Bioethical Values and Principles

ALPHA INSTITUTE OF THEOLOGY AND SCIENCE
Thalassery, Kerala, India - 670 101
Ph: 0490 2344727, 2343707, +91 8086312826
Web: www.alphathalassery.org, Email: alphits@gmail.com

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Editorial Board: Mar Joseph Pamplany
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Introduction

The Roman Catholic Church has had a significant impact upon the formulation and application of bioethical values and principles. As the discipline of bioethics has evolved throughout the late twentieth and into the twenty-first centuries, broader cultural and intercultural understanding has emerged and a non-sectarian set of principles has been formulated and put into wide practice. Meanwhile, Catholic bioethics, while still influential, has become largely understood as a set of proscriptions regarding issues such as abortion, human embryonic stem cell research, and physician-assisted suicide. Both official documents promulgated by the Church's magisterial authority and various volumes published by Catholic bioethicists have elucidated, and marshalled supportive arguments for, the Church's defined positions on these and other issues. The primary foundation for the Catholic perspective on bioethics or any other moral issue is, of course, Sacred Scripture and the two thousand-year tradition of apostolic teaching, understood to be guided by the Holy Spirit in accord with Scripture. The

Church's fundamental doctrines based on these sources of divine revelation can be found in the *Catechism of the Catholic Church* (1997). Included within the apostolic tradition are twenty-one *ecumenical councils*. While these ecumenical gatherings display the full force of the Church's teaching authority—its *magisterium*—individual popes, smaller gatherings of bishops known as synods, national or regional conferences of bishops—such as the U.S. Conference of Catholic Bishops [USCCB]—and individual bishops within their own dioceses exercise various levels of teaching authority within the Church.

Popes, for instance, exercise their "ordinary magisterium" when they publish an *encyclical*—e.g., Pope John Paul II's *Evangelium vitae* (1995)—or, following a synod of bishops, an *apostolic exhortation*. In formulating such documents, the Pope often relies upon previous scholarly work published by advisory bodies such as the Pontifical Academy of Sciences or the Pontifical Academy for Life. These advisory bodies are not authoritative on their own; but certain Vatican offices— known as *dicasteries*—are, primary of which is the Congregation for the Doctrine of the Faith [CDF]. The CDF has published several documents that have shaped the core of Catholic bioethical teaching, including a *Declaration on Procured Abortion* (1974), *Declaration on Euthanasia* (1980), *Donum vitae* (1987), and *Dignitas personae* (2008). Finally, at more local levels, episcopal conferences may publish instructional directives that elucidate specific guiding principles to inform the individual and institutional consciences of Catholic healthcare providers—e.g., the USCCB's *Ethical and Religious Directives for Catholic Health Care Services* (2009). In addition to these authoritative magisterial sources, the Catholic intellectual tradition has been shaped by the thought of influential theologians, philosophers, and canon lawyers. Foremost among these, as evidenced by numerous citations throughout this volume, is Thomas Aquinas (c. 1225–1274), whose writings, especially the voluminous *Summa theologiae* (1948), synthesize Catholic theology with the principles of Aristotelian philosophy, resulting in a systematic elucidation and defense of metaphysical, epistemological, anthropological, psychological, and

ethical theses that have predominantly—though by no means exclusively— defined the Catholic intellectual worldview.

One may have the impression, especially given the Church's hierarchical authoritarian structure, that definitive pronouncements have settled debates among Catholic bioethicists and that any persistent disagreements should be conceptualized as scholars who are "faithful to the magisterium" versus "dissenters." This impression is not wholly inaccurate as there are, for sure, clearly defined, determinately settled teachings that are nevertheless subject to challenge by both non-Catholic scholars and those within the Church who lobby for changes to magisterial teaching on certain issues. Not all bioethical issues, however, have been definitively addressed by Catholic authorities, and some teachings have been formulated in a sufficiently generalized manner to allow for differing applications in diverse circumstances.

Moreover, as new biomedical technologies emerge, Church authorities rely on experts in science, medicine, philosophy, theology, law, and other disciplines to advise them; and, where there is persistent disagreement, sometimes a set of concerns is noted without a clear authoritative resolution being proclaimed. An example is *Dignitas personae*'s treatment of the question of "embryo adoption"— the transfer of a cryopreserved embryo originally created through *in vitro* fertilization into the uterus of a woman other than the genetic mother. While the document cites "various problems" associated with this practice, Catholic scholars debate whether the document, or Catholic moral teaching in general, absolutely rules it out. Another example is the Church's position, following an allocution by Pope John Paul II (2004), on the use of medically-provided nutrition and hydration, particularly in the case of patients in a "persistent vegetative state." While John Paul II affirmed that nutrition and hydration—whether administered manually or artificially— ought to be typically considered as morally obligatory "ordinary care," there are circumstances in which such care may become "extraordinary"; Catholic ethicists continue to debate precisely what types of circumstances would precipitate this moral shift.

Sometimes scholars on one side of a debated issue disagree with the Church's current teaching, but do so based on the same moral and other principles upon which the controverted teaching is itself based. This is most evident in the debate concerning the proper clinical criterion for determining when a human being has died. Following the conclusion of two advisory working groups commissioned by the Pontifical Academy of Sciences in the 1980s, the Church has consistently affirmed the widely-accepted "whole-brain" criterion for determining death—meaning that a patient can be declared dead upon total absence of neurological functioning in the cerebrum, cerebellum, and brainstem (Chagas 1986; White et al. 1992). Not long thereafter, both Catholic and non-Catholic scholars began to raise concerns about the validity of this criterion based upon cases of prolonged somatic survival following whole-brain death. This debate led to a more recent working group of the Pontifical Academy of Sciences that affirmed the whole-brain criterion (Sánchez Sorondo 2007); in the wake of concerns over how the working group was organized and functioned, those who held the minority view criticizing this criterion published their views in a competing volume (de Mattei 2007). While everyone on both sides of this debate concurs on the philosophical anthropology of the human person and the moral principles that govern how the dying or deceased ought to be treated— with respect to, say, the removal of life-sustaining treatment or organ transplantation—sometimes vociferous disagreement persists concerning the more specific question of how death ought to be clinically determined in light of the relevant medical data.

On November 21, 1964, Pope Paul VI solemnly promulgated the Second Vatican Council's Dogmatic Constitution on the Church, *Lumen gentium*, which articulated the Church's self-understanding about her nature and her universal mission. In essence, according to the Council Fathers, the Church is a sacrament of unity, "a sign and instrument, that is, of unity of communion with God and of unity among all men." A community of faith, hope, and charity, she, as the Apostles' Creed proclaims, is one, holy, catholic, and apostolic. The Church's primary vocation, the Council proclaimed, is to call

her sons and daughters to holiness, because the commandment of charity is addressed to all without distinction: "It is therefore quite clear that all Christians in any state or walk of life are called to the fullness of Christian life and to the perfection of love, and by this holiness a more human manner of life is fostered also in earthly society." Ultimately, as sacred Scripture reveals and the Council affirms, the Christian is called to become a saint.

A widely used textbook in the tradition of secular bioethics traces the founding of the field to an influential article authored by Dan Callahan in 1974 entitled "Bioethics as a Discipline." As contemporary histories of bioethics often do, however, the text fails to acknowledge the long tradition of bioethical reflection in the history of the Catholic Church, from the early condemnation of abortion in the *Didache*, written in the first century, to the recent papal pronouncement on euthanasia in *Evangelium vitae*, written during the twentieth. Rooted both in faith and in reason, Catholic bioethics is a rich tradition informed by scriptural exegesis, by theological reflection, and by philosophical argument, a tradition that counts St. Augustine, St. Thomas Aquinas, and St. Alphonsus Ligouri among its most distinguished contributors. Today, Catholic bioethics has become a distinctive and mature field of inquiry—there are now several scholarly journals devoted primarily to Catholic bioethics, including the *National Catholic Bioethics Quarterly* and the *Linacre Quarterly*, that strive to apply the principles of Christian morality to the profound and deeply human questions regarding the meaning of life, its beginning, its continuation, and its end, that are raised by the life sciences.

Chapter 1

Bioethics and the Pursuit of Beatitude

In this chapter, where we summarize the foundational principles of Catholic moral theology, we begin with an overview of the Catholic moral vision that places bioethics within the context of each individual's pursuit of beatitude. It is a moral vision that strives to remain faithful to the moral life described by the Lord Jesus Christ in His Sermon on the Mount. Since the pursuit of beatitude is governed by the actions that shape our moral character, we then move to a moral analysis of human action that answers several questions: What is a human act? How do we judge the morality of human acts? How do we distinguish good acts from evil ones? Then we will discuss the moral principles that are used to make sound moral judgments according to right judgment, not only in bioethics but also in every sphere of human activity. At the same time, we discuss four dimensions of moral agency and society—the governing role of the virtues, the power of prayer, the experience of suffering, and the teaching charism of the Church—that can and often do shape our actions. Finally, we turn to the principle of double effect, a

principle that will help us to act well when we are confronted with choosing acts that have both good and evil effects.

