

**BEYOND HUMANISM: TRANS- AND POSTHUMANISM**  
**JENSEITS DES HUMANISMUS: TRANS- UND POSTHUMANISMUS**

Edited by / Herausgegeben von Stefan Lorenz Sorgner

**Building Better Humans?**

Refocusing the Debate on Transhumanism

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Hava Tirosh-Samuels  
and Kenneth L. Mossman

3

PETER LANG



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**PETER LANG**

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# Transhumanism and the Orthodox Christian Tradition

Eugene Clay

From its very origins, as Hava Tirosh-Samuelsan has shown in the first chapter of this collection, the modern Anglo-American transhumanist movement has generally regarded traditional Christianity with considerable suspicion and skepticism. Today, many of the most enthusiastic transhumanists, like their British forebears J.B.S. Haldane and J. D. Bernal, are emphatically atheistic; others, like the practicing Buddhist James Hughes, have heaped scorn on Christian ethical qualms about, for example, stem-cell research. Generally, transhumanists have failed to take Christian conceptions about humanity seriously: Julian Savulescu (2009) simply asserts, without discussion, that the concept of the soul is a “bad rationalization” (220); with ill-disguised contempt, Nick Bostrom (2009) ridicules the famous wager of Blaise Pascal (1623-62); and William Bainbridge (2005) dismisses Christian critics of transhumanism as venal enemies of progress and the Enlightenment. Transhumanists generally reject the idea of divine intervention and revelation, as recent surveys of the members of the World Transhumanist Association show (Hughes 2007). Transhumanist efforts to engage Christians have generally been feeble at best, motivated more by political expediency than by a real desire for intellectual exchange (Hughes 2009; Campbell and Walker 2005). As the transhumanist Eric Steinhart (2008) boldly puts it, “Since Christianity is an extremely powerful cultural force in the West, it is imperative for transhumanism to engage it carefully.”

One need not dig deeply to find the reasons for transhumanist antipathy toward traditional Christian doctrines such as the existence of an almighty and just Creator-God, the immortality of the soul, or the resurrection of the body. God’s commandments – and perhaps His very existence – place limits on human freedom; the concept of the soul is difficult, at the very least, to reconcile with mindless, purposeless Darwinian evolution; and belief in resurrection has led to a series of “superstitious” prohibitions on biological research. If human beings are to take control of their own evolution, say most transhumanists, they must put away childish fables about God and have the courage to place their own purposes into nature itself, embedding them in the very genetic codes of tomatoes, sheep, and human fetuses (Hughes 2004; Bostrom 2005; Bainbridge 2005; Sorgner 2009).

While dismissive of the Western Christian tradition, the Anglo-American transhumanists have completely ignored the theologians of the East. In sharp contrast, the Russian Transhumanist Movement, founded in 2003, has adopted the devoutly Orthodox Christian Nikolai Fedorovich Fedorov (1829-1903) as its

inspiration. One of the most creative thinkers of the Russian religious renaissance, Fedorov drew upon Orthodox theology – especially the work of the brilliant theologian Maximos the Confessor (580-662) – to shape his vision of the nature and destiny of humanity. For both Maximos and Fedorov, human beings could freely and meaningfully participate in the divine work of redemption; for both philosophers, the ultimate end of salvation was deification (*theōsis*) – a radical transfiguration of the whole person, body and soul, and of the whole cosmos. By arguing that human nature was characterized by an autonomous will and a destiny of deification, Maximos laid the groundwork for Fedorov’s speculative theology. Taking seriously Maximos’s ideas about human participation in cosmic redemption, Fedorov contended that all humanity should unite in the common cause (*obshchee delo*) of raising the dead and regulating the universe through scientific means. In his posthumously published work *The Philosophy of the Common Cause* (1906, 1913), which might be considered the original transhumanist manifesto, Fedorov even called for enhancing the human body by adding wings, eliminating the alimentary canal, and making humans autotrophic – projects that anticipate James Hughes’s *Citizen Cyborg* (2004) by over a century. But Fedorov was also a pious Orthodox Christian, a defender of autocracy (the Russian tsar was to rule the world!) and the agrarian way of life, deeply suspicious of Western technology (which made people “slaves of the factory”), firmly patriarchal, and convinced of Russia’s divinely appointed messianic role in world history (Gacheva 2005; Sergay 2008; Semenova and Gacheva 1993; Tsiolkovskii 1925; Wiles 1965; Lukashevich 1977; Young 1979; Koehler 1979; Teskey 1982; Hagemeister 1989; Semenova 1990, 2004; Masing-Delic 1992; Gacheva et al. 1996; Lim 2006, 126-36; Bogdanov 2007).

Although not typically Orthodox, Fedorov’s philosophy reflected centuries of Orthodox theological examination of human nature, destiny, and freedom. At its best, the transhumanism movement also engages these questions. This chapter seeks to spark a constructive conversation between transhumanism and the Orthodox theological tradition that will provide better and more considered answers to the challenges posed by new medical and genetic technologies. Largely ignorant of theology, transhumanists have struggled to develop useful ethical frameworks by which to judge and justify human enhancement (Caplan 2009). Too often, as N. Katherine Hayles (1999, 2008) has demonstrated, the transhumanists rely on rhetorical tricks, making assumptions about human nature that really need to be proven – or at least discussed – in argument. Hayles convincingly shows that the transhumanist vision rests on an impoverished view of humanity that privileges information flows over embodiment and regards consciousness as a mere epiphenomenon. By contrast, the two Orthodox theologians considered in this chapter, Fedorov and Maximos, offer a robust understanding of human na-

ture, spiritual development, and human destiny that will enrich the discussion of the future of our species.

