

Christ centered stewardship for the environment

Eckhard Hitzer, College of Liberal Arts, International Christian University, Osawa 3-10-2, 181-8585 Mitaka, Tokyo, Japan

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Summary

The recent Encyclical *Laudato Si* by Pope Francis also highlights environmental stewardship in broad terms. In contrast to this generality, our reflections particularly advance with a fresh look at the person of Christ, his role in the creation of our world as portrayed in the Bible, the origin and commission of man, and the relation of man and Christ. In this triangle of *Christ, world* and *man*, all three are appear related in the principle of Christ centered stewardship (of man) for the (created) environment. To gain insight we review some essential Biblical passage from both the Old and New Testaments. The second half of this work endeavors initial application in the fields of purchasing, building, energy, policy and education. Our approach is that of a natural scientist (of theoretical physics) and convinced Christian with interest in environmental questions.

ローマ教皇フランシスが全世界に発する最重要文書である『(回勅) ラウダー ト・シ』(2015年6月18日)において、環境スチュワードシップ(自然に対する人類の責任と対話による統合的エコロジー)が取りあげられた。このカトリックの総合的見解に対して、いまやわれわれは人格神としてのイエス・キリスト、聖書の地球創成の物語、人類の起源と役割、そして人類の神への関わり合いを、新たな視点において見直すことが非常に重要である。

キリストと世界と人類というトライアングルを取りあげれば、この3つの要素はキリストを中心とする環境スチュワードシップの原理において関連を有する。本稿では、この点を旧約聖書と新約聖書をレビューすることによって検討し、さらに後半において、政治・経済活動、エネルギー消費、教育といった問題への新たな考察へと議論が及ぶことになる。

総じて言えば、この考察は自然科学である理論物理学とキリスト教信仰が、神を中心とした環境スチュワードシップの概念を巡って、環境問題にどのように対処することができるのか、ということを考える上での、重要なイニシアティブを提示していることとなろう。

1. Introduction

Environmental stewardship has already become a wide spread notion. The recent Encyclical *Laudato Si* by Pope Francis (Francis 2015) is just one more example for its promotion. Yet Pope Francis makes every effort to address all inhabitants of the planet, not only Christians, and therefore perhaps he does not center in or derive his argument directly from Christ, but rather from a general Christian philosophical, historical and cultural perspective.

The current set of reflections tries to advance work from first principles and begins with a fresh look at the person of Christ, Christ's role in the creation of our world as portrayed in the Bible, the origin and commission of man, and the relation of man and Christ. We find that in this triangle of *Christ*, *world* and *man*, all three appear related in the principle of Christ centered stewardship (of man) for the (created) environment.

In order to be minimally self-contained we quote some essential phrases from the Bible (all according to the New King James Version) (NKJV 1975), but we encourage the reader to also read these phrases in the full context (Biblegateway 1993), to discover himself more of their deep implications, and to read more passages, which are not reprinted here. We look at relevant passages from both the Old and New Testaments.

The work is organized as follows. Section 2 provides historical motivation for the particular Ansatz chosen. Section 3 then tries to answer the central question of who is Jesus, the Christ, it necessarily also deals with the creation of the world and man. Thus the foundation is laid for investigating in Section 4 the implications for environmental stewardship centered in Christ. How this responsibility towards Christ affects the decision making of an environmental steward is initially investigated in the fields of purchasing (food and energy), building and energy, policy making and education. For the sake of brevity this investigation cannot go into any great depth or detail.

About the position of this work: The author is not a theologian. The author writes from the perspectives of a natural scientist (of theoretical physics), a convinced Christian, and with a certain interest in environmental questions. Foreign (non-English) quotations in square brackets are author translated.

2. Motivation from philosopher René Descartes to former Japanese Prime minister Naoto Kan

Looking back in history we see that historically Cartesianism has critically divided Christianity and science. How did this happen, and was this inevitable, and what are the consequences for us and our environment?