Bioethics and the Catholic Moral Vision

On August 6, 1993, the Feast of the Transfiguration of the Lord, Pope John Paul II signed *Veritatis splendor,* his moral encyclical addressed to the bishops of the Catholic Church. It remains an eloquent articulation and defence of the Catholic moral vision. In this encyclical, which calls for a renewal in Catholic moral theology, the pope reminds the Church and the world of three constitutive elements of Christian morality. First, Pope John Paul II teaches that the Catholic moral vision begins with and ends in the person of Jesus Christ. Since Christ is the Way, the Truth, and the Life, the decisive answer to every human being's questions, his religious and moral questions in particular, is given by Jesus Christ, or rather, is Jesus Christ Himself. Jesus opens up sacred Scripture, teaches us the truth about moral action by fully revealing the Father's will, and then gives us the grace to pursue and to live that truth. He is also the one who reveals the authentic meaning of freedom by living it fully in the total gift of Himself and shows us how obedience to universal and unchanging moral norms can respect the uniqueness and individuality of the human being without threatening his freedom and dignity. In all of this, the Lord remains the beginning and the end of an authentic Christian morality.

Next, the Pope explained that the human being attains a happy life, what the classical authors called beatitude, only in the following of Christ along the path of perfection. Here, happiness, or beatitude, is understood to signify the fulfilment of every human yearning, spiritual, moral, and emotional. It goes beyond the modern-day notion of happiness as either the emotional wellness or the positive affective mood of the individual. Rather, beatitude is the perfection of the human being as the kind of creature that he is. By focusing on beatitude, Pope John Paul II places Catholic moral theology within the moral tradition that emphasizes the happiness and the perfection of the human agent as the goal of the moral life. It is a tradition that challenges the human agent to live in such a way as to attain the

perfective ends that define a good life. This tradition traces its origins to the ancient Greeks and counts St. Thomas Aquinas as one of its proponents.

As Pope John Paul II narrates in the encyclical, in response to the rich young man's question—Teacher, what good must I do to gain eternal life? (Mt 19:16)8—the Lord Jesus Christ invites the young man, as He invites every human being, to seek God "who alone is goodness, fullness of life, the final end of human activity, and perfect happiness." In doing so, Christ reveals that the young man's moral question is really a religious question. In seeking what is good, in seeking beatitude, the human being is seeking God. According to the encyclical, the Lord also reveals that the desire for God that is at the root of the rich young man's question is implanted in every human heart, reminding us that, created by God and for God, we are called to communion with our Creator. Moreover, as the pope notes, it is a desire that can be assuaged only by accepting Jesus' challenge in the Sermon on the Mount to follow Him on the path of perfection: "If you wish to be perfect, go, sell what you have and give to [the] poor, and you will have treasure in heaven. Then come, follow me" (Mt 19:21).10 Thus, Christian morality is not a list of commands, obligations, or prohibitions. Rather, it "involves *holding fast to the very person of Jesus,* partaking of his life and his destiny, sharing in his free and loving obedience to the will of the Father." The imitation of Christ, particularly in the practice of charity, constitutes the moral rule of the Christian life and remains the essential and primordial foundation of Christian morality. It is the only authentic path to the happy life.

Third, the pope teaches that we imitate Christ by seeking, with God's grace, to perfect ourselves through our actions and the virtues they engender. Created by God as rational and free creatures, human beings perfect themselves and establish their identities as moral creatures through their free choices. We make ourselves the kinds of persons we are, in and through the actions we freely choose to do. As the pope put it in the encyclical, "It is precisely through his acts that man attains perfection as man, as one who is called to seek

his Creator of his own accord and freely to arrive at full and blessed perfection by cleaving to him." Our freely chosen acts, the pope continues, "do not produce a change merely in the state of affairs outside of man but, to the extent that there are deliberate choices, they give moral definition to the very person who performs them, determining his *profound spiritual traits*." As Jesus Christ reveals, "man, made in the image of the Creator, redeemed by the blood of Christ and made holy by the presence of the Holy Spirit, has as the *ultimate purpose of his life to live ' for the praise of God's glory'* (cf. Eph 1:12), striving to make each of his actions reflect the splendor of that glory." This is the reason why the pope and the Catholic moral tradition put much emphasis on the morality of individual human acts and of the virtues they engender. They are our proximate means toward growing in perfection and toward attaining of beatitude. By highlighting the importance of human action and virtue in the moral life, Pope John Paul II associates Catholic morality with other moral theories that emphasize the virtues, or moral character, of the human agent, in contrast to those theories that emphasize either duties or rights (deontological theories) or to those theories that emphasize the consequences of actions (utilitarian theories). Finally, given the vision of the moral life outlined above, it should not be surprising that Catholic bioethics focuses upon the acts of the individual patient, clinician, or scientist in order to evaluate their morality: Which ones would respect the dignity of the person and promote his well-being and ultimate beatitude? Which ones would be detrimental to the perfection of his nature? Thus, when the Catholic bioethicist asks whether it is morally permissible to do experiments with human embryos, he does so by reflecting upon how this type of research would contribute to the personal and spiritual development of the scientist. Much emphasis is placed upon how individual acts affect the acting person because it is through these acts that the human agent attains beatitude. In this way, Catholic bioethics differs from other contemporary approaches to bioethics, which focus upon either the outcomes of human acts or the procedures that protect the autonomy of the human agent.

Natural Inclinations and the Structure of Human Acts

Created by God and for God, we are called to communion with our Creator. Therefore, it is not surprising that in His providence, God has imprinted natural inclinations within our hearts that move us to our beatitude in Him. Preexisting elicited desire, these inclinations direct us to those ends that are constitutive of the human good. They help us to understand our perfection precisely as human beings. Not unexpectedly, developmental psychologists have identified these inclinations, which direct us to our self-preservation, to true and certain knowledge of the world, to life in society, and to God, even in newborn infants and young toddlers. Our natural inclinations provide the ground and ultimate intelligibility for our actions. They move and motivate us to act. As Pope John Paul II explained in *Veritatis splendor,* the moral challenge is to use our reason, with the help of grace, to order our actions in accordance with these natural inclinations so that together they can achieve our authentic good and the good of our society. Actions are at the heart of the moral life. Thus, I begin our exposition of Catholic bioethics by reflecting upon the structure of human acts to answer the following questions: What is a human act? What exactly are we doing when we act? How do acting persons act? This analysis of moral agency will form the backdrop for our later discussion of the morality of human action. For St. Thomas Aquinas, the process of human action can be distinguished into three basic stages, three moments, of the human act: intention, decision, and execution. There is also an optional stage involving deliberation that is required when an acting person has to select one means among several alternative means to attain his purpose. Each of the stages is made up of two components, one involving the intellect and another involving the will, though it is important to emphasize the interpenetration of the two basic capacities of the human agent at each moment of the human act. It is neither the intellect nor the will separately, but the whole human being, who is acting.

Intention, the first stage, is the aiming of an action toward something. Here the acting person not only apprehends something

that becomes the purpose of his action but also desires it. Thus, a young lacrosse player who wakes up hungry is motivated by the good of a satiated body that he not only apprehends but also desires as the purpose of his acting. This is the intention behind his act to eat. The next stage of human action, called *decision,* is a process of practical reasoning, again involving both the intellect and the will, whereby the acting person chooses to realize a particular means to achieve the desired purpose. The last stage of human action is *execution.* It follows decision and is the actual carrying out of the decision into action. After deciding to eat the bowl of cereal, our athlete actually executes his act. He pours the cereal into a bowl and begins to consume it. His act is complete. Finally, there is an additional stage, a fourth stage called *deliberation,* which is not a necessary part of human action. It becomes a moment in the human act when the acting person is not sure if he should choose one particular means or another to achieve his purpose. When this happens, deliberation follows intention and precedes decision. It is a process of practical reasoning from purpose to means that leads the acting person to choose the best of many possible means to achieve the purpose of his action.

The Role of the Virtues

In health care and in scientific research, as in all other areas of the moral life, acting persons often struggle to act well. Obstacles to human action often arise because of ignorance in the intellect, weakness in the will, or disorder in our desires. They can arise at any moment of the human act. Some individuals find it easy to intend ends—for example, they find it easy to make New Year's resolutions—but then find it difficult to execute their acts to accomplish their purposes. In contrast, others may become incapacitated when they are faced with a plethora of possible means. Deliberation is difficult for them, and they simply cannot decide. Finally, others may not be able to even motivate themselves to intend purposes for their acts. They lack the drive to pursue goals in their life, and therefore, they are unable to act. Given the common difficulties that prevent the acting person from acting well, the moral life in general, and moral reasoning in bioethics in particular, require the virtues—stable

dispositions in the human agent that enable him to know, to desire, and to do the good—to help us to act well. Classically, the virtues can be divided into three categories: the intellectual, the moral, and the theological virtues.

