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# Philosophy, Theology and the Sciences

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Michael Burdett and Emily Burdett

## Economy of Grace and the Infinite Circle: A Theological Reception of the Social Evolutionary Origins of Gratitude

This article considers the social evolutionary research on gratitude and reciprocity and focuses on two mechanisms, upstream reciprocity and increased gratitude to strangers, that have strong consonance with various theological accounts of gift-giving and gratitude. We argue that these two mechanisms paramourly reflect God's superabundant, expansive economy of increasing gratuity in the creation that is established, redeemed, developed, and brought to final consummation in perfect fellowship with the Trinity. Indeed, referencing the work of Kathryn Tanner and Peter Leithart, the gifts of God to creation found, enable, and form the impetus for a creaturely gifting exchange economy that expands beyond dyadic gift exchange and includes the outcast, sinner, and stranger.

*Keywords:* Gratitude, Reciprocity, Altruism, Social evolution, Kathryn Tanner, Peter Leithart

### 1. Introduction

Social and psychological evolutionary literature indicates that gratitude plays an important role in facilitating reciprocity and altruism<sup>1</sup>. As such, it supports and strengthens, through positive affective states, greater social bonds that include not just kin or one's immediate social group, but members of outgroups as well. What is more, gratitude amplifies and extends a network of gift-giving and altruism to include beneficiaries who were not part of the original exchange. This article will consider the social evolutionary research on gratitude and reciprocity and focus on two mechanisms, upstream reciprocity<sup>2</sup> and increased gratitude to strangers, that have strong

- 1 This publication was made possible through the support of Grant 61389 from the John Templeton Foundation. The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the John Templeton Foundation.
- 2 Upstream reciprocity is the urge to help a third party after having received help from a primary gift giver.

consonance with various theological accounts of gift-giving and gratitude. We argue here that these two mechanisms paramountly reflect God's super-abundant, expansive economy of increasing gratuity in the creation that is established, redeemed, developed, and brought to final consummation in perfect fellowship with the Trinity. Indeed, referencing the work of Kathryn Tanner and Peter Leithart, the gifts of God to creation found, enable, and form the impetus for a creaturely gifting exchange economy that expands beyond dyadic gift exchange and includes the outcast, sinner, and stranger.

## 2. Social Evolutionary Research on Reciprocity and Gratitude

Gratitude may be linked to one of the biggest questions in evolutionary theory: Why should we help non-kin? This is because gratitude is the positive feeling when one benefits from the generosity (of time, goods, help, etc.) of someone else, and we seem to feel this especially when the benefactor is unfamiliar to us. As some theorists have suggested, this positive feeling of gratitude has played a unique role in human social evolution and may motivate more prosocial behavior, including repaying the action to the one who initiated (reciprocal altruism) or helping a third party (upstream reciprocity) (McCullough, Kimeldorf, and Cohen 2008; Nowak and Roch 2007). According to evolutionary theory, these prosocial behaviors evolved to initiate friendships, alliances, and bonding beyond one's kin circles, creating close-knit communities who support one another. A close-knit community then has a better survival advantage if they are all looking out for one another. Below we try to unpack this evolutionary puzzle by illustrating supporting evidence for the theory that gratitude may have evolved to support social interactions and bonding with others and groups. Specifically, we look at the evidence that supports gratitude as the emotional mechanism behind the early development of reciprocal altruism and upstream reciprocity.

### a) Reciprocal Altruism

The earliest signs of gratitude may be found in reciprocal altruism, or repaying non-kin for a costly action or resource. The feeling of gratitude after such an event may have been adapted to facilitate social exchange (McCullough, Kimeldorf, and Cohen 2008). Adults express feelings of gratitude after benefitting from the generosity of a stranger. Studies show that particularly when a generous act is given by a stranger or a group of strangers, one feels much more grateful than if the act was given by a sibling or parent (Bar-Tal et

