images of God, human beings are "co-creators" with God through their work; they transform, "humanize," and fulfil the world through work. In this way, the *imago Dei* is not simply given to all human beings according to their rational nature; rather, the *imago Dei* is acquired through working. Human beings acquire God's image by imitating God in their work. "Man's work is a participation in God's activity," and as the words of Christ attest: "My father is working still."⁷² Christ himself is described as the proto-typical worker in *Laborem Exercens*; consequently, Christians are to follow Christ by working.⁷³ In *Laborem Exercens*, labour becomes the key to human dignity. This theological emphasis on work is new.

John Paul II's view of work as the *imago Dei* in human beings has certain implications with respect to how human and non-human nature are to be understood, and how human beings ought to relate to the rest of creation. The work of subduing the earth becomes what distinguishes human beings from the rest of creation. Work is quite simply anything that human beings do as human beings; for "the expression 'subdue the earth' has an immense range." By subduing the earth,

⁷² *LE* 25.

⁷³ *LE* 27.

human beings reflect "the very notion of the creator of the universe." Human work is then understood as "a transitive activity... beginning in the human subject and directed toward an external object... the earth."⁷⁴ As in the earlier encyclicals of John XXIII and Vatican II, the earth is objectified as externality and matter.

In *Laborem Exercens*, nature is described as a "workbench."⁷⁵ The entire visible world that is within the reach of human beings and the range of their technological influence ought to be mastered by them. Further, every individual human being must take part in subduing the earth in order to realize his or her dignity through work.⁷⁶ Technology becomes the ally and tool of human beings in this endeavour.⁷⁷ As is obvious, John Paul II, unlike Paul VI, embraces technology, and he does not appear to question its underlying assumptions in this encyclical.

Kroeker locates two difficulties in *Laborem Exercens*. First, he criticizes John Paul II's *imago Dei* view of the world for making human development, fulfilment, and salvation the primary goals of creation. This view involves understanding human beings as co-creators with God who build a "new humanity" and perfect creation. Kroeker notes a tendency in *Laborem Exercens* (as well as in *Gaudium et*

⁷⁴ See *LE* 4. John Paul II does not address the difference between the work of human beings and God in this encyclical. Simply put, human work is the labour of a creative subject over an object. However, God's creativity requires no object. As was noted by John XXIII in *Pacem In Terris*, God created everything out of nothing (*PT* 3). This difference suggests that human work is fundamentally quite unlike God's work. Perhaps it is not in the image of God at all in the way that John Paul II suggests.

⁷⁵ *LE* 12.

⁷⁶ *LE* 4.

⁷⁷ *LE* 5.

Spes and *Populorum Progressio*) to downplay the destructive potentialities of human beings due to the "Christologically grounded optimism" that underlies these encyclicals. By offering a "human-oriented" and not a "world-oriented" perspective in his stress upon the *imago Dei* as labour, John Paul II places all value upon labour in *Laborem Exercens*. Neither the world -- now seen as the "raw materials" of labour -- nor "the finished products" of labour are valuable in themselves; only the process of working and transformation is understood to be valuable. The problem that arises from John Paul II's emphasis on labour, according to Kroeker, is that nature thereby loses its value in itself; it is considered to have instrumental value only as the tool, workbench, and raw material for human labour.⁷⁸

Second, Kroeker criticizes Pope John Paul II's emphasis on man as the crown and centre of creation who realizes himself through the domination of nature. Evidence of John Paul II's "anthropocentric utilitarianism" can be seen in his concern for "socializing"⁷⁹ and mastery. In *Laborem Exercens*, "socializing" is the process of liberation whereby everyone is made a master and a co-creator with God, and is henceforth enabled to obey God's command to subdue the earth. Socializing therefore transforms ever-more human beings into masters who subdue nature, and who create ever-more new objects. Through the socializing of human beings, all

⁷⁸ Kroeker, 101-103.

⁷⁹ *LE* 14.

things are made to participate in God's heavenly kingdom through work, and *only through work*.⁸⁰ As long as there are oppressed and starving people in the world, the existence of pristine, unconquered wilderness offends the conscience.⁸¹ Nature in itself has lost its value to the point of becoming offensive. The value of nature has been reduced to the uses that humanity, "the crown and centre of creation" can make of it. This is the orientation towards nature that John Paul II advises, and it is wholly reconcilable with -- if not identical to -- the technological orientation.

