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Volume 41 | Number 4 Article 4

June 2013

Putting the "And" Back Into Genesis 2:15

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Editor's note: This article is a revised version of a paper presented by Kevin Timmer at the Christian Engineering Education Conference held at Baylor University, Waco, Texas, in June 2009.

Putting the "And" Back Into Genesis 2:15

by Kevin J. Timmer

Abstract

As our consumeristic society bumps up against creational limits, technological and economic progress is often pitted against environmental stewardship. Those opposed to governmental regulation of pollution and resource use claim that these restrictions hinder the growth of the economy, while those in favor of additional control acknowledge that we will likely have to make sacrifices as a result. The adversarial relationship between humankind and the rest of the creation has a long history with many ramifications. This paper begins to explore how this twisted relationship has distorted the engineering design process by narrowing the definition of the engineer's stewardship task. By revisiting the garden and our original mandate, we will broaden our understanding of our stewardship task, from one of "doing less harm"[1] to one of enabling creation to flourish. A richer understanding of our proper relationship to the rest of creation has the potential to spur creative solutions to meet the needs of our world while pointing to Christ's kingdom of shalom.

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Introduction

In the last few decades, societies have become increasingly aware of the planetary limits of our cultural activities. These limits threaten the consumeristic lifestyle that many in the West have adopted and others in the world are striving to achieve. Concern for the environment is often seen as a threat to economic growth and therefore to progress. Automobile manufacturers bemoan CAFÉ (Corporate Average Fuel Economy) standards, which they predict will threaten their economic competitiveness. As the U.S. drags its feet on committing itself to climate change reform for fear it will hurt the economy, environmental groups fight to keep the thirsty petroleum industry out of the Arctic National Wildlife Refuge, and the livelihood of people, like loggers, is pitted against the lives of other creatures, like the spotted owl. Through these examples and countless others, we see technological and economic growth seemingly at odds with environmental stewardship. Meanwhile, many have recognized our path as unsustainable and warn of future catastrophe. Lester Brown, president of

the Earth Policy Institute, writes "We are crossing natural thresholds that we cannot see and violating deadlines that we do not recognize. Nature is the time keeper, but we cannot see the clock."[2] Richard Wright of Gordon College introduces his environmental science text with this warning: "However, if we fail to achieve sustainability by our deliberate actions, the natural world will impose it on us in highly undesirable ways … ."[3] Still, others continue to proclaim salvation through increased technology, as demonstrated in this statement from Freeman Dyson: "Three huge revolutionary forces are being harnessed just in time for the new century: the sun, the genome, and the Internet. These three forces are strong enough to reverse some of the worst evils of our time…[like] poverty…."[4] The realities of the tension between creation development and creation care suggest that we are living as if Genesis 2:15 read "…. to till it or keep it" rather than by the original mandate, "…. to till it and keep it" (RSV). This paper is an initial attempt at understanding the implications of the tension between technology and the environment for engineering and how embracing the comprehensive scope of our stewardship task might free us to design in ways that allow all of God's creation to flourish. A brief background to the issue is followed by an exploration of the biblical foundation for a holistic call to stewardship. The paper concludes with three examples meant to illustrate comprehensive stewardship at work and gives a few ideas for how engineering faculty can respond to the call to be stewards.

Background

The tension between humans and the rest of creation, including the environment, is, of course, as old as the "thistle curse" of Genesis 3:18. The original harmonious relationship between humanity and the rest of creation became a struggle after Adam and Eve's fall into sin and an all-out assault after the Renaissance and Enlightenment (see Chapters 5-9 of *Earthkeeping in the Nineties*[5] for a brief history of this progression). Intoxicated with the prospect of controlling its own destiny through the power of human reason, western culture has largely abandoned God and his call to serve and has instead sought autonomy through technological power and economic accumulation. In this context, progress has come to be defined as that which expands technology and grows the economy, with the result that the rest of creation becomes raw material for this end.

As faith in technology and the economy has grown, it has given rise to consumerism. Alan Durning argues in his book *How Much is Enough?*[6] that western societies have moved beyond materialism to consumerism. In contrast to materialism, which places its faith in the accumulation of wealth, consumerism is anchored in the act of selling, buying, and throwing. Consumption itself becomes the sought-after source of happiness. Quality takes a back seat to price, as people welcome planned obsolescence, which frees them to upgrade without guilt. Consumer-based economics, at its extreme, seeks to maximize profit at nearly any cost. Loss of ecosystems and the extinction of species are only concerns if there is an immediate impact on human wellbeing in terms of higher prices or the loss of a potentially useful genetic resource. This anthropocentric attitude has triggered a counter-progress, preservationist movement that puts the needs of the rest of the creation ahead of the needs of humans and, at its extreme, as expressed by some in the Deep Ecology movement for example, celebrates the death of humans as a measure of liberation for the rest of nature. These two ideologies serve as poles for the tension between technological development and environmental preservation.