The postulated modern separation of religion and science has its roots in the deliberate analytic thinking of philosopher René Descartes ("Cogito ergo sum." - I think therefore I am.). Yet leading scientists of his time did not share his approach. Prominent among them is the renowned Czech scholar Jan Amos Komenský (Latin name: Ioannes Amos Comenius, English: John Amos Comenius), who was one of the cofounders of The Royal Society of London for the Improvement of Natural Knowledge in 1660, and whom Harvard University invited to be its very first president. He countered (Dietrich 1995):

Bei Descartes sei der Mensch Descartes nicht zu erkennen. Eine noch schärfere Kritik als an Descartes übt Comenius an den Cartesianern, die seiner Meinung nach vergessen, dass ihr Lehrer den Wert der göttlichen Offenbarung zwar philosophisch nicht reflektierte, aber doch persönlich anerkannte. Bei ihnen zerfalle die Einheit von Gott, Welt und Mensch und die innere Einheit des Menschen in seinem Gott-, Selbst- und Weltbezug endgültig. So kommt Comenius am Ende seines Lebens zu einem vernichtenden Urteil über den Cartesianismus. Er sei der Krebschaden der Philosophie.

[With Descartes the man Descartes cannot be recognized. Comenius exercises even sharper criticism against the Cartesians than against Descartes. In his opinion they forgot that their teacher did not philosophically reflect the value of divine revelation, but he personally acknowledged it. With them the unity of God, world and man ultimately falls apart as well as the inner unity of man in his relation to God, himself and the world. In this way at the end of his life Comenius reaches his devastating verdict against the cartesianism. It is the cancer damage of philosophy.]

What did Descartes think about Comenius? In a personal meeting with Comenius Descartes said (word by word) (Dietrich 1995a):

Ich werde über den Bereich der Philosophie nicht hinausgehen; so wird bei mir nur ein Teil dessen sein, was bei dir ein Ganzes ist.

[I will not go beyond the field of philosophy; therefore with me there is only a part of what is with you a whole.]

Descartes acknowledged the holistic view of Comenius, the later (including today's) followers of Descartes (the Cartesians) do not. I think it therefore in my current work necessary to retain the original appreciation of Descartes for Comenius and the well founded criticism of Cartesianism by Comenius. I know that this is contrary to what the vast majority of modern scientists believe, who uncritically tend to subscribe to the fragmented world view of Cartesianism.

Let me add a few quotations by some of the most well-known scientists, which I hope will in some way help to further motivate the approach taken in this work, since they too continued in the footsteps of Comenius and not Cartesianism. The first is by Johannes Kepler (1571--1630), the famous astronomer:

Schoepfer und Herr, ich habe das Werk meines Lebens vollbracht mit den Geisteskraeften, die du mir geschenkt hast. Ich habe der Menschheit die Herrlichkeit deiner Werke verkuendet, soweit als mein Verstand deren uebermenschliche Majestaet zu begreifen faehig war. Lobe Gott, meine Seele, solange ich lebe! (Steinweg 2010)

[Creator and lord, I have done the work of my life with the mental powers, with which you have endowed me. I have announced to mankind the glory of your works, as far as my mind was able to comprehend their superhuman majesty. My soul praise God as long as I live!]

The next is by the famous founder of calculus in mathematics Gottfried Wilhelm Leibnitz (1646--1716):

L'on voit que Jesus-Christ, achevant ce que Moise avait commence, a voulu que la divinite fut l'objet, non seulement de notre crainte et de notre veneration, mais encore de notre amour et de notre tendresse. (Leibniz 2015)

[One can see that Jesus Christ, completed what Moses did begin, and that he wanted, that that God would be the object not only of our fear and adoration, but even more of our love and our affection.]

Furthermore, the famous British physicist and mathematician Sir Isaac Newton (1643--1727) demonstrated the unity of Christian faith and natural science in his work by saying:

I can take my telescope and look millions of miles into space, but I can lay it aside and go into my room, shut the door, get down on my knees in earnest prayer, and see more of heaven and get closer to God than I can assisted by all the telescopes and material agencies on earth." (Salwak 1999)

In the footsteps of Newton, the renown inventor of modern electromagnetism James C. Maxwell (1831--1879) was very public about his unified view of Christianity and scientific research, by putting up in big golden letters at the front gate of his newly established Cavendish Laboratory, Cambridge, UK the following Bible verse (Psalm 111:2)

The works of the LORD are great, sought out of all them that have pleasure therein.