## The Christian Roots of Transhumanism

The utopian transhumanist vision clearly derives much of its power from traditional Christian theology. Like transhumanism, Christianity looks forward to a transfiguration of the human species, most beautifully represented by the glorified Christ, who easily transcends the limits of both time and space. The transfigured Christ communes with the great prophets of old, Moses and Elijah; he passes through walls and appears in locked rooms (Matt. 17:2-3; John 20:26). Moreover, Christ's Resurrection is only the first fruits of the general resurrection. Every believer in Christ can anticipate the same kind of transfigured body that the risen Christ possesses. In writing about the resurrection, the Apostle Paul told the Corinthians, "As was the earthly man, so are those who are of the earth; and as is the man from heaven, so also are those who are of heaven. And just as we have borne the likeness of the earthly man, so shall we bear the likeness of the man from heaven" (I Cor. 15:48-49). Transhumanist dreams of transforming the body or of uploading consciousness and personality into supercomputers are secularized versions of the Christian promise of resurrection.

An even closer parallel to transhumanism is the ancient Christian doctrine of deification (*theōsis*). Around 180 CE, Irenaeus of Lyon wrote that the deification of humanity was the purpose of the Incarnation (*Adversus haereses*. 3.19.1; PG 7, cols. 939-40; ANF 1:448-49), and Athanasius of Alexandria (293-373) and Gregory of Nazianzus (329?-389) made similar statements in the fourth century (*Epistola ad Adelphium* 4; PG 26, col. 1077A; NPNF2, 4:576; *De incarnatione* 54.3; PG 26, col.192B; NPNF2, 4:65; *Orations* 29.19; PG 36, col. 100A; NPNF2, 7:308). The doctrine of the Incarnation – the idea that God took on flesh in the person of Christ and thereby transformed humanity itself – has had profound implications for the Christian understanding of human nature and its ultimate destiny. For these church fathers, Christian salvation was not simply an escape from eternal punishment, the consequences of sin, or even from sin itself; it was a profound transfiguration of the human species whose final, marvelous end could only be guessed (Russell 2004). "Dear friends, we are now children of God and *what we will be has not yet been made known*. But we know that when he [Christ] appears, we shall be like him, for we shall see him as he is" (I John 3:2, my emphasis).

Although certainly not absent from Western theology, reflection on deification has been especially rich in the Orthodox world. The Orthodox historian John Meyendorff (1973) has argued that the seven ecumenical councils recognized in

the Orthodox Church represent primarily the working out of the doctrine of the Incarnation and its implications, including the idea of deification. In the last years of the Russian Empire, religious thinkers turned again to this doctrine as they sought to revitalize the moribund orthodoxy of the state church; in the emigration after 1917, Russian theologians, freed from ecclesiastical censorship, continued to develop these ideas and introduced them to a Western audience. Although it might come as a surprise to those who imagine that religion and science have always been in conflict, these religious philosophers had a profoundly positive influence on Russian and Soviet science. As Loren Graham and Jean-Michel Kantor (2009) have recently shown, the mystical theology of Father Pavel Aleksandrovich Florenskii (1882-1937) helped lead to a major advance in mathematical set theory and the concept of infinity. Likewise, Fedorov's writings about the Christian doctrine of the general resurrection and the destiny of the cosmos deeply affected the Russian scientists Konstantin Eduardovich Tsiolkovskii (1857-1935), the father of Soviet rocketry, and the biologist Vladimir Ivanovich Vernadskii (1863-1944), who developed the concept of the biosphere. Fedorov's conception of humanity was deeply rooted in the Orthodox tradition that had developed over several centuries.

## **Orthodox Conceptions of Human Nature and Human Destiny**

Human nature represents a conundrum for transhumanists who claim to be heirs of the humanistic Enlightenment. Some transhumanists deny that human nature exists at all (Caplan 2009), while others insist that evolution has fashioned a common set of empirically verifiable characteristics broadly shared by the entire population (Pinker 2002). Some transhumanists, such as Julian Huxley, embrace the idea of human nature as a moral concept that includes the possibilities of transcendence: transhumanism means "man remaining man, but transcending himself, by realizing new possibilities of and for his human nature" (Huxley 1927 cited in Hughes 2004, 158). But other transhumanists are so anxious to transcend their own humanity that they strip human beings of the natural rights posited by Enlightenment thinkers such as Thomas Jefferson; instead, they argue that rights are part of personhood – a set of abstract characteristics that might include self-awareness and rationality – rather than human nature (Glenn 2003; Hughes 2004, chap. 7). Clearly, for transhumanists, "the very concept of human nature is confused" (Daniels 2009, 25); is it the moral foundation of the transhumanist enterprise, or is it something to be manipulated and ultimately discarded?

Consideration of Christian conceptions of human nature may provide some clarity in this ongoing debate. Three moments in Orthodox intellectual history

are especially critical for understanding human nature, its destiny, and the challenges of transhumanism. First, in the fifth century at the Council of Chalcedon, the Church defined Christ as perfectly and eternally human. This definition naturally had a profound impact on later Christian discussions about the nature and destiny of humanity. Second, in the seventh century, the Byzantine monk Maximos the Confessor, against enormous political pressure, helped to define Orthodox anthropology through his insistence that human nature (*phusis*) included a free and autonomous will (*thelēma*) with its own operation or activity (*energia*). In particular, he held that Christ, as fully human, had to have a completely human autonomous will, separate and distinct from the divine will. Maximos's philosophical position – for which he suffered exile, the excision of his tongue, and the amputation of his right hand – allowed for human participation in God's work of redemption; it also made Christ, the perfect human, the model for such participation, a model that believing Christians could freely imitate. In Maximos's vision, human beings were God's partners, not just his subjects, freely choosing to obey their King, even as Christ, the God-Man, had done throughout his life (Balthasar 2003; Bathrellos 2004; Blowers 1991; Cooper 2005; Epifanovich 1996; Larchet 1996; Louth 1996; Maximus 1955, 1982a, 1991, 2003; Sicienski 2005; Törönen 2007).