(ix) *Sollicitudo Rei Socialis* (1987)

In 1987, John Paul II becomes the first pope to recognize nature's limitations as a "natural resource"⁸² and to speak about "ecological concerns."⁸³ He begins to call attention to some of the problems that arise from treating nature as "matter," "externality," and simply as an object without value in itself. John Paul II, in his concern to illumine how human beings ought to relate to nature, implores all human beings to "respect the integrity and the cycles of nature."⁸⁴ However, he still maintains *use* as humanity's right relation to nature in this encyclical.

⁸⁰ *LE* 27.

⁸¹ *LE* 18.

⁸² As illustrated above, both Leo and John speak about nature's inexhaustibility. In my reading of the other encyclicals by Pius, Paul, and Vatican II, the inexhaustibility of nature is simply assumed from their predecessors as a fact. John Paul is the first pope, to my knowledge, who explicitly states that nature has its limits.

⁸³ *SS* 26.

⁸⁴ *SS* 26.

John Paul seeks to illuminate humanity's relation with other creatures in *Sollicitudo Rei Socialis*. Human beings are called to *use* them, but only in a manner that remains subject to the will of God who imposes proper use and dominion on all things -- including human beings. Therefore, humanity's domination and development of nature cannot properly be understood as the indiscriminate possession of created things; domination, use, and possession must always be subordinated to humanity's divine likeness.⁸⁵

However, the problem still remains that the *imago Dei* in human beings is understood as labour. Consequently, John Paul II's account of nature still emphasizes the instrumental value of things and overlooks their inherent value, even though he himself prescribes the use of nature according to the will of God, which is promulgated through the law of conscience. The technological orientation is, in this regard, not questioned but affirmed by John Paul II. Like John XXIII and the Vatican II Council, John Paul II seeks a way to incorporate the power of the technological understanding into a Christian vision of the world by arresting it and subordinating it to God's will:

When the scientific and technical resources are available which... ought to help lead peoples to true development, the main obstacles to development will be overcome only by means of essentially moral decisions. For believers,

⁸⁵ SS29.

and especially for Christians, these decisions will take their inspiration from the principles of faith, with the help of divine grace.⁸⁶

According to John Paul II, in order for there to be human development and progress (and therefore human dignity), first, the technical means for development must be acquired. Second, only after the technological means have been achieved can the proper ends be applied to these means. These ends can be known only by faith, and they are properly realized only with Christian charity.

John Paul II discusses the human relation to nature more closely in order to illumine the need for “respect.” In *Sollicitudo Rei Socialis*, he notes that when human beings fell in sin, nature no longer recognized them as masters because their *imago Dei* became tarnished. However, John Paul II insists that the human claim to ownership is still valid, except that after the fall “its exercise becomes difficult and full of suffering.”⁸⁷ John Paul II bids human beings to reclaim their co-creator status and once again to relate to nature as its master, and that this relation can only be re-established with “respect.”⁸⁸ It is worth noting that John Paul II is first among the popes in this study to refer to God's creation as a “*cosmos*.” This is an important change because in his attentiveness to nature as *cosmos*, he demands “respect for the beings which constitute the natural world.”⁸⁹ In this way, John Paul

⁸⁶ SS419.

⁸⁷ SS30.

⁸⁸ SS26, 34.

⁸⁹ SS34.

II recognizes nature as more than pure externality and "raw material". He seems to be the first pope in this study to recognize that all of nature, as *cosmos*, has being and inwardness. Every living thing has soul. Explicit statements about the psychic life of nature are noticeably absent in all the previous encyclicals in this study.

John Paul II calls all human beings into solidarity so that the goodness of creation might be enjoyed by all. "Solidarity", he claims, "helps us to see 'the other' -- whether a person, people, or nation -- not just as some kind of instrument... but as our 'neighbour'."⁹⁰ In this regard, the natural world is not the neighbour; unlike human beings, who are persons, and who, as persons, comprise peoples and nations, the rest of the world is not created in God's image, according to John Paul II. Human beings must stamp or impress the *imago Dei* upon non-human nature if it is to be found there at all.⁹¹

John Paul II considers "solidarity" to be a Christian virtue.⁹² By loving the neighbour in solidarity, John Paul II believes that human beings will use nature according to God's will, both as a tool and as a means by which to love the neighbour. In his view, the "ecological concern" is not a problem that results from

⁹⁰ SS39.

⁹¹ Here we see a confusion within this encyclical concerning the nature of cosmic being and the natural world; on the one hand, John Paul II recognizes that all of creation has being and is worthy of "respect." To this extent, *Sollicitudo Rei Socialis* offers some resistance to the technological orientation. On the other hand, only human beings may be considered neighbours since only they were created in God's image; all the rest of creation is matter that must be "stamped" with the form of the *imago Dei*. In this regard, John Paul II's thought still remains technological in nature.