Moreover, an interesting quotation that observes the relation of atheism to meaninglessness is the following from the last posthumous work of the famous mathematician, Sanskrit scholar and theologian Hermann Grassmann (1809-1877):

Atheismus ist die nothwendige Folge diese Abfalles von Christo. Mit dem Glauben an Gott erlischt aber auch der Glaube an die Unsterblichkeit, da diese, wenn Gottes Wesen gelegnet wird, keinen Sinn mehr hat. Ist der Mensch aber nicht unsterblich, so faellt sein

ganzes Wesen der Vergaenglichkeit anheim; die Existenz eines selbstaendigen Geistes in ihm wird unmoeglich, da die scheinbaren Bewegungen des Geistes nur durch sinnliche vergaengliche Kraefte bedingt sind, der Geist sinkt zur Materie herab. Die Wahrheit, die Erkenntniss hat keinen Sinn mehr, da sie nur durch Nervenstroemungen in dem Subjecte bedingt sind, und es ganz gleichgueltig [ist], ob diese Stroemungen in dem einen so, in dem andern anders erfolgen. (Grassmann 1878)

[Atheism is the necessary consequence of the falling away from Christ. But with the faith in God extinguishes also the faith in immortality, because the latter becomes meaningless, if the nature of God is denied. If man is no longer immortal, then his whole being becomes subject of passing away; the existence of an independent spirit (mind) in him becomes impossible, because the apparent motions of his spirit (mind) are only conditioned by emotional passing forces, the spirit (mind) falls down to the level of matter. The truth, the knowledge has no longer any meaning, because they are only conditioned by nerve currents in the subject, and it absolutely does not matter, if these currents occur in one (person) in this way and in another (person) in another way.]

To relate these observations to the topic of environmental stewardship in the 21st century, I want to quote former Prime minister of Japan, Naoto Kan on his view of the relation of technology, economy, civilization, nuclear power and philosophy:

Die Atomkraft ist nicht nur eine Angelegenheit der Technik oder der Wirtschaft, sondern durch sie wird die Lebensweise der Menschen, die Zivilisation schlechthin in Frage gestellt. Man kann sagen, dass der Atomunfall durch die Wahl einer fehlgeleiteten Zivilisation verursacht worden ist. Wenn das so ist, kann weiter geschlussfolgert werden, dass der Atomausstieg nicht so sehr ein technisches Problem ist, sondern letztendlich vom Willen der Buerger abhaengt. Es ist ein philosophisches Problem. (Kan 2015)

[Nuclear power is not only a matter of technology or economy, but it totally puts the human way of life, civilization itself in question. It is possible to say, that the nuclear disaster was caused by the misguided choice of a civilization. If that is so, we can further conclude, that the abandoning nuclear power is not so much a technical problem, but ultimately dependent on the will of the citizens. It is a philosophical problem.]

I do want to go one step further. For me it is even not only a philosophical problem, it is following Comenius and Grassmann the problem of man's consequent descent after the Cartesian division into totally meaningless materialism. And especially Japan had to repeatedly suffer in its recent history the consequences both from military and civil nuclear technology. As Kan further writes:

Die Entwicklung von Atomwaffen ist ein Widerspruch in sich selbst, so als wenn die Mäuse eine Mausefalle konstruieren würden. (Kan 2015, page 34)

[The development of nuclear arms is a contradiction in itself, just as if mice would construct a mouse trap.]

In his evening lecture on 16th of September 2015 at the Ost-Asien-Gesellschaft Tokyo, he pointed out, that even in 2011 “God The Almighty” has protected Japan from the Worst-Case-Szenario for Fukushima Daiichi Nuclear Power Stations. (See also (Kan 2015, page 31)) Even as a secular politician former Prime minister Kan in retrospective develops a sense for God’s providence, when man reaches the absolute limit of human and technological powers. But is he aware that following Comenius even modern philosophy is cancer stricken with Cartesianism?

This constitutes the very motivation for me to investigate man’s proper relation to the environment without following the tragic path of Cartesianism. Even within Christianity, I particularly want to follow the “profoundly Christ-centered” (Wikipedia 2015) approach of Nikolaus Ludwig Graf von Zinzendorf (Geiger 2000), contestably the theological heir of Jan Hus (1369-1415) and John (Jan) Comenius.