In the last few years, many Christians, concerned about large scale destruction of the environment, have authored books[7] drawing attention to God's expressed love for the creation and his call to man to preserve and take care of it. However, some of these writings tend to apply the cultural mandate of Genesis 2:15 as two separate mandates—to develop and to preserve—that must somehow be balanced, rather than a single rich call to stewardship in all that we do. These books emphasize the importance of creation preservation with little or no mention of our call to unfold and develop the creation. For example, Scott Hoezee writes about the creation, "As image bearers, it is our holy vocation to notice it, love it, and preserve it."[8] Given the wide-scale destruction of species and ecosystems and the general ambivalence of the church toward creation care, a one-sided presentation may

be warranted. However, a one-sided presentation, while effectively calling attention to our God-given responsibility to care for the environment, also tends to propagate a distorted view of our stewardship task. This distorted view results in our attempt to balance human needs and development against the needs of the rest of the creation. And even though the authors of *Earthkeeping in the Nineties* and *Responsible Technology*[9] do give a more holistic description of our stewardship task, they tend to emphasize either the preservation of creation or the unfolding of creation to meet human needs, respectively, in their application proposals.

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While framing the discussion of our stewardship task as either primarily a process of unfolding creation or primarily a task of preserving creation may serve a valuable role in particular contexts, such a frame can also limit our understanding of the richness of the cultural mandate and the potential design alternatives that may flow from it. When the cultural mandate is incorrectly understood as "development or preservation," the responsible designer is asked to choose sides and is often frustrated by this dichotomy. Technological development is seen as being at odds with creation preservation. So, for example, the civil engineer would feel compelled to choose either to practice the profession of highway building or to preserve habitats important to the health of a particular ecosystem. In this context, exercising stewardship during engineering design is often practiced as a process of minimizing damage. While minimizing creational damage by reduction of harmful emissions, fossil-fuel use, construction-site soil erosion, or the rate of species extinction is often the best that we can do in a sin-twisted world, these efforts fall short of our singular task—enabling the whole of creation to flourish to God's glory and toward the restoration of shalom. A designer that appreciates the full scope of God's call to stewardship may be able to see alternative solutions to problems that simultaneously serve mankind and the rest of the creation.

Identifying creationally sound alternative designs is only part of the challenge. The engineering design process is often driven by a consumeristic worldview. When alternative designs compete based on profit margins, the result is often "an attractive product that is affordable, meets regulations, performs well enough, and lasts long enough to meet market expectations."[10] In this setting, creation care becomes an unaffordable luxury but for a splash of "green paint," as apportioned by a market analysis. The wholesale exploitation of the material world to feed the economy is assumed, and even as Christian engineers we are often content to embrace "do-less-harm"[11] as the full expression of our stewardship calling. We have allowed our stewardship task to be reshaped into the space provided for it by the consumeristic mission. In a world in which economies are bumping up against creational limits, consumerism eagerly accepts a "do-less-harm"[12] stewardship ethic, particularly when human well-being is a concern or when green technology positively impacts the bottom line.

The straight-jacketing of the design process by consumerism has troubled me for a long time, particularly in environmental concerns. My formal introduction to environmental conservation and ecology in high school resonated with an adolescence spent outdoors on the family acreage. For a variety of reasons, I chose to pursue a technical degree (engineering actually chose me, but that is another story) in college in lieu of ecology. However, as I earned an engineering degree, I also developed my outdoor interests and began to study native prairies as a hobby. For many years as I taught and practiced engineering, I saw firsthand the rift between environmental stewardship and technological development, knowing in my heart that such a rift was not what God had intended. During my

early years of teaching I felt that the engineering curriculum adequately addressed energy and materials stewardship but that there was little room or place to discuss ecology and the stewardship of the whole of creation. And as a Heating, Ventilating, and Air Conditioning (HVAC) engineer, I often consulted building owners and architects unwilling to consider energy conservation measures unless simple payback periods were less than two years, despite their hope that the building would last much longer than that. The day-to-day world of technique seemed far removed from the biblical call to creation care. During those years I felt paralyzed by the enormity of the problem and was compelled instead to live with the dualism by doing engineering during the week and exploring prairies on the weekends. However, my recent doctoral studies in using biomass as a renewable source of energy and materials allowed me to combine my interest in prairies and energy conservation and gave me renewed vigor to explore the biblical relationship between technological development and the environment.