First, the intellectual virtues allow the human agent to perfect his scientific, artistic, and technical abilities. Particularly important in bioethics, the three virtues of understanding, sure knowledge, and wisdom perfect the intellect so that the human person can know truth well. Understanding or intuitive insight, *intellectus* in Latin, allows the person to grasp the necessary truths expressed in first principles, such as the whole is greater than its parts. Sure knowledge, *scientia* in Latin, perfects the speculative intellect so that the human agent can reason well. Finally, wisdom, *sapientia* in Latin, disposes the human being so that he can understand reality from the divine perspective. These virtues would allow the bioethicist and the patient to know the truths that are necessary prerequisites for moral judgment, and would enable the scientist to excel at his task to understand the world. Last, the intellectual virtues of art, *ars* in Latin, and of prudence, *prudentia* in Latin, perfect the intellect and predispose the human agent to produce works of skill that are done well—including, for the physician, a healed patient, or for the scientist, an elegant experiment—and to act well, respectively. As we will see below, prudence is a unique virtue because it is numbered among both the intellectual and the moral virtues, because a prudent individual needs not only to know the true good, but also to act in order to attain it.

Next, the moral virtues order our desires so that we routinely desire the good and then act to attain it. They can be acquired by human effort and are the fruit of repeated morally good acts. The ancients emphasized that these virtues could become like a second nature after long conditioning and constant practice. However, for St. Thomas Aquinas, these natural virtues still require God's grace for them to function well. Significantly, he also proposed that there are infused virtues that correspond to the acquired moral virtues and that elevate the human being so he can perform supernatural acts that transcend reason and duty in light of the Cross. As Michael

Sherwin, O.P., has convincingly argued, the infused cardinal virtues must exist because they explain well the experience of those acting persons, especially former addicts, who struggle with the lingering effects of their acquired vices. By definition, these infused virtues are gifts that can be received only from God along with sanctifying grace. They order the human agent toward his ultimate beatitude, which is the life of the Triune God.

The moral virtues are also important because they help the acting person to regulate his emotions, those bodily movements the classical tradition called the passions of the soul. As Etienne Gilson, the distinguished medievalist, observed: "When the moralist comes to discuss concrete cases, he comes up against the fundamental fact that man is moved by his passions. The study of the passions, therefore, must precede any discussion of moral problems." In themselves, these passions—and they could include love, pleasure, hatred, fear, despair, or anger, among others—are morally neither good nor evil. However, when they contribute to good action, they are morally good, and when they contribute to evil action, they are morally evil. For example, fear, in one case, fear of cancer, may incline an individual to give up an unhealthy habit like smoking, while fear, in another case, fear of prolonged pain, may incline another patient to ask his physician to kill him. The former passion would be morally good, while the latter passion would be morally evil. Not surprisingly, therefore, the acting person is called to order his passions so that they are directed toward his authentic good.

A handful of the moral virtues, prudence, justice, fortitude, and temperance, are called cardinal virtues because they are those principal virtues upon which the moral life pivots. Prudence is the virtue that disposes the individual not only to discern the true good in every circumstance, but also to choose the right means of achieving it. It is the virtue that facilitates good human acts. It allows the acting person to intend, to deliberate, to decide, and to execute this particular act well, here and now, with his and his community's authentic good in mind. Prudence would be the virtue that disposes a patient not only to properly weigh the medical opinions of his doctors, the desires of his loved ones, the financial exigencies of his

particular situation, and his own authentic good before making a morally upright decision with regard to his health care, but also to carry it out. It would also be the virtue that disposes the scientist to properly weigh all the scientific, financial, and moral factors that impact every research program before choosing a morally upright experiment to test a hypothesis. Next, justice is the virtue that disposes the individual to give to God and to neighbour that which is properly due to both of them. It allows the human being to properly see that his own well-being cannot be separated from the well-being of others. As we will see in chapter 6, justice is the virtue that would dispose an individual or a transplantation team to properly allocate transplantable organs to those patients who are most in need of them.

Fortitude is the virtue that disposes the individual to remain firm in the face of difficulty and to remain constant in the pursuit of good. Also called courage, it moderates the passion of fear, allowing the individual to act in a morally upright manner even when he is frightened. Fortitude strengthens his resolve to do the good even in the face of temptations or of strong emotions that may dispose him to do otherwise. It is the virtue that disposes the patient to conquer fear, even fear of death, so that he does not seek physician-assisted suicide. It is also be the virtue that disposes the scientist to avoid experiments that involve the destruction of human embryos, even in the face of pressure from editorial review boards, tenure committees, or grant-funding agencies to do otherwise.

Fourth and finally, temperance is the virtue that disposes the individual to moderate the attraction of bodily pleasures. It steels his will, allowing him to master his instincts and to keep his elicited desires within the limits of what is reasonable and honourable. An important moral virtue associated with the cardinal virtue of temperance is the virtue of chastity, the virtue that moderates the individual's desire for sexual pleasure so that it is properly ordered according to right reason and faith. As we will discuss in chapter 3, chastity is the chief virtue that disposes a married couple to choose only natural family planning methods rather than contraception when they choose to exercise responsible parenting.

Finally, the theological virtues, faith, hope, and charity, unite the human being to God, making him capable of acting as God acts. In contrast to the moral virtues, these virtues cannot be acquired by human effort because they can only be received as divine gifts. Faith is the virtue by which we believe in God and believe all that He has said and revealed to us. Hope is the virtue by which we desire heaven and eternal life as our happiness, placing our trust in God's infinite power and mercy and His promises that He will save us. Charity is the virtue by which we love God above all things for His own sake and our neighbour as ourselves for the love of God. These virtues capacitate the human agent to know, to will, and to love, as God knows, wills, and loves. In bioethics, these virtues dispose the individual to choose the authentic good in light of the mystery of the Cross. Faith, hope, and charity are the virtues that allow a terminally ill patient to unite his sufferings with the sufferings of Jesus Christ for the redemption of the world. They would also enable him to reject any temptation he may have to take his life by reassuring him of the reality of the resurrection. These virtues would also dispose the nurse to care for his patients in a heroic and self-sacrificial manner, moving him in certain cases to visit them even when he is not on call.

The Role of Prayer and the Gifts of the Holy Spirit

The moral life is our response to Christ's call to perfection and beatitude. Thus, bioethics involves more than determining what is permitted or forbidden in a particular clinical or experimental scenario. The minimum obligation is not enough. Instead, both the Catholic bioethicist and the acting person who is being confronted by a bioethical dilemma are called to seek excellence, that perfection of a human action in a particular situation that would contribute to the sanctification and transformation of the human being, his community, and his world.

In light of this, prayer has an integral role in Catholic bioethics. Through prayer—defined by the *Catechism of the Catholic Church* as the raising of one's mind and heart to God or the requesting of good things from God—we grow in knowledge of and love for God. It is this God, especially in the person of the Holy

Spirit, who is the source and giver of all beatitude. It is the Holy Spirit who illumines our intellects and enflames our hearts so that we can truly see and desire what is good and holy in light of the mystery of the Cross. He also gives us His gifts to guide us to beatitude so that we may intend, deliberate, decide, and execute our acts well, according to right reason and to faith. In the Catholic tradition, the gifts are seven abiding spiritual powers by which the individual is perfected to readily obey the promptings of the Holy Spirit, especially in situations that demand heroic action. The gifts of the Holy Spirit are to the soul as the sail is to the boat. They help the individual to respond to the inspirations of the Holy Spirit in the same way that the sail catches the wind so that the boat skims rapidly along to its destination without any effort from the oarsman. Sacred Scripture enumerates seven distinct gifts of the Holy Spirit: wisdom, understanding, knowledge, counsel, piety, fortitude, and fear of the Lord (cf. Is 11:2–3). These gifts often play an essential role in bioethical decision making. For instance, the gift of counsel assists the intellect and perfects the virtue of prudence by enlightening the patient and his physician so that they can decide, and then execute, the difficult decisions that they need to make. This gift can help us to properly comprehend the moral complexities that are present in many bioethical dilemmas. As Jesus Christ promised His disciples: "When he comes, the Spirit of truth, he will guide you to all truth" (Jn 16:13). In another example, the gift of fortitude empowers the patient to undertake arduous tasks, as well as to endure long and trying difficulties for the glory of God. The gift secures strength to triumph over the difficult obstacles that stand in the way of the authentic good. This is especially true in those cases, common in bioethics, where acting to attain the good can often involve much hardship and extended suffering.

Finally, it is often true that the moral dilemmas that rise in bioethics are complex and confusing. Prayer is a necessary ingredient for discerning these moral dilemmas, especially prayer for the gifts of the Holy Spirit. As St. Alphonsus Liguori taught: "To actually do good, to overcome temptation, to exercise virtue, entirely to keep the divine precepts, it is not enough to receive lights and make

reflections and resolutions. We still need the actual help of God. And the Lord does not grant this actual aid except to one who prays and prays with perseverance." Catholics too have recourse to the saints, who can intercede to God on their behalf. It should not be uncommon for both Catholic bioethicists and patients to invoke either St. Jude Thaddeus during seemingly impossible crises, St. Joseph at the end of life, or the Blessed Virgin Mary at all times and places. The best Catholic bioethics is done on one's knees.