3. The first question we need to answer is who is Jesus, the Christ (Messiah)?

3.1 The Gospel of John and the first creation report in Genesis

In the New Testament John 1:1-5 tells us:

In the beginning was the Word, and the Word was with God, and the Word was God.
²He was in the beginning with God. ³All things were made through Him, and without Him nothing was made that was made. ⁴In Him was life, and the life was the light of men. ⁵And the light shines in the darkness, and the darkness did not comprehend it.

So Jesus is the Word. What role did this word play in creation? For this we can look at the first chapter of Genesis. There we read eight times “God said”. This is unique to the Biblical creation report, that in Genesis 1 everything is created through the Word of God. This is indeed very natural from a modern molecular genetics and information theory point of view: All living organisms are information based in protein sequences, a most highly non-trivial type of true information on all levels. (Gitt 2006)

After everything is created, man is created and commissioned:

Then God said, “Let Us make man in Our image, according to Our likeness; let them have dominion over the fish of the sea, over the birds of the air, and over the cattle, over

all the earth and over every creeping thing that creeps on the earth.”²⁷ So God created man in His *own* image; in the image of God He created him; male and female He created them.²⁸ Then God blessed them, and God said to them, “Be fruitful and multiply; fill the earth and subdue it; have dominion over the fish of the sea, over the birds of the air, and over every living thing that moves on the earth.”²⁹ And God said, “See, I have given you every herb *that* yields seed which *is* on the face of all the earth, and every tree whose fruit yields seed; to you it shall be for food.³⁰ Also, to every beast of the earth, to every bird of the air, and to everything that creeps on the earth, in which *there is* life, *I have given* every green herb for food”; and it was so.³¹ Then God saw everything that He had made, and indeed *it was* very good. So the evening and the morning were the sixth day. (Genesis 1:26-31)

The Trinitarian personality of God is implicit in “Let Us ...”. And human character, calling and dignity (UDHR 1948) is communicated by the words: “in Our image, according to Our likeness”, emphasized again in “So God created man in His *own* image; in the image of God He created him; male and female He created them.” This also reveals the undeletable spiritual and biological duality between man and woman, which against all empirical scientific observations is denied by modern gender mainstreaming ideology (Kuby 2014). The commission of man is dominion over all the earth and all living beings on earth. This is followed up by a blessing and provision of food. Then creation is not only complete, but God concludes it to be very good. Note that the Hebrew word for man in Genesis 1 is adam, which means from the earth (adama=earth, soil). Note further, that as in human business relationships or administration, the commissionee (man) bears full responsibility to the commissioner (God).

3.2 The second creation report in Genesis

Then there is an interesting second report of creation in Genesis 2. In this report man is formed from dust on the ground:

And the LORD God formed man *of* the dust of the ground, and breathed into his nostrils the breath of life; and man became a living being. (Genesis 2:7)

Man receives the breath of life, where it is good to remember that the Hebrew word “ruach” means both spirit and wind. So man is a combination of matter, information and spirit in the image of God. But who is God? How can we know about God? John 1:18 answers this question:

No one has seen God at any time. The only begotten Son, who is in the bosom of the Father, He has declared *Him*.

We can know God only through Jesus.

Yet man has a tragic heritage of deep separation from God. In Eden Eve and Adam fell for the tempting words of the serpent:

You will not surely die. ⁵ For God knows that in the day you eat of it your eyes will be opened, and you will be like God, knowing good and evil. (Genesis 3:5,6)

Indeed man ate from “the tree of the knowledge of good and evil” (Genesis 2:9, Genesis 3:6). But knowing evil by having committed it, meant separation from the goodness of God they had enjoyed in Eden. The result was a curse on the serpent and a curse on the ground, and man’s ultimate cursed return (death) to the ground and dust he has been taken from (Genesis 3:14-19). This is the world we live in until the present day. Decay of the environment, extinction of species, etc. are all manifestations of evil, not of God’s original good creation. Man is out of touch with the good, man cannot find the way back to Eden, blocked by “cherubim at the east of the garden of Eden, and a flaming sword which turned every way, to guard the way to the tree of life.” (Genesis 3:24)

3.3 The New Testament view

But the Bible does not end here. John the Baptist testifies of Jesus: “Behold! The Lamb of God who takes away the sin of the world!” (John 1:29). And later Jesus himself declares:

For God so loved the world that He gave His only begotten Son, that whoever believes in Him should not perish but have everlasting life. ¹⁷ For God did not send His Son into the world to condemn the world, but that the world through Him might be saved. (John 3:16+17).