Twelve centuries after Maximos, Nikolai Fedorov took this partnership a huge step further. As Anastasiia Gacheva (2005, 132) has written, Fedorov “demanded from humanity the fulfillment not only of the moral evangelical commandments, but also the ontological promises of Christianity – overcoming death, raising the dead, and transforming the entire universe into the Kingdom of God.” For Fedorov, the Incarnation meant that God had delegated to humanity both the power and the responsibility to raise the dead and to renew the cosmos. This now became the “common cause” uniting all humanity. More radical than even the Anglo-American transhumanists, Fedorov demanded that the world end its senseless wars and devote all of its resources to reversing entropy and to rescuing the “fathers” from the land of the dead.

## **Human Nature and the Humanity of Christ**

Orthodox Christology, which was hammered out in a series of ecumenical councils, had a great deal to say about human nature and its ultimate destiny. The doctrine of the Incarnation – the claim that Christ was truly God and shared the same substance or essence (*homoousios*) as God the Father – was affirmed at the First Ecumenical Council, held in Nicaea in 325. But if Christ was fully God, could he also be fully human? What did the doctrine of the Incarnation imply about human nature itself? One powerful theological line of thought, dominant in the

preeminent school of Alexandria, Egypt, held that Christ's humanity – his human nature – had been swallowed up and overcome by his divine nature at the Incarnation. Archbishop Cyril of Alexandria (r. 412-44, d. 444) famously articulated this point of view in his formula that Christ had the "single incarnated nature of God the Word [*mia phusis tou Theou Logou sesarkōmenē*]." But for many Christians, including Pope Leo the Great (r. 440-61), Cyril's formula, wrongly interpreted, could make Christ something other than a human being. If Christ did not have a recognizably human nature, then he was no longer human, no longer "like his brothers in every way" (Heb. 2:17). In opposition to the Alexandrian monophysite (single nature, from the Greek words *monē*, "one," and *phusis*, "nature") position, Leo insisted that, even after the Incarnation, Christ continued to have two distinct natures, one divine and one human. Leo's dyophysite Christology was adopted in 451 at Chalcedon during the Fourth Ecumenical Council, which stated that Christ's two natures, although mysteriously joined in the Incarnation, remained "without confusion, change, division, or separation." The Incarnate Christ had and continued to have a fully human nature, with all the properties of that nature. He was, is, and will be "in every way like us, except for sin" (Tanner 1990, 86).

Although expressed in the abstruse language of fifth-century Greek philosophy, the resolution taken at Chalcedon had enormous implications for Christian anthropology. First, Chalcedonian Christology assumed that human beings shared a common human nature. The nature that God assumed in the Incarnation was common to all human beings, not just to the individual Jesus of Nazareth. Second, the council unequivocally affirmed the essential goodness of this common human nature. The eternal Incarnate Christ, who is God Himself, is also eternally human. Sin is *not* an essentially human characteristic, for Christ, the perfect human, never sinned; to err is *not* human, for Christ never erred. Sin is simply a deviation from the perfect: to be perfectly human is to be perfectly sinless. Third, Chalcedon pictured a partnership between God and humanity: Christ's human nature abides harmoniously with the divine nature; united together into a single person (*hupostasis*), these two natures accomplish the redemption of the entire cosmos. Moreover, such a partnership was not only possible but necessary for the divine act of salvation; human participation was vital to Chalcedonian soteriology. Finally, Chalcedon, without spelling it out explicitly, suggested a divine destiny for humanity, a destiny in which union with God was consistent with remaining human. Already in the second century, Irenaeus had made the Incarnation a model for the deification of the believer; Chalcedon indicated that, just as the Incarnation united the two different natures in Christ without destroying either one, so, too, could the believer strive toward a deification that would preserve his or her essential humanity. As Maximos the Confessor argued in the seventh century,

God and man are paradigms one of another: God is humanized to man through love for humankind to the extent that man, enabled through love, deifies himself to God; and man ... manifests God, who is invisible by nature, through the virtues. (*Ambiguum ad Iohannem* 10; PG 91, col. 1113BC; Cooper 2001, 161)

## Will, Freedom, and Destiny

Maximos the Confessor defended the Chalcedonian affirmation of Christ's full humanity against political efforts to water it down. In particular, Maximos insisted that Christ possessed a fully autonomous human will that operated independently of his divine will. The Confessor faced considerable opposition and persecution from state authorities, who were trying to forge some compromise that would bring the non-Chalcedonians back into the imperial church; to defend his Christology, Maximos suffered imprisonment, exile, and savage dismemberment, which hastened his death (Allen 2002). For Chalcedon – and its violent implementation by Emperor Marcianus (r. 450-57), who repressed the monophysite party and burned its writings – it proved extremely costly for the Byzantine Empire. Most of Egypt – the empire's wealthy grain-producing region – refused to recognize Chalcedon, which was also rejected by Armenia, Abyssinia, and large numbers of Christians in Syria. From 451 to the Arab invasion in 641, monophysites led several rebellions against imperial rule, and Byzantine emperors sought some doctrinal compromise that would heal this politically dangerous schism. Indeed, some historians have ascribed the rapid Arab conquest of Egypt to the divisions engendered by Chalcedon.

Monothelism and monoenergism represented two efforts at a theological compromise that would bring Egypt back into the Orthodox fold (Verghess 1980). Monothelism held that, although Christ had two natures, he had but one will (*thelēma*); monenergism, that his two natures were so closely linked that they shared a “single theandric activity [*mia theandrikē energeia*].” But both compromises, in Maximos's view, represented a denial of Christ's full humanity. To be human was to have a human will that acted autonomously and independently of the divine will. As someone who was fully human, Christ throughout his earthly life always and in every circumstance bent his autonomous human will to the divine will. This spiritual feat of absolute obedience to the divine will was undertaken freely; and, through it, God saved the world. The struggle of the human will to obey the divine will is nowhere more clearly evident than in the Garden of Gethsemane, immediately before his arrest and execution, when Christ prayed, “Take this cup from me. Yet not what I will, but what you will” (Mark 14:36). Even when faced with his imminent suffering and death, Christ turns his human will to obey his divine will (*Opusculum theologicum* 7; PG 91, col. 80; Louth 1996, 186).