The Role of Suffering

Not surprisingly, the alleviation of suffering is often used to justify many medical interventions and scientific research programs. Therefore, it is important to properly grasp the meaning of suffering, because how one values or does not value suffering can influence how one acts well in a clinical or research environment, especially when one is suffering. In his apostolic letter on suffering, Pope John Paul II describes suffering this way: "Man suffers on account of evil, which is a certain lack, limitation or distortion of good. We could say that man suffers because of a good in which he does not share, from which in a certain sense he is cut off, or of which he has deprived himself. He particularly suffers when he ought—in the normal order of things—to have a share in this good and does not have it." In other words, suffering is the human experience of evil. We suffer because we know that we are lacking something, some good—for instance, love, health, friendship, or financial security—that we think we should have. This can often lead to an existential crisis. Eric Cassell, author of *The Nature of Suffering,* describes suffering as "the distress brought about by the actual or perceived impending threat to the integrity or continued existence of the whole person." Suffering can lead to a sense of isolation and abandonment, because by its nature, the distress of suffering is necessarily private and highly individualized.

Numerous cultures and religious traditions have struggled to respond to the mystery of suffering. However, for many in contemporary society, suffering has no meaning. It is pointless and absurd. In fact, for these individuals, suffering is a great evil in itself,

because it appears to undermine the dignity of the human being by robbing him of his independence and self-respect. Thus, for many, suffering is something to be absolutely avoided, and when encountered, something to be aggressively eradicated no matter the moral cost. This is often the argument to justify the so called mercy killing of terminally ill patients.

In contrast, for Christians, sacred Scripture reveals that suffering, though an evil in itself, is suffused with profound meaning that can radically transform and redeem it. In the Old Testament, we learn that suffering is a result of original sin and the introduction of evil into the order of creation. Pain, strife, toil, and death were not part of God's original plan.

They entered the world as punishment for sin (cf. Gn 3:16–19). However, we also learn, especially from the Book of Job, that while it is true that suffering is sometimes a punishment when it is connected with a fault, this is not always the case.35 Job is aware that he does not deserve the suffering he has had to endure and challenges God to explain it. In the end, God reveals that Job's suffering is the suffering of someone who is innocent. Nonetheless, it must be accepted as a mystery, which the innocent individual cannot completely comprehend.

The Book of Job, however, is not the last word on suffering. In the New Testament, sacred Scripture reveals that our Lord Jesus Christ has redeemed suffering. He has transformed it into sacrifice by linking it to love. Thus, after the Cross, any human suffering can be fruitful—it can be redemptive—when it is united to the suffering of Christ. For this reason St. Paul could write: "Now I rejoice in my sufferings for your sake" (Col 1:24). The Apostle's joy comes from his discovery that suffering has meaning. It comes from his realization that through his suffering, he can contribute to the salvation of the world. As I mentioned earlier, the alleviation of suffering is a common justification for many medical interventions and scientific research programs. With regard to medical care, we should use all morally permissible means to alleviate human suffering. This is an authentic good. Alleviating human suffering can be an act of heroic charity.

However, despite our best efforts, we often still suffer, for pain is an unavoidable part of a fallen world. At this point, the Gospel reveals that Christians are given a choice. Either they can choose immoral means to attempt to alleviate their suffering in the short term, or they can choose, with God's grace, to bear their suffering with courage, offering it up for the salvation of those they love. In doing so, they unite themselves with the Lord Jesus, echoing the words of St. Paul, "In my flesh I am filling up what is lacking in the afflictions of Christ on behalf of his body, which is the church" (Col 1:24).- The Role of the Church As the Son of God, Jesus Christ is the Way, the Truth, and the Life. He promised that His Church would teach the truth and that this truth would set us free (cf. Jn 8:32). As the Apostle Paul well understood, the Church is "the pillar and foundation of the truth" (1 Tim 3:15). Thus, Catholics believe that "in order to preserve the Church in the purity of the faith handed on by the apostles, Christ who is the Truth willed to confer on her a share in his own infallibility." In other words, Catholics believe that Christ loved His people so much that He gave them His Church to guide them to the truth: "The Church puts herself always and only at the *service of conscience* .... helping it not to swerve from the truth about the good of man, but rather, especially in more difficult questions, to obtain the truth with certainty and to abide in it."

All the baptized belong to the Church. However, the Lord's authority to teach in His name was given to only a few. Jesus founded His Church upon St. Peter, giving him alone both the keys to the Kingdom of Heaven and the office of shepherd of the whole flock (see Mt 16:18–19; Jn 21:15–17). The Lord also made St. Peter head of the apostles, all of whom were given the authority of loosing and binding. This pastoral office, this charism to speak and teach in the name of Christ, continues today through the ministry of the college of bishops, the successors to the apostles, under the primacy of the pope who, as the bishop of Rome, is successor to St. Peter.

It is important to recognize that the charism that protects the Magisterium, or teaching office, of the Catholic Church from error applies only to her definitive teachings regarding matters of faith and morals. Thus, though members of the Church have made mistakes—

Pope John Paul II has acknowledged that there have been times in history when grievous sin was committed in the name of the Church—the Church itself has never erred in those definitive teachings regarding faith and morals. This is God's promise. It is guaranteed by His gift of the Holy Spirit, who would guide the apostles and their successors into all truth. Hence, the Second Vatican Council teaches that when we accept and live according to the teachings of the pope and the bishops, we are receiving "not the mere word of men, but truly the word of God."

The Morality of Human Action Specifying the Human Act

We now turn to another dimension of moral agency: how does one determine if human acts are good or evil? For the Catholic moral tradition, the morality of human acts depends upon several factors. Most importantly, the acts have to be freely chosen. Acts that arise from either compulsive addiction or subconscious reflex—for example, the automatic scratching of an itch—because they are not deliberately and voluntarily chosen, are not subject to moral analysis. We are morally accountable only for those acts that we elect to do, since it is these acts and only these freely chosen acts that shape and mould us as human beings. Once freely chosen, however, every human act is either good or evil. Its being good or evil depends upon the three sources of morality that the Catholic moral tradition calls the *object*, the *intention*, and the *circumstances* of the act.

The *object* of the act specifies the act. For St. Thomas Aquinas, the object is what the act is about relative to reason. It is the answer to the questions: What is being done? What proximate good, real or apparent, is being desired by the acting person? The object is intimately related to the means chosen by the human agent during the decision stage of his act. Note that here we are dealing with the moral order. Thus, when we speak about the object of an act, we are speaking about the *moral* object and not merely the physical object of that act. To put it in the words of Pope John Paul II: "*The object of the act of willing is in fact a freely chosen kind of behaviour.* .... By the object of a given moral act, then, one cannot

mean a process or an event of the merely physical order, to be assessed on the basis of its ability to bring about a given state of affairs in the outside world. Rather, that object is the proximate end of a deliberate decision which determines the act of willing on the part of the acting person." Thus the object of an act is the specific kind of action chosen by the acting individual, described in morally significant terms. Therefore, if someone chooses to shoot an assailant, the object is not the physical act of shooting itself. Rather, the moral object can either be the shooting to incapacitate an unjust aggressor or the shooting to maliciously kill the attacker. These are the two alternatives that the acting person could choose to specify the physical act of shooting a gun at another human being. In the former case, the act would be an act of self-defense, while in the latter scenario, the act would be an act of murder. Another example of an object of a human action is the taking of an item that belongs to another in the absence of a grave need. This is the object that specifies the act we call theft.

The *intention* of the act is the reason for which the agent chooses to do something. It is the purpose apprehended and desired by the acting person. It is the answer to the question: why is this being done here and now? For example, a benefactor could give money to a beggar, either because he wishes to care for the individual's needs or because he wishes to be seen and admired by his associates. In the former case, the intention motivating the act of almsgiving is charity, while in the latter scenario, the intention motivating the act is vanity.

Third, the *circumstances* of the act specify the manner in which the act is carried out. They are the conditions surrounding an action that can contribute to increasing or diminishing its goodness or evil and the degree of our responsibility for it. Among others, these conditions include answers to the questions: Who? What? Where? By which means? How? and When? For instance, stealing ten dollars from a panhandler is a more grievous evil than stealing the same amount from a millionaire. Also, note that circumstances can and often do change the moral status of an act. For instance, they can transform a good act into an evil one. (As we explain below, however,

the converse is not true. Circumstances cannot transform an evil act into a good one because for an act to be good, it has to be good in its entirety.) Take the following example. If a married couple chooses to have sexual intercourse, it would be a good act that unites them and realizes their one-flesh union. However, if they also choose to engage in the conjugal act in a city park in plain view of the public, this circumstance would change the moral quality of the act, making it morally reprehensible. It would become an act of public exhibitionism that undermines the common good. Finally, some circumstances can also add another moral object to an act. For an example, if a person steals an item and the item is a consecrated chalice, the person's action is now both an act of theft and an act of sacrilege. Not surprisingly, therefore, judging the morality of any given act requires that one familiarize oneself with all the pertinent dimensions of the act involved.

Perfecting the Acting Person

After we have properly specified a human act by identifying its object, its intention, and its circumstances, how then do we determine whether it is good or evil? For instance, what makes almsgiving good, or murder evil? First, for an act to be good, every moral source of that act—the object, the intention, and the circumstances—has to be good. Each moral source is chosen by the will so each must be good if the will itself is to remain properly ordered toward the authentic good. The scholastic axiom— *malum ex quocumque defectu*, or evil comes from a single defect—encapsulates this moral truth that the whole act is evil if even one of the moral sources of an act is not in accord with right reason. In an analogous way, defacing one panel of an altar's triptych mars the beauty of the whole masterpiece. It is not uncommon for an acting person to seek to justify his immoral action by appealing to the good intentions or the good circumstances involved. For instance, a doctor may justify his freely choosing to end the life of a terminally ill patient by arguing that his act is a merciful act that alleviates the pain of the patient. However, it is not enough that the individual intended to alleviate the

pain of the terminally ill patient. The object of his act—the killing of an innocent person—makes this act an act of murder, which cannot be morally justified by the good intention to alleviate the pain of a patient who is suffering. As we will discuss below, the killing of an innocent human being is inherently unjust and therefore is intrinsically evil.