Note that the above is the very central Christian message, which is traditionally referred to as “Evangelium in nuce, the Gospel in a nutshell” (Calvet 2015). It is very profound to note, that salvation in Jesus extends not only to individual believers, as Jesus says clearly “that the world through Him might be saved” (John 3:17). So there is an aspect of salvation and restoration surpassing the individual follower of Jesus. And we may well take the meaning of world in a wide sense as applying to the natural world as well.

This interpretation is confirmed by the Apostle Paul in his letter to the Romans:

For the earnest expectation of the creation eagerly waits for the revealing of the sons of God. ²⁰ For the creation was subjected to futility, not willingly, but because of Him who subjected *it* in hope; ²¹ because the creation itself also will be delivered from the bondage of corruption into the glorious liberty of the children of God. (Romans 8:19-21)

In the world around us we can easily see creation in the bondage of corruption. And we deeply sense that this is in deep contrast to how God originally intended his creation to be.

But we still need to know more about Jesus Christ. In Colossians 1:13-20 we learn:

He has delivered us from the power of darkness and conveyed *us* into the kingdom of the Son of His love, ¹⁴ in whom we have redemption through His blood, the forgiveness of sins. ¹⁵ He is the image of the invisible God, the firstborn over all creation. ¹⁶ For by Him all things were created that are in heaven and that are on earth, visible and invisible, whether thrones or dominions or principalities or powers. All things were created through Him and for Him. ¹⁷ And He is before all things, and in Him all things consist. ¹⁸ And He is the head of the body, the church, who is the beginning, the firstborn from the dead, that in all things He may have the preeminence. ¹⁹ For it pleased *the Father that* in Him all the fullness should dwell, ²⁰ and by Him to reconcile all things to Himself, by Him, whether things on earth or things in heaven, having made peace through the blood of His cross.

Here Paul again reaffirms what John already taught at the beginning of his Gospel, that all things are created by Jesus, through Jesus and for Jesus. And in Jesus dwells the fullness of God. Jesus leads to a reconciliation of all things in the universe, through the peace making of Jesus on the cross. That is why a true Christian effort for the environment cannot be other than Christ centered. Anything else is incoherent with Old and New Testament teaching.

The centrality of Christ is reaffirmed in Paul's pastoral prayer:

... that their hearts may be encouraged, being knit together in love, and *attaining* to all riches of the full assurance of understanding, to the knowledge of the mystery of God, both of the Father and of Christ, ³ in whom are hidden all the treasures of wisdom and knowledge. (Col. 2:2+3).

And Paul warns Christians against human(istic) folly:

Beware lest anyone cheat you through philosophy and empty deceit, according to the tradition of men, according to the basic principles of the world, and not according to Christ. ⁹ For in Him dwells all the fullness of the Godhead bodily; ¹⁰ and you are complete in Him, who is the head of all principality and power.

By inquiring who is Jesus Christ, we also learned about the origin of the world, and of man himself, his broken relationship to God and to the world (creation), and the dynamic state of environmental decay we observe. But far beyond this hopeless picture shines the light of Christ giving new hope to the restoration, reconciliation and peace between God and man, man and man, and man and the natural environment (creation). As Luther recognized and warned:

Gute Werke machen nimmermehr einen guten, frommen Mann, sondern ein guter Mann macht gute, fromme Werke. (Luther 1520)

[Good works never make a good pious man, but a good man makes good, pious works.]

A Christian life begins with reconciliation with God. Its fruit is a life that shows this reconciliation and peace and spreads it to his fellow men and the world around.

The world around is created by God, it belongs to God. God has commissioned man to govern the world on God's behalf. As pointed out earlier, this naturally includes full responsibility to the creator. The Bible does not shy away from describing in the strongest colors and absolute terms that God will request this responsibility to be fulfilled in every detail. This can be seen from beginning to end in the Old Testament, in the teachings of Jesus and finally in the book of Revelations. And again the judge we face is Jesus:

For the Son of Man will come in the glory of His Father with His angels, and then He will reward each according to his works. (Mat. 16:27)

For Jesus as judge of the world see also Matthew 25:31-46.