Biblical Foundation

In the New Testament, Christ teaches that through him the law is fulfilled and that God's kingdom has come, although it is not yet fully revealed. He then calls each of us to be his disciples by seeking first his kingdom, a kingdom of shalom. Shalom is an Old Testament word that refers to the restfulness, contentment, and harmony of a life lived in perfect obedience to God's will. Shalom is a condition in which everyone and everything is in right relationship all the time.[13] Both human and nonhuman creation is enabled to flourish by becoming everything God created it to be. This flourishing condition existed before Adam and Eve's fall into sin; its complete restoration through Christ was envisioned by Isaiah (Isaiah 11) and John (Revelation 21).

While we, as whole beings, seek God's kingdom, it can be helpful for us to think of our sanctification as a process of restoring shalom in our relationship with God, with others, and with the rest of creation. The need to seek a restored relationship with God and with others is often clear to Christians, whose brokenness in personal relationships awakens our sense of failure to live obediently before God and of our need for forgiveness and restoration through Christ. God's call to us to seek a restored relationship with the rest of creation has not always been as obvious to many Christians but it is no less real.

God's love for His creation is proclaimed throughout scripture, as Cal DeWitt[14] and others[15] have made clear. The apostle Paul proclaims Christ's mission to "reconcile to himself all things" (Colossians 1:20). Ezekiel gives us a wonderful vision of a restored relationship between humanity and the rest of creation (Ezekiel 36:6-12), and we read in Romans 8:18-22 that the creation groans as in child-birth for this restoration. Indeed, even our response to Christ's call to love our neighbor, current and future, is woefully inadequate if we are polluting our neighbor's drinking water or destroying the earth's fruitfulness.

Creation knew this perfect relationship before the fall. In Genesis 1:28, we read that mankind was not given the earth but was given dominion or authority over the rest of creation. Our relationship to the rest of creation in light of this authority is further clarified in Genesis 2:15, where we read, "The Lord God took the man and put him in the garden of Eden to till it and keep it" (RSV). Cal DeWitt has explored the details of this mandate; the following discussion is based on his efforts. The Hebrew word for "till" is *`abad,* which can also be translated as "to work," "to dress," or "to serve." "Keep" is the Hebrew word *shamar,* which is also used in the Aaronic blessing, "The Lord bless you and *keep* you" (Numbers 6:24, RSV). That is, "the Lord bless you and sustain you, prosper you, or cause you to flourish." In this context DeWitt understands our creational-keeping task as a dynamic, human-involved prospering rather than a preserving or set-aside type of keeping.[16] Therefore, our mandate "to till and to keep" is best understood as two different ways of stating the same thing, "to serve and to prosper the garden," rather than two separate tasks. In the initial chapters of Genesis, God not only is calling us to be stewards or managers of his creation but also is asking us to bear his image by ruling it as loving servants. God expects us to serve creation by enabling it to flourish in every conceivable way. Flourishing here certainly means allowing natural

creation to thrive in all its diversity, but it also includes responsible unfolding or development of the creation through all our cultural activities, including technology. Through obedient development we make it possible for creation to bring praise to God in ways it couldn't without human involvement. In keeping with God's plan of shalom, obedient design unfolds creation so that the whole of creation, including humanity, flourishes. In other words, we must enable all of creation to flourish through time as a growing chorus of praise with ever increasing diversity. When we steward or serve creation in this way, we cultivate shalom.

The authors of *Responsible Technology* describe our technological task "as a form of service to our fellow human beings and to the natural creation. This means that we are to develop technology in such a way that the blessings, riches, and potentials God has put in creation are allowed to flower. We are called to do technology in such a way that the creativity and joy for which God created men and women can exist in abundance, the riches of the physical world can be uncovered and utilized, and the plant and animal worlds can be perceived and used for what they are and for what God intends them to be."[17] I would modify this statement slightly to include the physical world as part of what we are called to help flourish and not just see it as something to be uncovered and utilized. Consider the following as an example of the comprehensive way in which we can serve the rest of the creation.