The existence of Christ's fully human will, with all the ethical struggles that such a will implied, was particularly important for daily Christian practice. Just as Christ submitted his will to the Father, so the monk, through his ascetic disciplines, submitted his will to God. Christ here served as the perfect example for the believer. To deny Christ a human will was to eliminate him as a model for the Christian struggling to turn his will Godward. It was also to deny the salvation of the will. Christ had to assume the human will so that it could be purified and saved – and so that humanity, and creation itself, could be deified, the ultimate end of salvation:

A sure warrant for looking forward with hope to the deification of human nature is provided by the incarnation of God, which makes man god to the same degree as God himself became man. For it is clear that he who became man without sin will divinize human nature without changing it into the divine nature, and will raise it up for His own sake to the same degree as He lowered himself for man's sake. (Maximos 1981, 2:177-78, no. 62)

Human freedom was essential to Maximos's understanding of the purpose and nature of the universe. The Incarnation itself required Mary, the God-bearer (*theotokos*), to participate in salvation by giving his or her assent to give birth to Christ (Luke 1:38). Without freedom, humans could not *participate* in the divine activity of creation, salvation, and deification; and without that participation, God could not achieve his redemptive, salvific purpose to pervade and interpenetrate the cosmos, to redeem and deify his fallen creation. For God intends not simply to rescue his church from sin and hell, but to “restore everything” (Acts 3:21), “make all things new” (Revelation 21:5), and liberate creation itself from its bondage to decay (Romans 8:21). Maximos boldly declares the universal implications of deification:

God made us so that we might become “partakers in the divine nature” (2 Peter 1:4) and sharers in his eternity, and so that we might come to be like him through deification by grace. It is through deification that all things are reconstituted and achieve their permanence; and it is for their sake that what is not is brought into being and given existence. (1981, 173, no. 42)

Maximos wrote extensively about this process of deification, in which, paradoxically, God becomes one with his creation even as he remains ontologically distinct from it. As Eric Perl puts it, “deified man is man by nature and God by grace and therefore both different from and identical with God” (1991, 142). For Maximos, this union of God and humanity is accomplished through participation and interpenetration (*perikhōrēsis*) – the same term used to describe the relationship among the three persons of the Trinity – pictured in the analogy of air thoroughly suffused by light or iron consumed by fire. In both analogies, two opposite substances interpenetrate one another yet retain their distinct natures. God's pervasive penetration of the believer is like that of the fire that causes iron to glow from within.



This deification is accomplished, at least in part, through the free participation of the believer in the sacraments, in works of kindness, and in acquiring virtue. The ascent to God is essentially a moral transformation in which the believer makes the invisible God visible through the practice of kindness, love, and mercy – the same love for humanity (*philanthrōpia*) that God expressed in his Incarnation (*Mystagogia* 24; PG 91, col. 713AB; Perl 1991).

Deification affects the whole person, transforming the senses (*aisthēsis*), reason (*logos*), and mind (*nous*). In deification, “the nature of the body is necessarily ennobled,” Maximos declares (*Ambiguum ad Iohannem* 10; PG 91, col. 1113C; Cooper 2001, 162). “God alone is made manifest through the soul and the body, their natural characteristics [*phusika gnorismata*] being overwhelmed by the transcendence of glory” (*Capita theologica et oeconomica* 2.88; PG 90, cols. 1084-1173). As Adam Cooper notes, these “natural characteristics” refer “not to those marks that are proper to human nature by virtue of creation, but to the characteristic features of empirical life bordered by mortality and penetrated by corruption: sexual reproduction, passionate attachment, corruption, and death” (2001, 185). In other words, for Maximos, sex, passion, and mortality were not truly human traits; the new glorified and deified humanity, although corporeal, would be, like Christ, celibate, passionless, and immortal. Sexuality was a result of the fall; if Adam and Eve had never fallen, Maximos argued, God would have provided some means other than sinful sexual intercourse for reproduction (Meyendorff 1973, 107-8, 196-97; Maximus 1982b, 138-39, question I, 3; PG 90, col. 788B). The discipline of celibacy was one way in which the Christian could begin to cooperate with God in the grand transformation of humanity into its prelapsarian perfection.

## **Maximos, Transhumanism, and the Russian Religious Renaissance**

Although steeped in a Neoplatonist worldview, Maximos’s anthropocentric cosmic vision has several points of concordance with the Anglo-American transhumanist movement. First, as a defender of Chalcedon, Maximos firmly and positively affirms the essential goodness and potential of humanity. Second, Maximos, like the transhumanists, holds to a theory of progress in which humanity as a species has a glorious destiny. Third, as with the transhumanists, this glorious destiny depends on human action and choices. Humans have a significant and decisive role to play in their ultimate destiny. Fourth, Maximos’s teleological anthropology foresees not simply a spiritual transformation of humanity but a corporeal one as well. Maximos values the body and sees it as central to deification, just as the transhumanists understand the body as the locus of the evolutionary change that

will transcend humanity (Cooper 2005). Finally, both Maximos and the transhumanists understand the universe to have a purpose. For Maximos, this purpose is that of the Creator, whose love for his creation leads him to deify it through the Incarnation of Christ; for the transhumanists, this purpose originates in the mind and will of humanity, who, through the exercise of technology, can bend purposeless matter and energy to its desires and ultimately transcend human limits.