Next, for the Catholic moral tradition, acts are good if they are in accordance to right reason, which is ultimately measured by the eternal law and the natural law that flows from it. In other words, human acts are good if they are directed to those purposes that are in harmony with our ultimate end of happiness in God. Such acts are virtuous and lead to the moral perfection of the human agent as an individual and as a member of a moral community. They make us good persons by fulfilling those perfective ends identified by reason as it reflects upon the natural inclinations that emerge from our common human nature. Evil acts, on the other hand, are not in accordance with right reason and therefore detract us from our ultimate end in God. They make us less than the creatures we were made to be. Not surprisingly, therefore, moral theology emerges from an anthropological account of the ends that perfect the human agent.

Reflecting upon the order of nature and the order of grace, St. Thomas Aquinas proposed that human beings have two ultimate ends that make us happy, one in an imperfect and another in a perfect manner. First, he taught that there is our ultimate end that defines the human species, that of knowing the truth and of desiring the good, especially the truth that God exists and that He has created the world. Attaining this connatural end would contribute to an earthly but imperfect happiness. However, this natural ultimate end is distinct from, inferior to, but ordered toward, our supernatural ultimate end, that of knowing the very essence of God in the intimate communion with the Triune God, Father, Son, and Holy Spirit, called the beatific vision. Attaining this supernatural end in the friendship of God would lead to our glorification and our perfect happiness. Furthermore,

according to Aquinas, reason discovers four subordinate ends, life, procreation, community, and truth, either from immediate experience or from reasoned reflection upon the connatural inclinations imprinted within the human heart, which are required to attain our ultimate perfection. These goods—these perfective ends—are interrelated and mutually support each other. First, we need life to strive for our goals and for our perfection. This is the most basic end necessary to achieve all our other natural ends.

Next, we need to procreate to preserve the human community. Third, we need the human community because as social creatures, we can attain our perfection only in communion with others. Finally, we need to know truth because it is truth that gives our lives meaning and purpose. Ultimately, of course, we need to know the truth about God, who is the cause of all that exists, in order to attain, with the help of his grace, the happiness that is friendship with him. Together, these ends structure human action.

Human acts whose objects are in conformity with right reason are good for the human being, because they help him to attain both his natural and his supernatural perfections. They express the rational order of good and evil impressed into creation. Thus, almsgiving is good because it perfects the almsgiver. In providing for the needs of his neighbour, the individual grows in charity and promotes both his own well-being and the well-being of his neighbour and their human community. In doing so, he perfects his nature and fulfils the commandment to love God and his neighbour. In contrast, there are acts whose objects are not in conformity with right reason and the moral order. These acts are intrinsically evil because their moral objects are "by their very nature 'incapable of being ordered' to God, because they radically contradict the good of the person made in his image." In other words, these acts are evil because they do not promote the perfection of the individual human being, who is made in the image and likeness of God. For instance, murder is evil because it is an act of injustice. The murderer deprives another individual of the life that is rightfully his. In doing so, the murderer makes himself unjust, thus contradicting his vocation to become

perfectly just as his Heavenly Father is perfectly just (cf. Mt 5:48). Clearly, an act of murder—an act that takes the life of an innocent person—is incompatible with the pursuit of beatitude. Thus, the *Catechism of the Catholic Church* teaches: "There are acts which, in and of themselves, independently of circumstances and intentions, are always gravely illicit by reason of their object; such as blasphemy and perjury, murder and adultery." These moral absolutes, usually articulated in the form of commandments, are ordered toward the realization of human excellence and beatitude. They are guides that help us to live fulfilling and holy lives.

The Role of the Common Good

Human acts in accordance with right reason are good, leading to the perfection of the individual human being and to the attainment of those ends that define a good life. However, as a social creature, the human being lives in a community. Thus, his perfection cannot be separated from the good of his community and the common goods that comprise it. A common good is a good in which many persons can share at the same time without in any way lessening or splitting it. For instance, the peace of the state is a common good, provided it is a genuine peace of the whole from which no one is excluded. When I share peace, I do not lessen the peace that can be experienced by others. *The* common good is the sum total of all the common goods necessary for individuals to attain their ultimate end more easily. The *Catechism of the Catholic Church* defines it as "the sum total of social conditions which allow people, either as groups or as individuals, to reach their fulfilment more fully and more easily."

Today, these social conditions—these common goods—include, among others, the availability of transportation, health care, justice and law enforcement systems, a healthy economy, and an educational system that forms morally upright and virtuous citizens. All of these are societal goods that are necessary for the perfection of the human being. Within the commonweal, the government is given the authority to care for the common good. This is its primary responsibility. However, individuals too have a duty to preserve and protect the

common good, because attaining those perfective ends necessary for human excellence and the good life requires the assistance of other persons who bring their skills and talents to the common effort. For example, the preservation of life and health requires hospitals, medical schools, and the expertise of health-care professionals. Likewise, the pursuit of truth, another basic human endeavour in accordance with right reason, requires an educational system, libraries, and the scholarly community. Thus, the perfection of the individual that comes with the attainment of his perfective ends cannot be divorced from the perfection of his community. We become saints together. Therefore, as we shall see in chapter 4, in certain clinical scenarios, the individual may have to surrender some of his personal privileges in charity and in justice in order to protect the common good.

The Role of the Ecological Good

As a social creature, a human being is a member of a community. However, as one creature living within a creation of incredible diversity and beauty, he is also an integral part of the environment. Thus the perfection of each individual cannot be separated from the good of his environment, a good that can be called the ecological good. As Pope Benedict XVI explained in his social encyclical, *Caritas in veritate*, "the way humanity treats the environment influences the way it treats itself, and vice versa." This ecological good is composed of those conditions necessary for the integrity and well-being of the environment. It includes the sustainable use of our natural resources, the preservation of our diverse ecosystem, and the conservation of the environment, among other goods. Therefore, to live out a virtue ethic, we have to ask if our actions—every action—promote not only our personal good and the common good but the ecological good as well. How do we respect the ecological good? Many of our contemporaries assume that the solution to the global ecological crisis lies in a worldwide and sustained effort to reduce each individual's carbon footprint, a measure of the impact that our activities have on the environment, which relates to the amount of greenhouse gases produced in our day-to-day lives. However, simply

reducing our carbon footprints will not be enough because the ecological crisis calls for much personal and communal sacrifice, sacrificial demands that will not easily be embraced in our self-indulgent society. This became clear during the 2009 United Nations Climate Change Conference held in Copenhagen, when both rich and poor countries haggled over the cost of embracing climate-friendly social and industrial policies. None of the nations were willing to make the necessary sacrifices for the sake of the common and the ecological good. Thus, it is not surprising that as a response to the global ecological crisis, Pope Benedict XVI has called for a radical conversion to virtue: "What is needed is an effective shift in mentality which can lead to the adoption of new lifestyles 'in which the quest for truth, beauty, goodness, and communion with others for the sake of common growth are the factors which determine consumer choices, savings, and investments." We are called to become virtuous individuals who are willing to give up some of the conveniences of life for the sake of both the common and the ecological good.

Finally, according to the Holy Father, this ecological conversion must include a recovery of a culture that respects life. Only a society that properly respects the dignity of every human being at every stage of life can properly respect the environment: In order to protect nature, it is not enough to intervene with economic incentives or deterrents; not even an apposite education is sufficient. These are important steps, but the decisive issue is the overall moral tenor of society. If there is a lack of respect for the right to life and to a natural death, if human conception, gestation and birth are made artificial, if human embryos are sacrificed to research, the conscience of society ends up losing the concept of human ecology and, along with it, that of environmental ecology. For the pope, environmental ethics is inherently linked to bioethics and vice versa. To be pro-environment, one must be pro-life. To be pro-life, one must be pro-environment.

The Role of Conscience

Much emphasis is placed upon how individual acts shape the acting person because it is through these acts that the human being

attains beatitude in imitation of our Lord Jesus Christ. Since our choices manifested in our actions transform us and make us into either saints or sinners, it is important that we choose well in all areas of our lives. Choosing to act in health care and in scientific research is no different. Here as well, we are called to choose perfection and beatitude and to act in conformity with right reason. Not surprisingly, however, moral decision making in bioethics, in particular, as it is in life in general, is not always easy. As the *Catechism of the Catholic Church* teaches, "Man is sometimes confronted by situations that make moral judgments less assured and decision difficult. But he must always seek what is right and good and discern the will of God expressed in divine law." Nevertheless, with the help of grace, we should always strive to choose the authentic good, those ends, which perfect us. In these difficult moral decisions, our consciences play a key role. What is the moral conscience? The *Catechism of the Catholic Church* defines it this way: "Conscience is a judgment of reason by which the human person recognizes the moral quality of a concrete act." It is an individual's interior guide to morality. In the words of Blessed John Paul II, "conscience is *the witness of God himself,* whose voice and judgment penetrate the depths of man's soul, calling him .... to obedience." More specifically, conscience is the human intellect, inasmuch as it discerns right and wrong conduct.