4. What does this mean for stewardship for the environment?

4.1 Stewardship inseparably related to Jesus Christ

It is not an impersonal form of stewardship. The stewardship is towards Jesus Christ. The environment ultimately belongs to him. The way we deal with the environment is the way we deal with what he has entrusted to us. If we deal responsibly with it, Christ will positively reward us. If we are negligent or only self-benefit oriented, then we will face severe punishment. So thinking about the environment and how we should deal with it, is for the Christian inseparable from thinking about Christ. Trying to mentally separate (compare the discussion of Cartesianism in Section 2) the environment from Christ, is a recipe for failing to fulfill our responsibility as stewards. On the level of secular law we take it for granted that we need to respect private property, public property, private forests, state forests, the property of companies and associations, of individuals and corporations, etc. Much of human law deals with these matters, police, court and state authorities safeguard property. How much more must a conscientious Christian expect to have to account for how he dealt with the property of Christ, with the world and in particular the natural environment created and entrusted to us by Christ?

In order to bring this from abstract reflection to the level of concrete decisions, I will try to clarify the implications for several exemplary situations.

4.2 A Christ centered steward will decide and act sustainably.

As a steward to not act sustainably means, that we would principally agree with long term irreversible degradation in the form of inevitable depletion of resources, death of species, pollution that cannot be cleaned up, changes in the environment, which become a long term burden for future generations, degradation of soil, water and air quality and the human, animal and plant living environment, etc. Like in accounting, without sustainable asset management, the value of what we are able to return at the end of our term of service, would have become markedly less than what we received when we began our service. But as good stewards before Christ, the opposite should be true, we should not only preserve the value of what we are entrusted, but rather work towards increasing it. This obligation is confirmed in Jesus' Parable of the Talents (see Matthew 25:14-30).

What ways of sustainable value increase are there in our modern world of the 21st century anno Domini? We could try to answer this question from a global top down perspective down to the minute details of our lives, or we begin with our daily lives and look at the spheres of influence at larger and larger scales. I prefer to take the second approach, and to not provide an overarching complete systematic analysis, but rather to pick experience relevant situations, which simply illustrate what might be called principles of Christ centered stewardship in concrete circumstances.

4.3 Applying principles of Christ centered environmental stewardship

4.3.1 Purchasing food and energy

When going shopping for food, I have a choice of buying fair trade products and organic products. Fair trade products provide better social stewardship, organic products serve to reduce agriculture caused pollution, preserve the health of farm workers, and consist a healthier diet for me and my family. The few added percentage points to the price are an investment into social justice and effective preventive health care.

In many industrialized countries consumers nowadays have a choice to liberally buy electricity from a variety of energy producers and distributors. This includes an ethical choice between sustainable regenerative energy sources, and nuclear and fossil energy sources, which degrade the environment for present and future generations. Again in the short term electricity from sustainable regenerative sources may seem more expensive, but thinking long term as a Christ centered steward shows the enormous benefits for the environment, society, peace, local economy, and employment market. Honestly and objectively analyzing the long term (including now and for future generations) costs and benefits of the total system of energy generation, distribution and consumption inevitably shows that (even in economic terms) there is no true alternative to sustainable regenerative energy sources.

4.3.2 Buildings and energy

Building a new building or house as Christ centered steward means, that I am not only interested in short term economic and financial benefits, but will look for a whole life eco-balance and cost analysis. It will become part of my decision making process to give in project decisions a prominent role to the impact a building project has on the local and global environment on all scales. This cannot be achieved by doing conventional planning and adding some form of cost and eco-balance analysis later. It is rather necessary from the very beginning to gather and evaluate this information on an expert basis for inclusion in the project commission, design and implementation process. And at the present time as a concrete example, buildings of all scales for all purposes in all geographic locations can be built according to Passive House Design standards (Passive 2015, Cotterell 2012). These buildings reduce the conventional energy consumption for heating and cooling by up to 90%, while at the same time increasing the lifetime of the building itself. Furthermore studies have shown, that the added construction cost is more than recuperated in a total life time cost analysis of these buildings, including all the fine details of added bank interest rates, etc. The experience of inhabitants in such houses, as well as research have shown that there are objective additional concrete long term comfort and health benefits for sufferers of asthma and other respiratory diseases, prevention of allergies, and prevention from death by heat shock (In Japan every year 20,000 people die of heat shock, while 4,000 die by traffic accidents (Mori 2015)). The Passive House Design standard can still be improved upon by deliberately choosing recyclable locally made materials with low embodied energy (Bere 2013).