al. 1977; Dunn and Schweitzer 2005; Tsang 2007). Study participants also were more likely to trust these individuals (Dunn and Schweitzer 2005). In an experiment where adults were asked to recall a time when they were grateful, they responded that they were significantly more trusting of others than those adults in conditions where they were asked to recall a time when they were angry, guilty, or proud. Interestingly, adults were also more trusting of strangers when recalling a time when they were grateful than in a condition where adults recalled a time when they were angry (Dunn and Schweitzer 2005). Researchers have suggested that more positively-balanced emotions incline people to reciprocate. But, gratitude, in particular, motivates positive behavior and new cooperative relationships (Bartlett and DeSteno 2006; Beeler-Duden and Vaish 2020; Nowak and Roch 2007), potentially increasing a population's overall fitness and success (Nowak and Roch 2007; McCullough, Kimeldorf, and Cohen 2008).

One question is how early gratitude develops in humans. If gratitude is evident early, the presumption is that the inclination to be altruistic or kind is perhaps an innate or very early developing tendency in humans. There is developmental evidence that children are aware of kind acts (Hamlin, Wynn, and Bloom 2008) and are not only motivated to help others (Warneken and Tomasello 2006) but are also motivated to reciprocate (Engelmann, Herrmann, and Tomasello 2018; Messer et al. 2017; Ulber and Tomasello 2020; Vaish, Hepach, and Tomasello 2018). Children are selective in how they reciprocate. For example, three-year-olds are much more likely to reciprocate and give benefits when someone has intentionally given them benefits previously, compared to when the benefits were given unintentionally, or they witnessed that person giving benefits to a third party (Vaish, Hepach, and Tomasello 2018). Two- and three-year-olds are also more likely to share the rewards after a joint activity than if they just assisted another person in reaching a goal (Ulber and Tomasello 2020).

Indeed, children seem to find reciprocating kind acts rewarding. Even young infants (18 to 24 months) were intrinsically motivated to return a favor to a previous benefactor and showed less internal arousal (as measured by pupil dilation) than when they were in a situation where they could not help. In another example, toddlers (16 to 27 months) from China and the Netherlands demonstrated that helping behavior is emotionally rewarding (Song, Broekhuizen, and Dubas 2020). The motivation to help may be an intuitive process rather than a cognitive process of actively controlling impulses towards selfish behavior (Grossmann, Missana, and Vaish 2020); children desire to help because of their interest in social interactions (Dahl and Paulus 2019).

Another clue to our evolutionary history in regards to reciprocity can be found in our phylogenetic roots. Chimpanzees will share food with another who groomed them earlier in the day (de Waal 1997) and will help with a task if that chimp helped them in the past (Suchak et al. 2014), even at a personal cost (Schmelz et al. 2017). In addition, chimpanzees are willing to incur a material cost to themselves to deliver a material reward to a conspecific, but they do this only if that conspecific previously incurred a risk to assist them (Schmelz et al. 2017).

### **b) Gratitude and Upstream Reciprocity**

Compared with examples of direct reciprocity, motivation for upstream reciprocity, or the urge to help a third party after having received help, is harder to understand. Nowak and Roch (2007) suggest that a feeling of gratitude may be the motivation behind more generous and benevolent activity towards third parties ('paying it forward'). In support of their argument, studies with adults show that gratitude can stimulate more prosocial behavior (Bartlett and DeSteno 2006; Tsang 2006). For example, adults in a state of gratitude were more likely to spend longer on a boring survey (as a favor to the benefactor) than those in an amused emotional state (Bartlett and DeSteno 2006). In another study, adults who were asked to reflect on a generous act were more likely to volunteer time or donate money (Grant and Dutton 2012).

Studies with toddlers and infants show early signs that they are motivated to help third parties. Infants readily assist and help when someone is struggling with a task, and they do so even when the third party is unfamiliar and the child is engaged with a fun activity (Warneken and Tomasello 2006). Moreover, toddlers (Olson and Spelke 2008) and preschoolers (Kato-Shimizu et al. 2013) demonstrate they prefer and help others whom they have witnessed to help others.