At the same time, of course, a vast gulf separates Maximos's theistic anthropology, with its speculative Neoplatonic metaphysics, from transhumanism, which largely denies or ignores God's role in the universe and grounds itself in contemporary science. First, Maximos's Christocentric theism is clearly alien to the transhumanist project, based, as it is, in materialist evolution. Second, transhumanists rely on empirical science; the Orthodox fathers, on a divine teleology. Certainly, this difference is clearly evident in their different approaches to defining human nature. Neither Maximos nor the six hundred fathers at Chalcedon bothered to conduct careful empirical observations of human societies to define human nature; unlike present-day evolutionary psychologists (Pinker 2002), they produced no list of empirically verified common human characteristics – other than the few sketched out in the creeds – that might serve as the beginnings of such a definition. Maximos would not have thought much of such an exercise, since even such empirically verifiable characteristics as sexuality are, in his view, not truly part of human nature but a result of the Fall. For Maximos, humanity is defined primarily teleologically – not empirically – through its relationship with God, its Creator, Redeemer, and Deifier. According to Chalcedon and Maximos, humanity is God's creation, corporal, mortal (although death will ultimately be overcome), limited, born in time, with a rational soul. Although transhumanists certainly would agree that humans have mortal bodies, they would agree with little else.

Moreover, contrary to the transhumanist vision, Maximos and Chalcedon see human nature as eternal. Although purified through the process of redemption and deification, humanity will remain eternally human even as it partakes of the divine nature. Humanity will never evolve into something else; in a Platonic sense, it will simply become what it truly is – what it was originally before the Fall and what God always intended for it. For transhumanists, followers of Darwinian evolution, such a belief in the immutability of a species is a grave error. However slowly, natural processes are already producing genetic changes in *Homo sapiens*, who will inevitably give rise to some new species. The only question before us, say the transhumanists, is whether we will use our technology to take control and direct this evolutionary process.

Theism versus atheism, teleology versus empiricism, the immutability of species versus Darwinian evolution. ... Given the vast abyss that separates transhumanism from the Orthodox theology of the fifth through the seventh century, can the two

engage in a productive dialogue? Does Orthodoxy have anything to say to transhumanism and vice versa? Perhaps the answer can be found in a later period of Orthodox thought. Maximos's positive vision of humanity, freedom, and deification helped lay the groundwork for the late imperial Russian "religious renaissance", whose major thinkers deliberately sought to bring Orthodoxy into a dialogue with Western science and philosophy – and who saw in their religion a divine warrant for significant human action (Evtuhov 1997; Kornblatt and Gustafson 1996; Valliere 2000; Zernov 1963). For Vladimir Sergeevich Solov'ev (1853-1900), Maximos, through his philosophical brilliance, had preserved Orthodoxy as a religion of Godmanhood (*Bogochelovechestvo*), in which fulfillment of the promises of scripture demanded a partnership between humanity and the deity. Solov'ev expanded on this idea in his 1891 lecture to the Moscow Psychological Association:

The essential and radical distinction of our religion from other eastern religions, particularly Islam, is that Christianity as a religion of Godmanhood is predicated on divine action, but at the same time demands human action as well. From this perspective, the realization of the kingdom of God itself depends not only upon God, but on ourselves as well; for it is clear that the spiritual rebirth of humanity cannot occur independently of humanity, cannot be a merely external fact; it is a *cause [delo]* assigned to us, a *task [zadacha]* that we must fulfill. (1988, 2:339-40, emphasis in the original)

Solov'ev's vision of the "spiritual rebirth of humanity" had been deeply influenced by Nikolai Fedorov, whose philosophy provides perhaps the best possibility for a fruitful dialogue between transhumanism and Orthodoxy.

## **Nikolai Fedorovich Fedorov and the Science of Resurrection**

One of the most original Christian thinkers of the late nineteenth century, Nikolai Fedorov, the illegitimate son of a Tambov nobleman, Prince Pavel Gagarin, sought to synthesize Orthodox teaching about the Incarnation and the resurrection with the modern materialist science of his day to solve the greatest of human problems – war, death, and natural disaster. The rambling title of his major work, written between 1878 and 1892 but published posthumously, gives some sense of his primary concerns: "The Question about Brotherhood or Kinship and about the Reasons for the Unfraternal, Unbrotherly, That Is, the Unpeaceful, Condition of the World, and about the Means to Restore Kinship" (Fedorov 1965, 14). Fedorov attached cosmic significance to the Incarnation of Christ, which, in his view, had delivered divine omnipotence – and delegated the fulfillment of the divine promises – into human hands. Fedorov's deep Christian faith led him to a far more radical program than the Anglo-American transhumanists. He called on all humankind to end war and to unite as brothers in order to fulfill humanity's

“common cause”: the raising of the dead and the renewal of the cosmos, which Fedorov understood as no less than bringing in the kingdom of God. For Fedorov the entire universe was involved in a cosmic liturgy (*leitourgia* in Greek) – literally, service to the Lord God. As rational beings, humankind had to regulate nature and to fulfill the promises of scripture.

Although he lived in obscurity and published almost nothing in his lifetime, Fedorov was well acquainted with many members of the Russian literary and cultural elite. After working for nearly fifteen years, from 1854 to 1868, as a history and geography teacher in provincial district schools, Fedorov found employment as a librarian and cataloguer in the Rumiantsev Museum, the leading library of Russia. (Known in the Soviet period as the Lenin Library, it is now the Russian State Library, located next to the Kremlin.) His modest position and his ascetic lifestyle (he never married) allowed him to devote himself entirely to the pursuit of knowledge and to discuss his works with some of the library’s patrons. The novelist Leo Tolstoy (1828-1910), for example, became acquainted with Fedorov in 1881 and, in a letter to one of his friends, wrote,

He [Fedorov] has formulated a plan for the general affairs of all humankind, which has as its goal the resurrection of all people in the flesh. First of all, it's not as crazy as it seems. (Don't be afraid, I never did and do not now share his views, but I understand them so well that I feel myself able to defend them against the claims of all other beliefs having an external goal.) (1992, 63: 80-81; Wachtel 1992, 266-67)

After reading one of Fedorov’s manuscripts, Vladimir Solov’ev wrote him:

I accept your project [the raising of the dead] unconditionally and without hesitation. ... Your project is the first movement forward of the human spirit on the path to Christ. For my part, I can only acknowledge you as my teacher and spiritual father. (Berdyayev 1950, 124)

Although Solov’ev, in fact, rejected significant parts of Fedorov’s program, his letter – as well as Tolstoy’s – indicates the deep respect that the librarian commanded from significant members of the Russian intelligentsia. Aware of the modest cataloguer’s cultural importance, the famous artist Leonid Pasternak, father of the novelist and poet Boris Pasternak, surreptitiously sketched Fedorov’s likeness, providing future generations with one of the few portraits of this remarkable philosopher.