Especially when new energy efficient buildings are constructed there is furthermore nowadays the choice to make the provision of energy for the building self-sustainable or even net positive for the environment. Renewable energy systems like solar PV, solar collectors, ground source heat pumps, and local sustainable biomass energy provision can all be taken into consideration and not only provide all the energy needed by a single house or building, but turn any energy efficient building into a plus energy facility. Again this may lead to higher initial facility investments, but again these investments if properly planned can be expected to pay for themselves in the long term. But for this to happen early (ab initio) consideration in the concept, design, planning and commission of building projects are essential (Cotterell 2012).

4.3.3 Policy frameworks and education

In the wider sphere of municipal, regional, national and international policy frameworks, Christ centered stewards will try to find ways for creating economic conditions of taxation

and other forms of regulation and incentives, which encourage Christ centered stewardship on the individual level of consumers, families, individual and corporate entities, as well as in municipal, regional, national and international communities. This can take flexible forms like feed in tariffs, subsidies for energy efficient houses, higher and higher building standards for energy efficiency, abolishment of subsidies for fossil and nuclear fuels and shift of financial support instead to the encouragement of sustainable renewable sources of energy, education and labeling on fair trade products and eco-materials, etc.

A special responsibility rests with educators and educational institutions, because they are entrusted young (Comenius: "... die kostbarsten Kleinodien der Welt ...", freely translated: the most precious gems of the world (Comenius 1657)) people all created in the image of God. The formation of the next generation of humanity as a Christ centered educator, means to teach about Jesus the Christ and on the insights of Christ centered stewardship based on biblical teachings and to try to create a class room environment, including the human and physical environment of the school or institution, so as to be all conducive towards demonstrating, apprehending and experiencing an environment designed and planned with Christ centered stewardship as guiding principle. It is a classical insight in architecture, that a building conveys the world view of the designers. This leads to an undeletable impression on the minds of the users of buildings. Therefore class room buildings, physical education facilities, refectories, dormitories, administrative buildings, laboratories, etc. should all reflect a superb mind of Christ centered stewardship in their design, harmony with the environment, ecological and energy efficient building fabric, etc. Lowering the standards here, and only going for superficial add on solutions, like placing a few solar panels on the roof after the whole building has been planned conventionally, or prescribing in the post-construction phase a rigorous management of energy saving does reveal a spirit of hypocrisy to the user, even without any form of explicit blame. It would mean that a prime opportunity for experiential education, which often goes in the depth of its formative impression beyond any form of verbal or multimedia based instruction, has been missed for generations to come.

5. Conclusions

Let me conclude with the important observation, that Christ centered stewardship in the Biblical context is not an impersonal management principle. This is seen most clearly in the Apostle Paul's first letter to the Corinthians, chapter 13:1-3:

Though I speak with the tongues of men and of angels, but have not love [Greek: agape], I have become sounding brass or a clanging cymbal. ² And though I have *the gift of* prophecy, and understand all mysteries and all knowledge, and though I have all faith, so

that I could remove mountains, but have not love, I am nothing.³ And though I bestow all my goods to feed *the poor*, and though I give my body to be burned, but have not love, it profits me nothing.

In this work we have first investigated the triangle of Jesus, the Christ (1), the (created) world (2) and man (3). Christ centered environmental stewardship most naturally relates all three by man taking responsibility towards Christ for the environment fully entrusted to him by Christ. Yet the new understanding thus gained needs to be applied in order to have any practical value. Therefore the second part of this work endeavors initial investigations into application in the fields of purchasing, building, energy, policy and education. The reader is invited to deepen his understanding of the foundations of Christ centered environmental stewardship by learning more about it from the Bible, since the current short reflection can by no means be exhaustive. And the reader is moreover invited to try to apply Christ centered environmental stewardship in further areas, like water management, pollution control, manufacturing, protection of natural (created) diversity, climate protection, research, product development, etc.

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