Conscience is exercised in three steps: First, the individual grasps the principles of morality impressed in the order of creation by God. He understands the law of nature that has been stamped on his heart. As St. Paul wrote: "When the Gentiles who do not have the law by nature observe the prescriptions of the law, they are a law for themselves even though they do not have the law. They show that the demands of the law are written in their hearts" (Rom 2:14–15). In bioethics, these moral truths include the truths about the sanctity of life and the dignity of human procreation. Next, the acting person applies these moral principles to a particular situation and given circumstances in a process St. Thomas Aquinas called practical reasoning. He decides which principles are pertinent here and now and which ones are not. This step is aided by the virtue of prudence.

As we shall see in chapter 4, in the clinical encounter, this exercise of conscience presupposes informed consent. Finally, the acting person makes a moral judgment about his concrete act, yet to be performed or already performed. In other words, he judges his act to be either good or evil.

Once he has made a judgment of conscience, the human being has the right, all things considered, to act in conscience and in freedom to make moral decisions. As the Second Vatican Council taught: "[The human person] must not be forced to act contrary to his conscience. Nor must he be prevented from acting according to his conscience." This right to act according to one's conscience arises from the dignity of the human being, who is created to seek the truth in freedom. Thus, as we will discuss in chapter 8, society has an obligation to protect the right of an individual to choose not to cooperate with immoral acts that violate his conscience.

However, everyone also has a duty to inform and educate his conscience so that it can make judgments according to right reason and the moral order willed by the wisdom of the Creator. In other words, an individual conscience is not free to invent right and wrong. This is especially true because as a result of original sin, human beings are prone to sin and to self-deception: "In the judgments of our conscience, the possibility of error is always present. Conscience *is not an infallible judge;* it can make mistakes." Thus, an individual's conscience could make an erroneous moral judgment. For instance, Adolf Hitler and his Nazi associates believed with sure conviction that their actions, some involving the murder of millions of innocent people, were good. Their consciences were wrong. Often an erroneous conscience can be traced to ignorance of the moral order, the order of right and wrong. If the ignorance can be attributed to personal irresponsibility—in other words the individual should have known what he did not know—then the acting person is culpable for the evil he commits. On the other hand, if the human being is not responsible for the ignorance leading to his erroneous judgment—for instance because he was either misinformed or enslaved by his emotions—then the evil of his action cannot be ascribed to him.

However, the act in itself remains no less an evil act. Accordingly, there is a moral duty on everyone to continually strive to form and to educate their consciences. As Blessed John Henry Cardinal Newman, the great defender of the rights of conscience, put it: "Conscience has rights because it has duties." This would apply too to individuals making decisions in bioethics. For example, a married couple struggling with the cross of infertility has an obligation to seek and to understand the Church's teachings regarding artificial reproductive technologies. Only this way could they be certain that they were making a decision that seeks to embrace God's will for them in their lives.

The Principle of Double Effect

Often in life, human actions can lead to both good and bad effects simultaneously. For instance, a mother who disinfects her young son's wounded knee with an antiseptic both cleans his injury and causes him pain. How are we to evaluate the morality of such acts? Or to put it more specifically, how do we morally evaluate the action of the injured child's mother? Is she performing a good or an evil act?

In the Catholic moral tradition, the principle of double effect is used to morally evaluate human actions that have both good and bad effects.68 To understand the moral reasoning behind the principle of double effect, recall that human beings determine themselves and establish their identities as moral creatures through their freely chosen actions. Therefore, to morally evaluate actions that have multiple effects, both good and evil, we need to ask the acting person what he is choosing to do in this particular act. In other words, we need to determine the moral object of his act as he describes it. Clearly, however, we can sometimes mislead ourselves or lie to others about our choices and intentions. The acting person could claim that he is choosing to do one thing while he is in fact choosing to do something else. Therefore, to help us evaluate the moral choices of an agent whose acts lead to multiple effects, both good and bad, the principle of double effect lists four conditions that need to be met in order to reasonably conclude that the acting person is indeed choosing to perform a good act. First, the object of the act must be morally

good or at least morally indifferent or neutral. Or to put it another way, the act to be performed must be morally good in itself or at least morally indifferent or neutral. It must not detract the agent from his perfect and integral fulfilment in Christ. In our example of the mother applying an antiseptic on her child's wounded knee, disinfecting a wound is a morally good act in itself. Her action makes her a good mother. Second, the intention of the agent must be directed toward realizing the beneficial effect and avoiding the foreseen harmful effect of his actions. In other words, the agent must not choose or desire the evil effect. In our example, for her act to be good, the mother must not will or choose to cause her child pain. She must not desire her son's suffering. To do so would make her action evil because it would be an act that makes her an abusive mother. Third, the beneficial effect must not come about as a result of the harmful effect. Or to put it another way, the bad effect cannot *cause* the good effect. To understand this condition, note that when we act, we act in order to attain a purpose. When we act, we decide what we want, and then we figure out how to get it. Thus, practical decision making necessarily involves choosing both a purpose and the means that would achieve that purpose.

Therefore, it would be unreasonable for an acting person to claim that he was neither choosing nor desiring a harmful effect if he knew that the harmful effect brought about the beneficial effect. This is simply not possible. In our example, the pain experienced by the child does not cause the disinfection of the wound. Rather, the disinfection comes about from the use of the antiseptic. Hence, it is reasonable for the woman to claim that she did not intend or choose to cause pain to her child. Finally, the beneficial effect must be equal to or greater than the foreseen harmful effects. To put it another way, in the moral order the good effect must be proportionate to the bad effect. Unless this condition is met, it would be difficult to conclude that the acting person was choosing only the good effect of his action and did truly not desire the evil outcome. For instance, if a man used the principle of double effect to absolve himself of the death of his wife by claiming that her death was a foreseen but unfortunate effect of his efforts to save the life of their cat, we would justly question his motives. Given the disproportion between the death of his wife and

the death of his cat, we would ask him: "Are you sure that you were not *really* desiring the death of your wife?" In our example of the mother, however, in the moral order, the good effect of preventing infection far outweighs the evil effect of the antiseptic's sting. Thus, our mother's action passes the test of this fourth condition of the principle of double effect. In sum, the principle of double effect confirms that our mother's action would be an act of healing—and thus would be morally commendable—if she told us that the disinfection of her son's wound was her chosen outcome, the direct effect, of her action. She only wanted to care for her child. Thus, her child's experience of pain was only an unintended but foreseen outcome of her action of healing—what classical moral theologians would call a *praeter intentionem* effect—that does not specify either the moral object or the morality of the act. This example is a relatively straightforward application of the principle of double effect.

As we shall see later, the principle of double effect becomes more difficult to apply in more serious bioethical scenarios, especially those involving a grave moral evil. A Common Objection: The Principle of Double Effect Is Morally Insignificant The primary objection to the principle of double effect is that it is based upon a distinction that lacks moral significance.69 In other words, for the objector, there is no morally significant difference between choosing an evil and accepting one as a foreseen but unintended side effect. According to this alternative moral hypothesis, we are responsible for all the outcomes of our acts because we cause them. Thus, the morality of an act depends not upon the choice of the acting person, but upon a moral calculation that compares the relative weights of the good and bad outcomes that are caused by the act. A good act is one where the good effects outweigh the bad effects. In response, the primary flaw with this objection is that it fails to acknowledge the morally significant difference between apparently identical physical actions that involve a morally good choice and those that involve a bad one. Take the example we discussed above, the example of the mother disinfecting her son's wounded knee with a painful antiseptic. Most reasonable individuals would agree that there is a morally significant difference between the act of this mother who intends to

care for her wounded child and only foresees his suffering and the act of another mother who admits that she intended to cause her son pain with the antiseptic.

"I wanted to make him cry," this second mother says; "I didn't really care if the antiseptic disinfected the wound." Externally, both actions appear to be identical—in both cases, one observes a mother swabbing the wound of her whimpering son, and in both cases, the good and the bad outcomes are identical—but most reasonable individuals would recognize that these are morally different actions. In classical terminology, the acts of the two mothers have different moral objects that specify apparently identical physical acts. Thus, they are different, and the difference is morally significant, precisely because they involve different choices that shape and determine the moral character of the mothers. The first mother's action is commendable. In contrast, the second mother's action would be a morally deplorable act comparable to that of a third mother who causes her child pain by burning her daughter with a lit cigarette. Both these women, the second with the antiseptic and the third with the cigarette, intentionally choose to inflict their children with pain. Both make themselves abusers. In the end, what an agent *chooses* to do is of paramount importance in moral analysis. This is the warrant for making the distinction between choosing an evil and accepting one as a foreseen, but unintended, side effect.