However, the most convincing evidence comes from a recent study with three- and four-year-olds (Beeler-Duden and Vaish 2020). In the study, three- and four-year-olds either received help with a game (a note written by a previous child, 'Sally,' that helps the participant unlock a box filled with stickers) or no help (a note saying the game and stickers are fun). After this manipulation, they were given the opportunity to give stickers, or pay it forward, to another child. Four-year-olds (but not three-year-olds) in the helpful condition showed evidence of upstream reciprocity and gave stickers to an unknown peer after being helped. In a second study, Beeler-Duden and Vaish (2020) demonstrated that feelings of gratitude underlie the motivation

for upstream reciprocity. Children played the same game in the helpful and non-helpful condition of the first study but were asked to express how happy they were with Sally, who wrote the helpful or unhelpful note, and whether they wanted to write a note back to her. Children in the helpful condition wrote significantly more appreciative words in their notes to Sally than children in the non-helpful condition, even though children in both conditions expressed happy feelings toward Sally. Thus, gratitude or feelings of appreciation drove children's prosocial and pay-it-forward behavior.

Only one comparative study to date has shown that chimpanzees (but not capuchin monkeys) were more likely to act prosocially to an individual after experiencing a prosocial act by another (Claidière et al. 2015). In this study, chimpanzees could accept a food reward from another chimpanzee depending on the condition. Those chimpanzees who received a food reward in a prosocial condition were more likely to give a reward to another chimpanzee. While no other study has documented such behavior, this limited evidence nevertheless suggests that our propensity to help others following observation of benevolent acts of others is part of our evolved history. Indeed, studies to date show no evidence that capuchins and human infants demonstrate reciprocity. Gratitude and upstream reciprocity may require particular and more advanced cognitive capacities in order to understand and participate in benevolent acts as well as feel any sense of gratitude.

Reciprocal altruism, particularly to outgroup members, and upstream reciprocity have certainly played an important role in the expansion and potential harmony of increasingly complex societies, both within those societies and with other societies. What is more, gratitude helps to generate and solidify bonds with individuals whom we might not usually associate with and even incite new giving to them. The expansive and superabundant quality of these two mechanisms resonates with a distinctive approach to gratitude and gift-giving in Christian theology. While it doesn't eclipse God's activity in other mechanisms (e.g., reciprocity with in-group individuals), it does show a particular consonance worthy of particular Christian theological attention because of the way these mechanisms underlie a distinctively Christian approach to superabundant giving and our relation to the outcast, marginalized, and poor.

### **3. The Gifting Economy in Contemporary Constructive Theology**

In order to best understand the consonance between these two mechanisms and Christian theology, it is worth expounding upon two relevant

approaches to gratitude and gift-giving in recent constructive theology represented by the work of Kathryn Tanner and Peter Leithart. In each case, we will consider how gift and gratitude define not only the triune God but also the relations between God and creation and even relations within creaturely reality itself. When analyzing these recent theologies, it will be clear how the expansiveness and superabundance of God's gifts get reverberated into intra-creaturely life in each case and, one could argue, valorize and potentially establish the aforementioned social evolutionary mechanisms.

### a) Kathryn Tanner on an Economy of Grace

Kathryn Tanner's constructive theology explicitly rests on a gift model of the doctrine of God and creation. In her short systematic theology, *Jesus, Humanity and the Trinity*, she states that:

At the heart of this systematic theology is the sense of God as the giver of all good gifts, their fount, luminous source, fecund treasury and storehouse ... In establishing the world in relationship to Godself, God's intent is to communicate such gifts to us. The history of the world is God's working for the fuller bestowal of such gifts, each stage of this history – creation, covenant, salvation in Christ – representing a greater communication of goodness to the creature and the overcoming of any sinful opposition to these gifts' distribution (Tanner 2001, 1–2).