⁹² SS40.

technological assumptions which locate the value of nature strictly in its human use; nor does he think that the technological focus upon use is directly responsible for the modern, fading awareness of substance and the psychic life of the *cosmos*. Rather, John Paul II, in his own emphasis upon the *imago Dei* as work, embraces the technological assumptions that place all meaning, value, and purpose in human creativity. However, these same assumptions serve to empty the world of its value -- of its intrinsic "personhood"⁹³ -- in the awareness of human beings. For this reason, John Paul II's exhortation for "respect *for the beings which constitute the natural world*" is somewhat hollow.

I find a conflict in John Paul II's thought in *Sollicitudo Rei Socialis*. On the one hand, John Paul II recognizes the psychic presence of the universe as a *cosmos* possessing inwardness; to this extent, he surpasses earlier popes who speak of the universe strictly as externality and matter. However, on the other hand, John Paul II does not seem willing to recognize the implications of his own view; namely, that the value of nature is not simply reducible to its human use as a means by which to love the neighbour. The *cosmos* cannot be properly understood or loved from the standpoint of an "anthropocentric humanism." By accepting these technological assumptions, John Paul II is unable to reap the benefits of his own insights concerning the nature of the *cosmos*.

⁹³ For an excellent discussion of the importance of understanding the "personhood" of the *cosmos*, see Martin Buber's analysis of "I-It" and "I-Thou" experience in Martin Buber, *I and Thou*, trans. Walter Kaufmann (New York: Charles Scribner's Sons, 1970).

(x) *Centesimus Annus* (1991)

In this remarkable letter, John Paul II continues to emphasize the need to respect nature. He qualifies why human beings ought to show respect to both human and non-human being by noting that respect is the proper human response to all of God's gifts to humankind:

Not only has God given the earth to man, who must use it with respect for the original good purpose for which it was given to him, but man too is God's gift to man. He must therefore respect the natural and moral structure with which he has been endowed.⁹⁴

Here, John Paul II points to the affinity between human beings and the rest of creation. Both are divine gifts, and human beings must respect each of these gifts as they are given to the natural and moral structure of things -- human beings themselves being part of that *cosmos*.

In *Centesimus Annus*, John Paul II, like Paul VI, recognizes the hidden ends of production and consumption that underlie the technological orientation towards nature. John Paul II rightly diagnoses the technological orientation as the problem of "consumerism."⁹⁵ He sees that "consumerism" has given rise to the "ecological concerns" that he attempted to address in *Sollicitudo Rei Socialis*, and he argues that consumerism is marked by its inordinate, and therefore sinful, desires. Those

⁹⁴ CA 38.

⁹⁵ CA 37.

who accept the technological assumption that production and consumption is their highest end consume natural resources excessively; they forget that the earth is God's gift and that their own position as masters is also a gift. No longer acknowledging that nature has a God-given purpose that is not reducible to human utility, they destroy the earth by subjecting it to their own multifarious whims and sinful desires without restraint.

In *Centesimus Annus*, John Paul II restates humanity's relation to nature as it was depicted in *Sollicitudo Rei Socialis*;⁹⁶ but he does so without the same anthropocentric utilitarian emphasis on the *imago Dei* as labour. In this restatement, he describes the fall of human beings in sin. Human beings fail to cooperate with God in co-creation, and they set themselves up in place of God as the pinnacle, crown, and centre of creation. Humanity's sinful and impudent insubordination against God provokes a rebellion on the part of nature, which is more tyrannized than it is governed by human beings. John Paul II locates the insurrection of human beings against God's will in their "desire to possess things rather than to relate them to the truth." He maintains his attentiveness to cosmic being or essence that appears in *Sollicitudo Rei Socialis*, noting that the use of nature becomes sinful when it lacks the unselfish attitude towards nature, which is born of wonder. However, *Centesimus Annus* also improves upon the earlier document since it conveys a recognition that human beings have become numb to

⁹⁶ SS30.

wonder due to "an anthropological error, which unfortunately is widespread in our day." As we have seen, this error was present in *Sollicitudo Rei Socialis*, and John Paul II seems to have recognized it in *Centesimus Annus* as the error of anthropological utilitarianism. According to John Paul II, human beings have been hypnotized by their own capacity to transform and, in a certain sense, create the world through their own work. This has caused them to forget that their own abilities are gifts from God, as is the rest of creation also a precious and divine gift.⁹⁷

By focusing strictly upon labour as the *imago Dei* in human beings in his past encyclicals, John Paul II has been simply concerned with the use and the possession of the *cosmos*, but without much concern for how the *cosmos itself* might be "related to the truth." As a result, he has counselled and perhaps contributed to a kind of tyranny over nature, which he recognizes in *Centesimus Annus* as responsible in part for nature's rebellion against humanity, and for the fading of the human awareness of substance or being, which is experienced as wonder.