Highlighting the Role of Virtue in Bioethics

Contemporary bioethics tends to stress rules, duties, and obligations. A renewal of bioethics in light of the moral vision articulated in *Veritatis splendor* will need to recover the proper role of the virtues in bioethical decision making as they order and shape our inclinations and our actions. They—and the virtue of prudence, in particular—are especially important to consider when one is applying bioethical conclusions drawn from an abstract moral analysis to a particular and concrete scenario involving either this ninety-three-year-old patient who is considering having her ventilator removed, or that thirty-nine-year-old scientist who is considering using cells taken from an aborted foetus for his research program

examining cell senescence, or this married couple who are considering using their life savings to undergo fertility treatment in a Manhattan IVF clinic. Moral theologian William E. May questions the central importance of the virtue of prudence in bioethical reasoning: I think that Ashley, like Hall, is mistaken in claiming that only the virtue of prudence shows the truth of specific moral norms. First of all, prudent persons can themselves disagree over ethical issues, and their disagreements can be contradictory.... There are no objective reasons for holding one person more prudent (virtuous) than the other. Thus the virtue of prudence will not settle the dispute; rather, appeal to relevant moral principles and to the *arguments* and evidence marshaled by the virtuous persons can alone show who is correct. For May, prudence cannot adequately settle moral disputes. In response, I believe that May misunderstands the role of the virtues in Catholic bioethics. Bioethics, as a practical science, is ordered toward a particular action done here and now by a particular human agent. Thus, it is not enough for a Catholic bioethicist to argue that having an abortion is intrinsically evil. The Catholic bioethicist also needs to be able to convince a seventeen-year-old teenager living in Overland Park, Kansas, who is scared of disappointing her mother and of angering her boyfriend, of the truth of this teaching so that she will not have an abortion. This is an integral part of Catholic bioethics. Here, the virtues of the bioethicist and, more significantly, of the young woman are crucial. Prudence especially would enable one to see things rightly so as to act well. One of its functions is to enable one to grasp rightly the relative importance of different purposes in one's life. It would guide the bioethicist to choose the right words as he strives to guide the teenager, and it would predispose the teenager to choose the good in spite of all the obstacles she faces in life. In the end, the virtues, especially prudence, help the individual as he decides how to act here and now, by applying the conclusions and teachings of the Catholic moral tradition to his particular moral and bioethical situation.

Chapter 2

Bioethics at the Beginning of Life

The morality of abortion remains one of the most controversial ethical disputes of our day. In this chapter devoted to moral questions at the beginning of life, we begin with a discussion of the dignity of the human person, the bedrock foundation for Catholic bioethics, followed by a summary of the Catholic Church's teaching on abortion. we then explore and respond to the four arguments that are often used to justify abortions. Next, we will move to moral questions surrounding abortion in those circumstances involving rape, ectopic pregnancies, and prenatal testing. Finally, we will close with a question that often arises in Catholic discussions surrounding the beginning of life: when is the human being ensouled?

Human Dignity and the Sanctity of Human Life

To understand the Catholic Church's teaching on abortion—in fact, to understand all of the Church's moral teachings regarding the human being—we need to begin with a discussion of the dignity of the human being. To affirm that a human being has dignity is to affirm that there is something worthwhile about each and every human being such that certain things ought

not to be done to any human being and that certain other things ought to be done for every human being. Beyond this basic formulation, however, there is controversy over the precise meaning of human dignity. Ruth Macklin, a prominent secular bioethicist, has even argued that appeals to human dignity are useless because they are either restatements of the principle of respect for autonomy or mere slogans whose meaning remains hopelessly vague. In the tradition of Catholic bioethics, however, the truth of the dignity of the human being is a bedrock principle that necessarily emerges from and is justified by other truths regarding his relationship with his Creator. It is the cornerstone of a moral vision of the human person that properly acknowledges his exalted place in the universe.

For the Judeo-Christian tradition, the human being is unique in all creation for he is made in the image and likeness of God: "God created man in his image; in the divine image he created him; male and female he created them" (Gn 1:27). He is able to think and to choose, and as such is the only visible creature that can know and love his Creator. To put it another way, the human being is a *person*, a moral agent, who is capable of self-knowledge, of self-possession, and of freely giving himself and entering into communion with other persons.9 Moreover, the human being is the only creature on Earth that God has chosen for its own sake. He alone is called to share, by knowledge and by love, in God's own inner Trinitarian life. This transcendent and eternal destiny is the fundamental reason for the human being's dignity, a personal dignity that is independent of human society's recognition.

From this account of the dignity of the human being, we can conclude four essential truths. First, human dignity is intrinsic. According to the *Oxford English Dictionary*, to call something *intrinsic* is to affirm that it is something "belonging to the thing in itself or by its very nature." It is a quality that is inherent, essential, and proper to the thing. Thus, to affirm that human dignity is intrinsic is to claim that this dignity is constitutive of human identity itself. In other words, to affirm that human beings have intrinsic dignity is to claim that they are worthwhile because of the kind of things that they are. This type of dignity is not conferred or earned. It is a

dignity that is simply recognized and attributed to every human being regardless of any other considerations or claims. It is also a dignity that can be possessed only in an absolute sense—one either has it completely or does not have it at all—since one is either a human being or not one at all. There is no such thing as partial human dignity since there is no such thing as a partial human being.

Next, because human beings have dignity, human life is sacred. It is worthy of respect and has to be protected from all unjust attack. As Pope John Paul II clearly explained: "The inviolability of the person, which is a reflection of the absolute inviolability of God, finds its primary and fundamental expression in the inviolability of human life." Human life is inviolable because it is a gift from God. He alone is the Lord of life from its beginning until its end. Thus, no one can, in any circumstance, claim for himself the right directly to destroy an innocent human being. Sacred Scripture expresses this truth in the divine commandment: "You shall not kill" (Ex 20:13; Dt 5:17).

Third, because of their dignity, human beings can never be treated as objects. In other words, as persons, they can never be treated purely as a means to an end or be used merely as tools to attain a goal. Instead, they have to be respected as free moral agents capable of self-knowledge and self-determination in all the actions involving them. As Blessed John Paul II forcefully declared: "The human individual cannot be subordinated as a pure means or a pure instrument either to the species or to society; he has value *per se*. He is a person. With his intellect and his will, he is capable of forming a relationship of communion, solidarity and self-giving with his peers." We know this truth from our own experience. Individuals who discover that they have been manipulated often feel violated and diminished, because they intuit that they are persons who have a dignity that is attacked when they are used merely as objects. Finally, because of their common dignity, all human beings are equal. Despite any real differences in their physical or cognitive or spiritual capacities, all human beings, as persons made in the image and likeness of God, have an inestimable and thus equal worth. As the Second Vatican Council taught: "Every form of social or cultural discrimination

in fundamental personal rights on the grounds of sex, race, color, social conditions, language, or religion must be curbed and eradicated as incompatible with God's design." Social discrimination is unjust precisely because it attacks the intrinsic and equal dignity of human beings. This profound appreciation for the dignity of the human being and the sanctity of every human life is the bedrock of Catholic bioethics. It is often used as the primary justification for most of the Church's moral teachings in bioethics.

The Catholic Church's Teaching on Abortion

As defined in *Evangelium vitae,* John Paul II's encyclical on the inviolability of human life, abortion is "the deliberate and direct killing, by whatever means it is carried out, of a human being in the initial phase of his or her existence, extending from conception to birth." Since the first century, the Church has affirmed the moral evil of every procured abortion. The *Didache,* the most ancient non-biblical Christian text dating to around AD 80, already condemned abortion, declaring: "You will not murder offspring by means of abortion, (and) you will not kill [him/her] having been born." The First Council of Mainz in AD 847 decided that the most rigorous penance would be imposed "on women who procure the elimination of the fruit conceived in their womb." In the thirteenth century, St. Thomas Aquinas taught that abortion is a grave sin against the natural law: "He that strikes a woman with child does something unlawful: wherefore if there results the death either of the woman or the animated foetus, he will not be excused from homicide, especially seeing that death is the natural result of such a blow." Finally, seven centuries later, the Second Vatican Council would describe abortion, together with infanticide, as an "unspeakable crime."

In light of this evidence, John Connery, S.J., concluded his definitive work on the history of the Catholic Church's teaching on abortion as follows: The Christian tradition from the earliest days reveals a firm antiabortion attitude. ... The condemnation of abortion did not depend on and was not limited in any way by theories regarding the time of foetal animation. Even during the many centuries when Church penal and penitential practice was based the theory of delayed animation, the condemnation of abortion was never affected

by it. Whatever one would want to hold about the time of animation, or when the fetus became a human being in the strict sense of the term, abortion from the time of conception was considered wrong, and the time of animation was never looked on as a moral dividing line between permissible and impermissible abortion. The two-thousand-year-old Christian tradition is clear: abortion is a grave moral evil. As Blessed John Paul II taught in *Evangelium vitae,* the moral gravity of procured abortion is real because it is an act that involves the murder of an absolutely innocent human being at the very beginning of his life. The Holy Father continues by noting that "it is true that the decision to have an abortion is often tragic and painful for the mother, insofar as the decision to rid herself of the fruit of conception is not made for purely selfish reasons or out of convenience, but out of a desire to protect certain important values such as her own health or a decent standard of living for the other members of the family."