Fedorov also extended his influence through his extraordinary personal generosity. Extremely ascetic, Fedorov gave away much of his tiny salary of 17.5 rubles per month to help others, his “stipend-recipients” (*stipendiaty*), one of whom, in 1873, was a sixteen-year-old mathematically gifted deaf student Konstantin Eduardovich Tsiolkovskii. Deeply impressed by Fedorov’s project of raising the dead, Tsiolkovskii devoted his entire life to the exploration of the cosmos – a task inspired partly by Fedorov’s grand vision of humanity’s role as regulators of the universe and partly by the very practical need for new planets

for the resurrected dead to colonize. By the 1890s, Tsiolkovskii had published works that laid out basic principles of rocket science, many of which are still foundational for rocket engineers. He calculated the relationship of the mass of the rocket to its fuel and argued that liquid was preferable to solid fuel. After the Russian Revolution, Tsiolkovskii became one of the founding figures of the Soviet space program; his students later launched the first artificial satellites and placed the first human being in orbit around the earth (Andrews 2009; Noble 1999, 121-22).

Despite these important personal ties, Fedorov's views gained wide circulation only after his death when his disciples Vladimir A. Kozhevnikov (d. 1917) and Nikolai P. Peterson (d. 1919) published a collection of his manuscripts in two volumes from 1906 to 1913 under the general title *Philosophy of the Common Cause* (Fedorov 1906, 1913). The editors died before they could publish the third volume that they had prepared (Koutaissoff 1984, 98). Obedient to their master's wish, the editors gave away these books for free to anyone who asked. Although the Stalinist secret police hunted down and executed many of Fedorov's disciples in the 1930s and 1940s, his works were widely discussed among Russian émigrés, and *Philosophy of the Common Cause* was reprinted in London in 1970. In the post-Stalinist USSR, a small group of influential thinkers continued to hold to Fedorov's philosophy, and in 1982, the Soviet Academy of Sciences published a new edition of his work – one of the rare occasions in which the officially atheist USSR gave its imprimatur to a Christian philosopher (Fedorov 1982). After the fall of the Soviet Union, Fedorov scholars issued a new, more complete edition of thinker's works in four volumes, with a supplementary volume of commentary (Fedorov 1995-2000). An abridged translation of his selected works is available in English (Fedorov 1990).

For Fedorov, God calls humanity to fulfill three major roles. First of all, human beings are all part of a single family, sons and daughters of their dead ancestors. This family relationship implies an obligation not only to the living – all war and conflict is fratricidal and contrary to God's law – but also to the dead, who must be rescued from their state of decay. Christ serves as the perfect model of this filial relationship. Like Christ, every person is the child of a father; just as Christ, the beloved son, obeys his father and does His will, so too all humanity must also do the will of the God of their fathers, to “reestablish the world to the blessed state of imperishability, as it was before the fall” (Fedorov 1995-2000, 1:401).

Second, God has destined humanity to triumph over death. This command flows naturally from the filial obligations that sons and daughters owe their parents, whom they must raise from the dead. Once again, Christ served as the model for this role; through his resurrection, he became victorious over death and made this triumph possible for all humanity. But Christ's resurrection was only

the beginning of this conquest over death. Through the Incarnation, God had both given the power and delegated the responsibility for the resurrection of the dead to humanity itself:

We must conceive of the resurrection as an unfinished work. ... Christ is the beginning of it; through us it continued, and it continues until now. The resurrection is not a thought only, but it is also not a fact; it is a project ... as something divine it is already decided, but as human it has still not been accomplished. (Fedorov 1995-2000, 1:142)

The general resurrection will require a united, global human effort that brought together all of the forces of humankind. Rather than battling one another, nations have to come together to make the promise of the resurrection come true:

Christianity believes in the triumph over death; but this belief is dead, and that is why death exists; that belief will remain dead as long as it remains separated from all of mankind's other forces, that is, until all the forces of all people join together for the general goal of resurrection. (Fedorov 1970, 203-4; Wachtel 1992, 266)

The struggle against death was the primary means by which God educated humanity to bring about his kingdom. *Homo sapiens* was the only creature conscious of its own mortality, and “in the torments of the consciousness of mortality, the human soul was born” (Fedorov 1995-2000, 2:257). Scientific and technological progress resulted from this struggle against death, as naked, clawless, fangless humans fashioned tools to overcome their lack of natural defenses; art and literature, too, sprang from humanity’s desire to become immortal. But through this terrible school of experience, God was transforming humanity – and through humanity, transforming nature itself.

God is educating humanity by its own experience; He is the King, who does everything not only just for humanity but also through humanity. ... The Creator through us remakes the world, raises all that has perished; this is why nature has been left to its blindness, and humanity to its lusts. Through the work of resurrecting the dead, humanity, as a *sui generis*, self-made, free being freely ties himself to God by love. (Fedorov 1995-2000, 1:255)

Nature, in Fedorov’s vision, is blind and purposeless, but people are purposeful and rational. The harsh struggle against death educates and sanctifies humanity’s purposes, turning lusts into love, making humans into full partners with God: “Nature in us begins not only to recognize itself, but to direct itself” (Fedorov 1995-2000, 2:239).