As members of particular ecosystems, we might say that oak trees biologically flourish and have flourished for a long time. They grow, reproduce, collect solar energy, and, by providing food and shelter for a host of plants and animals, give back to their ecosystems. But oaks are also enabled to flourish in ways they could not on their own when humans selectively harvest some oaks and skillfully manufacture them into beautifully grained tables and desks. Through this unfolding, the oak's voice in the chorus of praise has been enhanced. Mankind serves oak trees in this way. We enable them to become what God had intended. When we do this well, I believe we can go beyond Cal DeWitt's stewardship goal of "enjoying creation's fruit without destroying its fruitfulness"[18] to actually increase creation's fruitfulness. God intends mankind to unfold and develop creation, to get their hands dirty, to add voices to the choir, but not at the expense of other voices. Oaks must also be allowed to continue to flourish in their natural calling as integral members of ecosystems by reproducing and by producing food and shelter for other creatures. Obedient stewardship not only enables the entirety of creation to flower in every conceivable way but also builds just, harmonious, and delightful relationships among God, mankind, and the rest of creation.

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Of course, this comprehensive potential has been seriously crippled by Satan's work and sin's distortion since Adam and Eve's fall. In the absence of God's grace, mankind's misdirected heart flees from obedient, loving, selfless service and instead embraces self-centered autonomy from God at the expense of everything else. However, Christ's victory over Satan frees us to serve as God intended. Christ's work restores the possibility of a right relationship with God and with each other and the rest of the creation. By the ongoing work of the Holy Spirit, we are prodded and enabled to seek Christ's kingdom first and to find it. His kingdom is a kingdom of right relationships, a kingdom of shalom.

Although the victory is won, believers are called to wage war against the powers of evil by proclaiming the good news until Christ returns. Engineers witness not only by verbally proclaiming the gospel when appropriate but also by revealing the way things are supposed to be in all areas of life, including technological development. We are called to

bring healing in and through our lives, including our design work, "erecting signposts of the kingdom," as Goudzwaard says.[19]

Designers, tasked with the original mandate to enable creation to flourish and now the additional mission of bringing healing to a broken world, need to be properly equipped. To be an effective manager and agent of reconciliation, an engineer requires knowledge of, or at least sensitivity to, all of the diverse aspects of the creation. The engineering student's ability to serve effectively is enhanced by exposure to ecology, sociology, and environmental studies, etc. Engineers must know enough to recognize brokenness and be able to prescribe healing. The engineer must consider the whole in order to chart a path toward true progress, universal flourishing, and shalom. As this type of holistic design generally requires breadth of expertise, it is facilitated by the involvement of a community of diverse individuals, all contributing insight from their unique disciplines or perspectives.

Examples

While we often see tension between concern for the environment and technological development, we can also point to examples of tilling and keeping that could potentially bring some measure of shalom and flourishing. The first example comes from my own experience and served as the impetus for writing this paper. While working on my doctorate degree in biorenewable resources, I was introduced to the idea of growing large stands of switchgrass as a source of renewable energy and chemicals. This idea piqued my interest, but rather than envisioning just a monoculture of switchgrass, I envisioned the reestablishment of whole prairie ecosystems. A diverse prairie ecosystem of grasses and forbs carries the potential to provide a sustainable source of cellulose with limited need for fertilizer, build the soil, and provide habitat for numerous animals, insects, and microbes, simultaneously. In this way, mankind and the rest of creation can flourish in harmony. A number of other intriguing ideas are proposed by William McDonough and Michael Braungart, in their book *Cradle to Cradle: Remaking the Way We Make Things*.[20] Many of their suggestions comport well with the stewardship ideal laid out in this paper. They argue for redirecting our technological goals away from economic efficiency and toward human and ecological health. Their catch-phrase, "waste equals food," captures their concept of complete cycling of both manmade and naturally occurring materials. They maintain that materials and products should be designed to become biological food or technological "food" easily, after their useful life. They describe the retooling of an upholstery manufacturer in which all the toxic dyes and chemicals were removed from the product and process. The result was furniture fabrics that no longer off-gassed toxins and fabric trimmings that were no longer considered hazardous waste but rather food for compost. Redesigning holistically resulted in a safe and competitively priced product for the user, a safe process for the workers, and a net benefit for the environment.