All gifts begin with God and, as such, Tanner first grounds gift-giving in the inner Trinitarian relations themselves. What is distinctive about this gift-giving is that it is completely perfect, non-competitive, and not based out of need or gain. As Tanner says: "Although the Father is not the Father without these relations of giving among the Father, Son and Spirit, one would not say that the Father is missing anything in and of himself and therefore in need of return they already make" (Tanner 2005, 68). It is precisely the perfection of this gift exchange, its non-competitive and abundant quality, exemplified between the Father, Son, and Spirit, that mobilizes and acts as the standard for the 'economy of grace' Tanner argues for in the creaturely realm (Tanner 2005).

In many ways, what typifies gift exchange within the Trinity functions as the very prototype or ideal gift exchange out of which creatures themselves are borne in order to reflect the very same gift exchange within their own realm. Indeed, this gift-giving between Trinitarian persons gets repeated in distinct orders in God's relation to creation, albeit of a different order when compared to God's exchange within the Trinity. We receive gifts first as creatures, second as covenantal partners, and third in union with Christ.



All creatures receive gifts and indeed are nothing but gifts. Part of what makes all creaturely gifts from God distinct from those gifted within the Trinity is that they are not a giving of God's own self (i. e., God's divinity) but rather the creature is the gift (Tanner 2001, 42). Because creatures are not self-subsistent but owe their very origin and continued sustenance to God, they are always and everywhere dependent on God. This is one of the central tenets of *creatio ex nihilo* and it means that all parts of creation are pure gift because they have and are nothing but what is gifted by God (Webster 2013). This is not to say creaturely gifts are not good, truthful, or beautiful, but rather they reflect and indeed participate in these properties finitely as God exists as and is these very properties perfectly (Davison 2020, 348–72). Yet, it is precisely the finite nature of creaturely gifts which means they develop and grow in relation to God's continued gifting. Creatures cannot fully contain all of God's infinite blessing. Still, through participating in God as a dependent creature that continues to receive these gifts, something of God's superabundant character is expressed both in the expansive nature of individual creatures that grow and in the providential and teleological development of creation as a whole (Tanner 2001, 42–43).

However, God's gifting order is increasingly intimate in two other orders. First, God makes covenantal relations with His people, Israel, and draws them closer by being a kind of partner with specific obligations (the law) and associated gifts (salvation and blessing). As Tanner says, what is further distinctive about the gift in covenantal partnership is that God is a gift as a covenantal partner, not just a giver of creaturely gifts to be enjoyed (45). Furthermore, the associated human activity as covenant partner of God is to spread the blessing they receive from God to others. Israel is a light to the nations as a specifically mandated reflection of God's will in and to the world. They are doing God's work as a proxy, representative, and conduit of God's blessed gifts. As such, God's superabundance is further advanced in the creaturely realm not just as a recipient of divine blessing, but as an active agent that spreads blessing in the covenant<sup>3</sup>.

The final order of gift-giving comes from union with Christ. Because the second person of the Trinity assumes the human nature of Jesus Christ, there is not the same kind of 'communication of created gifts' found within both purely creaturely and covenantal gift-giving. Rather, the human reception of gifts is more internal to the divine life because the relation

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3 Even here, it is evident in covenantal relations how gift-giving is never meant to be hoarded for one's in-group alone. It is always outward-looking. More is explained at the end of this section about how this expansive quality of gift-giving resonates with the evolutionary mechanisms aforementioned.

between the human Jesus and the Son, who assumes the human nature, is the same *hypostasis* (46–48). Indeed, Tanner makes clear that the gifts shared between the natures of Christ (which makes possible all human gift reception united with Christ) is distinct from those shared between the persons of the Trinity because the latter are shared by nature or substance rather than *hypostasis*. And yet, it is precisely the *communicatio idiomatum* that makes gift exchange between divinity and humanity more reminiscent of Trinitarian gift exchange because:

Humanity is in the Son or second Person of the Trinity, communicated to it, in that the Son assumes it as its own proper instrument for the distribution of benefits to the world. Without gaining anything itself through this communication of humanity to it – this is one way the relation of co-inherence is not mutual if God remains God – the Son shares in the operations of the humanity of Christ as that humanity is moved for saving ends according to God’s free purposes. And because of that assumption by the Son, divinity is in or communicated to the humanity of Christ (48).