In this way, God is preparing humans for their third great role – to become the governors of the universe, regulating and renewing the forces of nature. Again, Christ serves as the example: he stilled the seas, calmed the winds, healed the sick, and raised the dead. Moreover, he promised that his disciples would accomplish even greater works: “I tell you the truth, anyone who has faith in me will do what I have been doing. He will do even greater works than these, because I am going to the Father” (John 14:12). Overcoming the law of death,

which reigns over all creation, means more than just raising the dead; it means overturning the Darwinian struggle for survival that characterizes all life; it means repealing the second law of thermodynamics and reversing entropy. Fedorov envisioned the literal fulfillment of Isaiah's prophetic promise:

"The wolf and the lamb will feed together  
And the lion will eat straw like the ox,  
But dust will be the serpent's food.  
They will not harm nor destroy  
On all my holy mountain," says the Lord. (Isaiah 65:25; cf. Isaiah 11:6-9)

Fedorov's plans for the heavenly bodies were equally radical: "By their reason, the sons of man will direct the blind movement of the planets and the entire solar system" (Fedorov 1995-2000, 2:242). Earth itself would become a traveling spaceship, piloted by the united human race. (*ibid.*, 2:240).

To realize these plans, human beings need to unite and redirect their resources toward these common goals. Armies would no longer fight one another but instead would direct their energies toward the regulation of nature, toward putting a final end to natural disasters, and toward reconstructing the individual lives and personalities of everyone who had ever existed, so that they could be raised back to life. As the major center of Orthodox Christianity, Russia would lead the way in this grand project – not by conquering other peoples but by providing a positive example through its patriarchal traditions, its agrarian economy, its right-believing tsar, and its culture of compassion, forgiveness, and love.

Despite these radical designs – which of the transhumanists has such bold plans to change the laws of physics? – Fedorov is in many respects conservative, opposed to both capitalist and socialist visions of progress offered during his lifetime:

If the old tell the young, "You must grow, and I must diminish," then this is a kind wish, spoken by fatherly love. But if the young tell the old, "I must grow, and you must go off to the grave," then this is "progress", and hatred, not love, [that] is speaking – the hatred of the (of course) prodigal sons. In the absence of internal unification and of the external common cause of the entire human race, "progress" is a natural phenomenon, and until the human race is unified in the common cause for the transformation of the forces of death into the forces of life, humanity, like cattle, beasts, and soulless matter, will be subject to the force of nature. ... [Progress] is that sin that was punished by a confusion of tongues, which is similar to our own time, when people refuse all that is common and each one lives exclusively for himself to such an extent that people have ceased to understand one another. (1995-2000, 1:50-51)

Fedorov bitterly criticized both socialism and capitalism. While the socialists of his day claimed to stand for social justice, they did not care about the dead, "the most debased and mortally injured" of humanity (Fedorov 1995-2000, 4:431). Social justice needed to address not simply questions of wealth and poverty but

of life and death. As for Western civilization, it was “created by the lusts of men to satisfy the lusts of women” – a civilization based on consumption and comfort, rather than on striving for truth and righteousness (Sergay 2008, 43). The greed of English capitalists had led to the creation of an anti-Christian international imperialist order that had “expropriated and expatriated” peasants from their land: “a dishonorable affair, separating the children from the dust of their fathers, depriving them of the possibility of fulfilling their filial duty” (Fedorov 1995-2000, 1:239).

In place of urban industrial capitalism, which he soundly rejected, Fedorov called for a return to the land. The patriarchal peasant commune (*mir*), characterized, as he thought, by fraternal love and the practice of mutual aid (*pomoch*), provided a better foundation than did the city for raising the dead and regulating nature. Moreover, peasants, who depended on meteorological phenomena and natural forces, would much more easily understand and sympathize with his “common task” than deracinated city folk (Fedorov 1995-2000, 3:267-68).

Completion of the “common task” was necessary to avoid God’s apocalyptic judgment, described in Christ’s discourses on the Mount of Olives and in the Revelation to St. John. In perhaps his most original theological contribution to eschatology, Fedorov argued that the prophecies of the end of the world were only warnings, not certainties. If, in obedience to God’s will, humanity turned from war and conflict to the great task of raising the dead, then God would spare the world the horrors of the Apocalypse. As Nicholas Berdiaev explained, Fedorov

teaches that the apocalyptic prophecies are conditional, that they present merely a threat. If mankind does not unite for the common work of resurrecting deceased ancestors, the restoration of life of all mankind, then there will come the end of the world, the advent of Antichrist, the Last Judgment, and eternal destruction for many people. But if mankind lovingly unites for the common work and fulfills its duty with respect to deceased forefathers, if it does all it can for the cause of general salvation and resurrection, then there will be no end of the world, no Last Judgment, and no eternal destruction for anyone. This is a projective and active conception of the Apocalypse. It depends on man whether God’s plan for the world will be successful. (1950, 129)

For Fedorov, humanity had rebelled against God not by eating of the forbidden tree of knowledge but by refusing to fulfill the very first divine commandment to subdue the earth and to have dominion over all creation (Genesis 1:28). Humanity’s failure to regulate nature by reason condemned the universe to degeneration. Deprived of rational governance, nature became blind and corrupt. Only by uniting in this common cause can humanity obey its divine vocation (Russian Transhumanist Movement).

Although Fedorov is not well known outside Russia, some Anglo-American transhumanists have begun to embrace him – but not his Orthodox theological framework. In a blog dated August 4, 2009, on KurzweilAI.net, the Web site of



the inventor and transhumanist Ray Kurzweil, one participant (who uses the pseudonym */:setAI*) writes, “I am pretty sure Fyodorv [*sic*] has been mentioned here – he really should be our ‘mascot’ – he had the basic mind-set we are trying to cultivate now – limitless knowledge / infinite existence / the ultimate fate of Life and Mind.” The blogger’s knowledge of Fedorov seems to be limited to the “Wikipedia” article that he cites.