John Paul II appears to make some amends for his errors in *Centesimus Annus*. For instance, in his appeal to experiences of wonder, he beckons human beings to look past their technological and "consumeristic" assumptions; perhaps he even counsels them to reject these assumptions, since insofar as one succumbs to consumerism, one is incapable of wonder, as he himself has pointed out.

⁹⁷ CA 37.

According to John Paul II, wonder occurs when human beings are made aware of the presence of being and beauty which enable them to see in the visible things the message of the invisible God who created them.⁹⁸ This is an important insight -- perhaps the most important insight in all of the encyclicals examined in this study. By rejecting the "anthropological error,"⁹⁹ John Paul II's insights in *Sollicitudo Rei Socialis* concerning the nature of the *cosmos* may finally bear the fruit of wisdom. In *Centesimus Annus*, I find John Paul II removing some of his emphasis from the *imago Dei* in human beings as labour.¹⁰⁰ In section 37 of the encyclical he is actually critical of this view as an "anthropological error," and having ostensibly rejected it, he focuses more upon substance, or nature itself.

This shift of emphasis can also be seen in the somewhat different analysis of the *imago Dei* that appears in *Centesimus Annus*. In this encyclical, the *imago Dei* in human beings is not strictly reducible to work, but is said to transcend work, and to confer upon human beings "an incomparable dignity." Likewise, dignity is depicted as the *imago Dei* in human beings, and this dignity is not reducible to work; for "beyond the rights which man acquires by his own work, there exist rights which do not correspond to any work he performs, but which flow from his essential

⁹⁸ CA 37.

⁹⁹ CA 13, 37.

¹⁰⁰ The most emphasis that I can find in *Centesimus Annus* on work is in section 31. However, there does not appear to be any explicit connection made in this passage between the *imago Dei* and labour.

dignity as a person."¹⁰¹ Here, dignity is not simply the result of labour, but is intrinsically and explicitly tied to the essence of human beings: "It is by responding to the call of God contained in the being of things that man becomes aware of his transcendent dignity."¹⁰² The dignity of human beings is not the result of their labour, but a precondition for labour that is given to them essentially as human beings. Human beings discover their "incomparable dignity" not by strict attention to the potentialities and the uses of things, but by responding to the call of God that is contained in the being of all things. Attention to the essential nature of all things is necessary if human beings are to make proper use of things and properly enjoy the gifts of God's creation. In this remarkable change of direction, John Paul II finally seems to recognize nature as beautiful and as having an inherent value of its own that is not derived from its human utility.

3. CONCLUSION

The general difficulty that all the popes from Leo XIII to John Paul II encounter in their attempts to formulate a coherent account of nature is the problem of technology. A technological orientation towards nature turns us away from the essence of nature itself; all of our attention is instead directed towards the phenomenal use and manipulation of appearances and potentialities. To greater or

¹⁰¹ CA 11.

¹⁰² CA 13.

lesser degrees, the encyclicals studied in this article accept a technological orientation towards nature that is primarily concerned with matters of production and consumption. Insofar as a technological view is accepted, the encyclicals also contain a lie about the most important things -- what in Plato's *Republic* is called "a lie in the soul."¹⁰³ In effect, the technological orientation towards nature tells a lie about the soul itself by denying the psychic presence of the *cosmos*. Without concern for substance, -- whether it is the result of our fading awareness of a natural law that recognizes the natural and moral structure pervading all things, or whether it be the result of a flat denial of any purposes beyond those that are given to human beings as the labouring images of God -- our awareness of the inward reality of all things has faded in technological society. The main difficulty that these popes encounter in their speculations concerning nature is that often, and to varying degrees, they assume that there is no lie at the heart of technological assumptions concerning nature; to various degrees they believe that technology is a "value-neutral" tool that can be applied and guided by Christian faith and charity toward a good end. However, the technological orientation is not neutral. "Value-neutrality" is itself a lie in the soul. For this reason, the technological orientation needs to confess its sins and not simply its errors; its deepest lie in the soul must be drawn out into the light, whereupon it will be shown that technological thinking rests upon a lie about the most important things, and that no amount of faith and charity can turn a lie into the truth without turning into a lie itself.

¹⁰³ Plato. *Republic*, trans. Allan Bloom (Basic Books, 1968) 382a-c.

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