The gifts are secured through human union with Christ and are transferred from the divine gifts that come through the hypostatic union from the Son. These gifts entail (1) purifying and securing perfect humanity, (2) elevating purely created gifts to divine ones such as immortality, and (3) providing saving effects which humans are incapable of doing on their own (48).

One of the distinctive features of Tanner’s account of gift-giving to creation (or in the covenant or union with Christ) is that it cannot be reciprocated back to God in any substantive way, as with the Trinitarian persons, for God requires nothing. Further, we could not reciprocate anything that would not already be God’s, to begin with. Tanner argues that gift-giving from God to creatures is unilateral and non-reciprocal for all these reasons (Tanner 2001, 83–90; Albertson 2005, 108).

That, however, does not mean that creatures have no corresponding activity as a response to God’s gifting – they aren’t entirely passive. Rather, “one acts out of gratitude for the life in God one has been given, one acts out of joyful recognition that a certain course of action is part of those good gifts that stem from a special relationship with God” (Tanner 2001, 122). That gratitude then incites the repetition of God’s economy of grace in our creaturely relations so that we, being like God in Christ, distribute God’s super-abundant gifts in a non-competitive way to others out of our own abundance given to us first by God. As Tanner states:

[L]ife in God is not inactive, a resting in God in the form of contemplation or adoration ... Life in God fundamentally just means sharing in God’s own dynamic trinitarian life of indivisible threefold movement as that dynamism is extended outward to us, to include us, in this triune God’s relations with us in Christ. Eternal life means a com-

munity of life with God in Christ, a community of action in which we are taken up into Christ's own action for the world. As Jesus does the life-giving work of the Father through the power of the Holy Spirit, we, in virtue of our union with Christ, are to do the same. Eternal life turns attention, then, not just to the benefits we are to receive through Christ – our being healed, purified, elevated by Christ in the power of the Spirit – but to our active participation in Christ's own mission (120).

As such, Christ's own action is for the world. Indeed, Christ's mission is the salvation of the world so as to realign the distribution of God's eternal gifts and bring all to perfect union.

This economy of grace is what typifies Christ's kingdom where "distinctions of status make no difference" for "the lowly in the eyes of the world can have it just as much as the privileged can" (Tanner 2010, 178). As we see with Christ's ministry, the distribution of gifts is particularly to those who are marginalized and often have nothing material to give back. Christ extends God's gratuity to the outcast, the orphan, the widow, the slave, and the stranger and thereby makes those purported to be part of the outgroup actually part of God's economy of grace<sup>4</sup>. Finally, not only is the economy of grace expansive in the sense of including all people regardless of status, but it is expansive in the sense that those in Christ work towards the conformity of all reality (that God will "be all in all"; 1 Cor. 15:28) to that measure of God's perfect distribution of grace and unity found in the person of Christ.

Both of these expansive elements of Tanner's economy of grace resonate with those social evolutionary mechanisms discussed in the last section. The call for even distribution of gifts amongst creation so that status makes no difference to the giving or receiving aligns with the evolutionary mechanism that incites increased gratitude to strangers. The positive affective state we feel when a stranger, someone from our outgroup, gives us a gift surely strengthens our bond to them and, in a sense, broadens our community to include those strangers – perhaps making us feel they are less strange or on the outside. The Christian call to aid the stranger and the marginalized – making it a central marker of being a Christian – codifies, embeds, and surely benefits from the positive affective states that come from giving to strangers and being a recipient of a gift from a stranger. Furthermore, God's call is that we model our distribution of gifts in ever-expanding and abundant ways and indeed by paying forward what is received not only and primarily from God but also from others. In this way, Christianity baptizes that social evolutionary mechanism of upstream reciprocity so that the economy of exchange reflects the superabundance of God's gifting in

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4 Indeed, covenantal relations also mandate such gratuity to the marginalized.

the Trinity even as it billows over into creation. God founds and invites us into the kind of exchange that is typified by upstream reciprocity. In a way, creation benefits from a kind of upstream reciprocity that originates from the kind of primordial giving present in the Trinitarian life.