Recently in a *Rolling Stone* interview, Kurzweil, who did not mention Fedorov at all, shared his hopes of raising his own father from the dead:

Kurzweil’s most ambitious plan for life after the Singularity, however, is also his most personal: Using technology, he plans to bring his dead father back to life. ... In a soft voice, he explains how the resurrection will work. “We can find some of his DNA around his grave site – that’s a lot of information right there,” he says. “The AI will send down some nanobots and get some bone or teeth and extract some DNA and put it all together. Then they’ll get some information from my brain and anyone else who still remembers him.”

When I ask how exactly they’ll extract the knowledge from his brain, Kurzweil bristles, as if the answer should be obvious: “Just send nanobots into my brain and reconstruct my recollections and memories.” The machines will capture everything: the piggyback ride to a grocery store, the bedtime reading of Tom Swift, the moment he and his father rejoiced when the letter of acceptance from MIT arrived. To provide the nanobots with even more information, Kurzweil is safeguarding the boxes of his dad’s mementos, so the artificial intelligence has as much data as possible from which to reconstruct him. Father 2.0 could take many forms, he says, from a virtual-reality avatar to a fully functioning robot. (Kushner 2009, 61)

## Conclusion

The Anglo-American transhumanist movement offers a vision of a renewed humanity. At its best, transhumanism calls all people of the world to strive together toward a glorious destiny and to take responsibility for getting there. Transhumanists challenge the imagination and seek to break down artificial barriers to a better life.

The two Orthodox thinkers considered here openly invite a more extended conversation between Christianity and transhumanism. Both Maximos and Nikolai Fedorov also believe in a glorious destiny for humanity – a transfiguration that involves both body and the mind. Like the transhumanists, they both insist that human beings are, in large measure, responsible for their own destiny. Blessed by God with a free and autonomous will, humans can fulfill – or refuse to fulfill – the role that God has assigned for them. Both of them share a cosmic vision in which humanity as a species significantly participates in the divine transformation of the created order.

Unlike most transhumanists, however, Maximos and Fedorov understand the transformation of humanity as a fundamentally moral process, one that involves

not just technical and material change but spiritual changes as well. For both thinkers, love is the key to this transformation. For Maximos, the Christian must increasingly and progressively be characterized by divine love in a mystical process of deification. The invisible God makes himself visible as Christians acquire and put into practice the divine virtues. For Fedorov, human beings form a single family, whose members share in the joys and obligations of kinship.

Of course, neither Maximos nor Fedorov offer ready-made answers to the challenges presented by recent advances in biotechnology. Contemporary American Christians are turning to Maximos for help in solving a number of practical questions about the Christian life, but I am unaware of any bioethicists who draw on Maximos (Bellini 2008; Siecienski 2005). Perhaps Adam Cooper's 2005 study of Maximos's theology of the body will have fruitful applications for bioethicists. As for Fedorov, many of the criticisms levied against the transhumanists can certainly also be levied against him as well. Fedorov is often impractical; he is unable to provide specific information or guidance about how to go about raising the dead; he ignores the laws of physics and wrongly imagines that it is possible to change them.

But both thinkers offer an optimistic Christian moral framework for discussing the transformation of humanity. Both thinkers give the lie to those scholars who imagine religion as uniformly pessimistic about human nature and the possibility of human transformation. Without such a moral framework, transhumanists are doomed to remain morally blind, incapable of answering their critics with anything better than epithets, such as "bio-Luddite" (Hughes 2004, 62-67).

But perhaps the most pressing questions for the contemporary debate about transhumanism are the political implications of a movement that so boldly calls for humans to evolve into something else, into a different and better species. Such a challenge rightly raises a host of alarms: the transhumanist project sounds too much like the eugenics movement of the early twentieth century, which, in the name of (pseudo-)science, sterilized those who were black and poor; it recalls, rightly or wrongly, the totalitarian horrors of National Socialism and the dream of a "master race." James Hughes believes that social democracy offers the best answer to the very practical political question about allocating the huge resources needed to direct the evolution of humanity; other transhumanists prefer a libertarian capitalist market system. Here the Orthodox tradition sounds a cautionary note. For Fedorov, the "common task" required the power of an absolute monarch. And when one of his disciples, the philosopher Aleksandr Konstantinovich Gorskii-Gornostaev (1884-1943), during the first of several arrests, was questioned in 1927 in the interrogation chambers of Soviet secret police, the Unified Main Political Administration (OGPU), he explained,

Fedorov expressed the need for a strong power – a monarchy. This however did not constrain me to support autocracy. I understand this more broadly: in general terms, [Fedorov’s project requires] a firm authority, a dictatorship, but not necessarily a monarchy. (Makarov 2002, 107)

Indeed, it is difficult to imagine that a democracy of equals could survive in the world envisioned by transhumanism, where the wealthy and powerful could enhance themselves and genetically pass down their advantages to their descendants (Wikler 2009). The revolutionary changes that transhumanism demands also suggest equally radical politics. What Valerian Nikolaevich Murav’ev (1885-1930), one of the Fedorovites, said about his own movement, might well be applied to the Anglo-American transhumanists: “We are much bigger Bolsheviks than the Bolsheviks themselves” (Makarov 2002, 99).

Maximos the Confessor also offers an important political lesson in the debate over transhumanism. Although a retired government official who had faithfully served his emperor, Maximos did not hesitate to defend the full humanity of Christ and the freedom of the human will even when he risked everything to do so. Maximos’s willingness to sacrifice his own liberty – and even his life – to defend his vision of human nature and human dignity continues to testify to us about the importance of these issues. To be human is to have a human will and a divine destiny. Tongueless and dismembered, the Confessor still speaks from his exile in Lazica.

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