This last example illustrates how seeking flourishing and shalom may bring to light non-technical solutions to problems. Many North Americans take pride in keeping a well-manicured lawn around their home. While restricting the height of urban grass may help control rodents and wild fires, current practice can tread heavily on creation. Traditionally an assortment of herbicides, pesticides, fertilizers, and water are generously applied to a cool season grass in order to encourage its growth, and a gasoline powered mower is used to whack it off when it does. Gasoline lawn mowers have some of the highest pollution rates of all internal combustion engines. The herbicides eliminate plant diversity; the pesticides reduce insect and worm numbers even if they are beneficial; watering consumes a valuable resource; and we are told that when it rains, a portion of the applied chemicals make their way into the local river, disrupting that ecosystem and those downstream. This situation cries out for a steward. However, when stewardship is explored within the confines of economic efficiency and a technological mindset, the potential for full flourishing is restricted. The least radical solution to the identified problem might be to improve the fuel efficiency and emissions controls of the gasoline mower. Alternatively, an engineer could really go "green" and design a battery powered mower, packaged with a photovoltaic (solar), recharging system. While each of these designs represents improvements over the status quo, they

are both "do-less-harm"[21] options, with limited potential to increase flourishing. They each reduce the amount of damage done but fail to consider the problem at its root. If instead we approach the problem holistically, seeking to serve the entire creation, we may arrive at a radically different solution: plant buffalo grass.

Buffalo grass is a perennial, warm season, native prairie plant that grows slowly to a maximum height of four to six inches. It is drought resistant; forms a dense sod, which controls weeds and builds the soil; and does not require fertilizer or pesticides. Mowing could be completely avoided or reduced to a monthly trimming with a manual unit if one desired it. Elimination of the chemicals decreases the cost to care for the lawn but is also healthier for the neighborhood. The number and diversity of insects would likely increase, attracting birds and other wildlife to the property. In this case a non-technological solution has allowed us to move beyond just doing less harm toward managing for shalom.

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These examples illustrate the point that efforts to redirect technology toward flourishing and shalom are most fruitful when they begin at the root. Unfortunately, by the time a project reaches the designer's desk, the scope of the problem and also what constitutes a solution have often already been determined. So while the engineer may set her sights on the fullness of kingdom design, the narrow drive toward minimizing first costs often sets the technological path and denies holistic thinking the freedom to bear much fruit. Even as engineers move into management positions, they are often constrained by the mission of the corporation. Indeed, it would be difficult for a company that produces and sells lawn mowers to accept buffalo grass as a feasible solution. Clearly, given humanity's finite and fallen nature, it is unrealistic for us to expect to witness complete shalom before Christ's return. But this should not keep us from striving to bring the kingdom to light in all that we do.

The call to serve the creation is given to everyone, not just engineers. It is part of our larger call to bear witness to Christ's kingdom of shalom in all that we do and requires us to respond individually and collectively within each of our spheres of influence. As engineering faculty, we should nurture a longing in our students for shalom and biblical stewardship, but we should also temper that idealism with the realities of practicing engineering in a broken world. We should design curriculum with sufficient breadth to equip our students to recognize all forms of flourishing. As faculty, we might also consider teaching an energy stewardship course to the broader student body. Perhaps as church members, we might find opportunities to educate fellow Christians about the idolatry of consumerism and its threat to shalom.

As members of residential communities, we can persuade local governments to encourage stewardly behavior through codes and ordnances. For example, I live in a small but growing community concerned about energy conservation. This community could benefit from instruction about energy savings through housing developments designed with southern exposures. These types of homes are passively heated by the sun in the winter and kept cool in the summer, a process that potentially reduces energy use by half, compared to an identical home facing west. At home, too, we should seek whole-creation stewardship and be open to alternatives that may not necessarily be the most cost effective. I believe through these and countless other ways, we can shine light on a path of obedience, by God's grace.

Conclusion

In our broken world, technological development is often pitted against creation care, but antagonism between these ends is not the way God intended life to be. God created mankind to reflect him through their loving service to each other and the rest of the creation. This stewardship requires engineers to till and keep creation in such a way that all things can

flourish in accordance with God's will and to his glory. This is a difficult goal to achieve, but if we become content with "do-less-harm"[22] stewardship, we may miss opportunities to be salt and light.

Author's Note: While buffalo grass asks very little of its community, it does have one significant demand: sunshine and lots of it. To do well, buffalo grass requires a minimum of six to eight hours of full sun per day, limiting its use to relatively open areas. As an alternative to buffalo grass, I am currently experimenting with a lawn mix called No Mow grass. No Mow grass boasts many of the same benefits of buffalo grass but is also shade tolerant. Because of its slow-growing nature, buffalo grass, or No Mow grass, requires patience of the would-be cultivator. Full establishment of either variety may require up to two or three growing seasons.

Endnotes

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