### b) Peter Leithart on Circular and Linear Gratitude

If Kathryn Tanner's entire work focuses on how an economy of grace flows out of the inner life of God and tends to focus on the giving of gifts, then Peter Leithart's work focuses much more on the reception of gifts and the disposition of gratitude and how the dynamics of gratitude have shaped western intellectual history. This is not to say that Leithart has no reference to divine realities motivating and originating such gift-giving. After all, in an essay entitled "Giving God" Leithart claims:

[T]he Bible not only talks about giving from God to creatures, but also talks about giving within the Triune life itself. God did not begin to be a giving God when He created the world as a recipient of His gifts. God has eternally been the giving God. The inner life of God is revealed in the fact that He gives us good gifts; and the inner life of God is especially revealed in the way that the Father, Son, and Spirit interact in the economy of redemption (Leithart 2015).

Furthermore, he has an extended endnote in his text *Gratitude: An Intellectual History* that quite radically indicates how far gratitude extends in its divine origination, citing favorably Augustine's account of how gifts pervade the Trinitarian life in *de Trinitate* (Leithart 2014, 253). Giving a similar account to Tanner, Leithart indicates that Christ is the very centerpiece of God's inner Trinitarian gifts being extended to the rest of the world. As he says:

Jesus is set in all three positions in the gift exchange: He is the giver, the gift itself, and the recipient of gifts from the Father. This is just another way of saying that Jesus is the mediator: That is, He is the one midpoint, the one who both receives gifts from the Father, and passes on, hands over (*paradidomi, traditio*), those gifts to His people (Leithart 2015).

Leithart certainly has in mind a rather robust doctrine of God where gift exchange is ontologically grounded in the very Godhead, even when his most extended reflection is on how those gifts and gratitude have shifted from the Greco-Roman world to our present day.

A plain summary of his central book on the topic highlights the difference Christian accounts of gratitude have made to the development of not only gratitude in the western world, but even our common socio-economic life.

Leithart contends that Greco-Roman socio-economic life was based on circular accounts of gratitude and gift exchange. Patrons would bequeath goods or favors to beneficiaries and would expect goods and activities in return. As such, one would owe a debt or obligation to the benefactor, and much of Greco-Roman society was built on this kind of gift exchange and the debts owed between benefactor and beneficiary. Moral sentiments such as honor and gratitude were important components of this circular exchange. As Leithart states:

Across the centuries from Homer to Seneca ... gratitude was understood as the closing curve of a circle that began with a gracious gift, and it was common sense that the circle would be closed by an in-kind gift in response to a favor or a gift (Leithart 2014, 20).

However, Jesus' teachings in the New Testament and subsequent practice in the early Church broke from this circular tradition of gift exchange and debt and instituted what Leithart calls a linear account of exchange and gratitude:

The Jewish and Christian tradition introduces something more radical. Jesus tells his disciples to give without thinking of a return, and to imitate the heavenly Father in giving to the ungrateful and even to enemies. In Paul, the proper reception of gifts includes the giving of thanks to God, but he accents making good use of the gift. Giving appears to be a linear selfless sacrifice, and gratitude does not curve back to the giver but branches out as the gift disseminates forever (6).

Leithart's text is fascinating for the way it then charts how these two accounts of gift and gratitude in western history – the circular, more contractual gift exchange reminiscent of Greco-Roman life and the more Christian, linear 'infinite circle'<sup>5</sup> – pervade and influence social, political, and economic forms in each era of western history up to the present. However, we won't spend much time on this genealogy, for what most interests us here is the way Leithart speaks about the Christian account of gift and gratitude in creaturely and ecclesial life.

As the quotation above indicates, what was so radical about the Christian message was the way it undermined some of the power dynamics inherent within the traditional circular account of giving and receiving. The social form of gift and obligation could often be stifling and rigidly contractual so that the various parties within the gift exchange, and particularly the beneficiary, were so tightly bound to one another that the virtuous affections associated with gift-giving might be entirely absent. Furthermore, there was a power imbalance in the relationship, often benefiting the benefactor. The

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5 His geometry can oftentimes get rather confusing even when it is clear in descriptions and elucidated in concrete practices.

benefactor might manipulate the terms of fulfilment for the beneficiary and call in favors at a whim. In response,

Jesus proclaimed a kingdom where debts are all forgiven, including debts of gratitude, and Paul followed Jesus in teaching that Christians owe no one anything. As in democratic Athens, Christianity freed people from onerous personal bonds by defining gratitude as *right use* of the gift rather than gratitude as *return* (7).

In place of owing gratitude to a human benefactor, which founds social and political life, Jesus and Paul taught that God is responsible for and pervades all social, political, and economic life and, as such, gratitude belongs ultimately to God. God becomes the supreme

Benefactor and Patron to whom all the members are clients who owe grateful service, if all are fellow slaves (*douloi*) of the one Lord, Jesus. The church forms an 'alternative society' ... only insofar as its gift exchanges are the product of a more basic *koinonia* in the Spirit (77).

Now, what typifies that infinite circle of Christian gratitude, this founding of an alternative society, is nothing other than extending infinitely God's primordial gifts to the rest of the world. In other words, originary gift-giving in God gets reverberated in expansive and superabundant ways in creation itself. As Leithart says:

The key to the infinite circle is the expansion of gratitude's 'field of operation.' Christianity infuses gratitude into every nook and cranny of human life. Because all comes from God, thanks is offered back for everything. 'Give thanks for everything in all circumstances' is as global a command as one can expect (227).

Hence, Christian gratitude and gift-giving expands the remit of the dyadic gift exchange to new parties looking for nothing in return. It is precisely this expansive, superabundant quality which resonates with the social evolutionary mechanism of upstream reciprocity. Indeed, Leithart's description of the infinite circle could just as easily be used to describe upstream reciprocity: "[G]ratitude does not curve back to the giver but branches out as the gift disseminates forever" (6). A Christian construal of gratitude and gift-giving is remarkably similar to upstream reciprocity and manifests considerable consonance.

Furthermore, what typifies this infinite circle is also the way it democratizes the parties within any exchange. Because God is the ultimate patron and we are servants, as Leithart contends, no one is without blessing or in a more advantageous position. Rather, what was distinctive about Christ's ministry was that the poor, sinners, and outcasts were invited to great blessing even though they could not give anything back. Indeed, set against the other contractual, circular gift exchange, it would, according to Leithart, be

foolhardy to enter into a gift relationship knowing you would get nothing in return (75–77). Yet, the Christian infinite circle of gratitude is built upon extending gift exchange and community to precisely these outcasts and is consonant with that social evolutionary mechanism of gratitude facilitating bonds with strangers. As we have already stated, Christianity baptizes and builds off of the mechanism and positive affections that come from gifting to a stranger or receiving a gift from a stranger. It brings the marginalized into fellowship and community so that they might receive superabundant blessing.

#### 4. Conclusion

Can more be said about how these social evolutionary mechanisms relate to Christian theology beyond just one of resonance and apparent consonance? As we've stated in passing, Christianity benefits from these two evolutionary mechanisms in the actual practice of gift-giving and in the development of the mandated expansion of God's economy of grace in creation. Frankly, it is easier to follow this mandate because we find it in our evolutionary past, and it, therefore, informs our present intuitions and affections. We recognize we have been cautious in adjudicating how the social evolutionary mechanisms relate to theology, preferring instead to speak of resonance and consonance. This has been entirely intentional. New forays into uncharted territories that span the theology and science divide must begin with dialogue, and careful scrutiny of the potential crossover before more substantial synthesis can be made. Hasty integration often leads to poor scholarship that doesn't do service to the science, the theology, or the product of their interaction.

Furthermore, we've been hesitant to say that God's activity is somehow more present in these evolutionary mechanisms related to gratitude than it is in others. Theologians that engage with the evolutionary sciences are often attracted to and tend to focus on those elements of consonance if it is useful for their purposes: a kind of academic cherry-picking. For example, the social evolutionary mechanisms which give rise to tribalism and favoring our in-group may not resonate as much with Christian belief and practice if they underlie our intuitions and affections to exclude the stranger, hate our enemies, and lead to aggression and violence to those not close to us<sup>6</sup>. What is more, it is entirely possible that reciprocity (including upstream

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6 Even if it is clear that religion itself, Christianity included, often seems to draw on tribalism in its actual expression in history.

reciprocity) might enable or reinforce harm and retaliation; primatologists have even observed retaliatory “displaced aggression” or “redirected aggression” in non-human primates, particularly between kin and known associates (Cheney and Seyfarth 1989; Schino and Marini 2014). Why have we not chosen those other mechanisms or negative construals of reciprocity to appropriate? How do we give a theological account of all of our social evolutionary past? These are not easy questions to answer, but we are aware that we’ve tended to focus on the positive and consonant mechanisms that are amenable to theological appropriation.

But perhaps the beginning of a response might turn to Tanner’s account of creation as constituted by time and development. Creation cannot fully reflect the ideal gift exchange that it ought to. Because creatures are finite, they cannot fully contain all of God’s good gifts at once and, hence, grow in time: “God’s gifts come to it [creation] over the course of time in what God intends to be an unending expansion of its ability to receive created gifts from the Father’s hands of Son and Spirit” (Tanner 2001, 42). Upstream reciprocity and increased gratitude to strangers might be part of the developmental process that belongs to the creaturely order of gift-giving, according to Tanner’s schema. Goods from God come through those creaturely mechanisms, and upstream reciprocity and increased gratitude to strangers anticipate more fully God’s providential aims in developing His economy of grace within that particular order of gift-giving and reception. That particular creaturely ordering, which includes those evolutionary mechanisms, then gets codified and made explicit by Judaism and Christianity in the covenantal order and by Christ, who fully completes it through His kingdom by union with all of humanity and creation.

Much more could and probably should be said about how sin thwarts the reception and distribution of God’s gifts. We could locate those dissonant social evolutionary mechanisms either in terms of finite creatures who are developmentally young, weak, and imperfect – a kind of Irenaean approach – or we could do so in more moral and ontological terms utilizing the language of sin. If we did choose the language of sin, Tanner again helps by providing a construal of sin as that which blocks or stunts the reception of God’s gifts to creation (Tanner 2001, 2, 44, 86, 122; 2005, 63–72). Sin hinders the good and even distribution of God’s gifts by having creatures hoard said gifts for themselves and not paying forward what is owed others according to the demands of God’s covenant and law. As such, sin can stunt growth and good relationships. However, sin is dealt with by Christ, who redeems and removes such barriers in accessing those God-given gifts. Christians are explicitly called to forgive others because Christ has forgiven us (Eph. 4:32).



Hence, Christ's forgiveness founds and must enable greater gratitude and the distribution of gifts. Future work in this area could focus on how a Christological account of forgiveness and gratitude can appropriate the relevant social and evolutionary psychological work.

To say that the origins of gratitude and gift-giving begin with God is a bit of a theological platitude one might hear from a child in Sunday school. And yet, what we have tried to work out here is how gift exchange and gratitude in our everyday interactions and in support of social evolutionary development coheres with a theological rendering of the gifting economy both in creation and inherent within the life of the Trinity. Because God is a giver of all good gifts in a perfectly ordered, expansive, and superabundant way *ad intra*, it would be appropriate to find elements within creation that are consonant with such gift-giving. Indeed, the two evolutionary mechanisms of upstream reciprocity and increased gratitude to strangers reflect God's economy of grace, or infinite circle of gratitude, and what many Christians would claim is a distinctive feature of ecclesial life and the ministry it has in the world. As those eternal gifts go out to the world and get expansively extended to every area of creation, so too does God bring that creation back in greater union and perfection, the very font of all gift-giving.

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