Nevertheless, in the same encyclical, the pope concludes, "these reasons and others like them, however serious and tragic, can never justify the deliberate killing of an innocent human being." Thus, the United States Conference of Catholic Bishops (USCCB), in its *Ethical and Religious Directives for Catholic Health Care Services,* concludes: "Abortion (that is, the directly intended termination of pregnancy before viability or the directly intended destruction of a viable foetus) is never permitted... Catholic health care institutions are not to provide abortion services, even based upon the principle of material cooperation. In this context, Catholic health care institutions need to be concerned about the danger of scandal in any association with abortion providers." Abortion is also evil because it harms the mother of the child. Numerous studies have documented the detrimental effects, medical, psychological, and spiritual, of abortions on women. For example, there is research that reveals that the suicide rate following abortion is six times greater than that following childbirth, and three times the general suicide rate. This is only one strand of the overall evidence that suggests that some women who have had abortions, and in some cases the fathers of the unborn children, suffer from post-abortion stress syndrome (PAS or PASS), with symptoms including, among others,

depression, self-destructive behaviour, sleep disorders, sexual dysfunction, chronic problems with relationships, anxiety attacks, difficulty grieving, chronic crying, flashbacks, and difficulty bonding with later children. In many cases, symptoms do not manifest themselves immediately after the abortion. Instead, numbness follows the procedure, only to be replaced months or even years later by mental and emotional distress. Post-abortion syndrome is often compared to post-traumatic stress disorder, which can affect military veterans, rape victims, or any other individual who has experienced an overwhelming personal shock or injury.

To women who have had abortions, Pope John Paul II had this to say: The Church is aware of the many factors which may have influenced your decision, and she does not doubt that in many cases it was a painful and even shattering decision. The wound in your heart may not yet have healed. Certainly what happened was and remains terribly wrong. But do not give in to discouragement and do not lose hope. Try rather to understand what happened and face it honestly... The Father of mercies is ready to give you his forgiveness and his peace in the Sacrament of Reconciliation. You will come to understand that nothing is definitively lost and you will also be able to ask forgiveness from your child, who is now living in the Lord. The decision to choose an abortion is often made in tragic circumstances. It is a time of great anxiety and stress, with pressure from parents, from the father of the child, and from the grief of lost dreams. The so-called choice that ends in tragedy is rarely free. And yet, as the Holy Father reveals, we should never forget that God is a Father of Mercies, who is always waiting to forgive, twenty, thirty, or even fifty years after an abortion. The path to healing is always open to those who seek mercy and love.

Common Objections

The Post-Conception Beginning of Life Argument

Four arguments are commonly used to justify the morality of procured abortions. The simplest argument is that the life of the human being does not begin at fertilization but at some point post-conception. Thus, it is argued that abortions, especially at the

beginning of pregnancy, do not involve the destruction of a human being. Instead, it is comparable to a surgical procedure that removes a lump of tissue from a patient. Therefore it is important to begin with the basic question: when does the life of the human being begin?

In response, the most recent biological research has demonstrated that the origin of the individual human being can be traced back to the union of sperm and egg, the biological event called either conception or fertilization. There are two lines of evidence that support this biological argument. First, from the moment of conception, the human embryo is a unique human organism, a unique human being. The human embryo is unique because fertilization brings together a unique combination of forty-six chromosomes in the embryo; twenty-three chromosomes come from the father and twenty-three from the mother. This unique combination of genes distinguishes the embryo from any other cell either in his29 mother or in his father. Next, the human embryo is human because his forty-six chromosomes is the defining genetic feature of the human species. Finally, the human embryo is an organism because his molecular organization gives him the active and intrinsic self-driven disposition to use his genetic information to develop himself into a mature human being, the telltale characteristic of a human organism. Therefore, as the Congregation for the Doctrine of Faith put it:

From the time that the ovum is fertilized, a life is begun which is neither that of the father nor of the mother; it is rather the life of a new human being with his own growth. It would never be made human if it were not human already...[M]odern genetic science brings valuable confirmation [to this]. It has demonstrated that, from the first instant, there is established the program of what this living being will be: a man, this individual man with his characteristic aspects already well determined. Right from fertilization is begun the adventure of a human life, and each of its great capacities requires time—a rather lengthy time—to find its place and to be in a position to act. Therefore, it is incorrect to say that the human embryo is a potential human being. Rather, he is an actual human being with great potential.

One major objection has been raised to this line of evidence. In recent years, some bioethicists have questioned the claim that fertilization is that moment that properly marks the beginning of the human organism, because scientists often define fertilization as a complex sequence of coordinated events that begins with sperm penetration and ends some hours or days later with the union of the pronuclei of the sperm and of the egg.

In response, it is important to note that the developmental process that begins with the fertilization of the human egg and that can end with the death of the human organism a century later is a single and integral whole. Thus, the distinctions between sperm penetration, union of pronuclei, and any of the later events in embryogenesis and development are conventional and arbitrary designations of points within a single continuum of developmental change that continues for decades. Fertilization, therefore, is properly that moment when the whole chain of developmental events is set in motion, when the organism comes to be. It can be compared to the toppling over of the first domino that begins the collapse of a branching chain of ten million dominoes. If one had to pick a biological event to correspond to this falling first domino, it is properly the entry of the sperm that leads to the explosion of intracellular calcium levels that triggers the reorganization of the egg. Prior to sperm penetration, the egg is a cell in stasis that only has a lifespan of about twenty-four hours. After fertilization, however, the embryo is an organism undergoing change, change that can continue unhindered for a hundred years. Second, from the moment of conception, the zygote is an *individual* human organism. Biologically, individuality is defined by the presence of body axes, the coordinate system that tells the body where are up and down, left and right, front and back. All multicellular organisms have at least one of these axes. Most have all three. Body axes are significant because they establish the blueprint for the organism's body plan and manifest the intrinsic biological organization that makes an organism an integrated whole. Significantly, experimental work from two independent laboratories in the United Kingdom has demonstrated that the embryonic axes are already present in the one-celled mammalian zygote, though this developmental pattern is not rigidly determined.33 The same research group has also shown

that the axes of the zygote establish the axes of later stages of embryonic development, including the foetus, suggesting that an organismal continuity exists between the one-cell embryo, the foetus, and, therefore, the newborn. Thus, the scientific evidence is conclusive: the life of the human being begins at conception.

But what about twinning? For many, the objection most threatening to the position that accords the early human embryo the moral status of a person from the moment of fertilization is the proposal that scientists have shown that the early embryo is not an individual. Norman Ford, S.D.B., an Australian theologian, has formulated the challenge this way: "[W]hen the zygote divides during normal development to form two cells, do we have a two-celled individual, or simply two individual cells?" He and others have asserted that the totipotency of the cells of the early embryo, that is, their ability to give rise to several individual adult organisms if they are disaggregated into separate cells, suggests that no individual is present early in development. To put their argument another way: if one sign of the individuality of an adult human being is that he cannot be split into twins, then an early human embryo cannot be an individual since he can give rise to twins. Thus, the argument continues, individuality arises only with the appearance of the primitive streak, when the human embryo no longer has the potential for twinning. This objection has been widely used in support of proposals that would lead to the destruction of early human embryos since the lack of individuality would suggest that no single entity—no person—is present who would merit moral status.

In response, as we discussed above, recent work on the appearance of organization within mammalian embryos provides compelling evidence that the embryo, even during his earliest stages of development, is an integral whole specified by his body axes. To reply to Ford, we can now say with scientific certainty that the two-celled mammalian embryo is indeed a two-celled individual. Moreover, one can argue that the developmental plasticity of the human embryo that makes twinning possible does not necessarily preclude individuality. Take the planarian, a flatworm found in many freshwater lakes throughout the world. It can be divided into nearly

three hundred pieces, including brain, tail, and gut fragments, each of which has the potential to regenerate a complete organism, and yet no one would doubt the individuality of the original intact invertebrate. In the same way, twinning can be explained by proposing that the early human embryo, though already an individual, manifests a developmental plasticity that allows each totipotent cell to give rise to an intact organism if the embryo is disrupted. Note, however, that this would interrupt the normal developmental process of the human embryo. Not surprisingly, therefore, it is significant that twinning is associated with an increased incidence of birth defects in humans. This is just another reminder that twinning is the exception and not the rule in mammalian embryonic development.

The Non-Personhood Argument

Next, to support their convictions, proponents of abortion often make the distinction between human beings and human persons. Appealing to a high standard of personhood, they concede that human embryos are human beings in the genetic or biological sense, but then contend that they are not human persons because they are incapable either of sensing or of feeling or of thinking. Consequently, according to this non-personhood argument, human embryos, as nonpersons, do not have the moral status accorded to adult human beings and as such cannot claim any basic human rights, including the most basic right to life, until the moment when they acquire the capacity for mental acts. Some defenders of abortion argue that this decisive moment occurs after birth, while others argue that the unborn human being gradually becomes a person as it develops and acquires different mental capacities.

In response, the fundamental flaw of this non-personhood argument is that it confuses being with function. The argument posits a *functional* definition of personhood that equates a person with an entity that functions in a particular way. Therefore, abortion advocates conclude that a human fetus is not a person because he cannot sense or think or desire. However, this functional definition is problematic because it would also exclude the unconscious, the sleeping, and the temporarily comatose, from personhood, since individuals in these states, like the human fetus, are not able to sense

or to think or to desire. As Francis Beckwith concludes, "it seems more consistent with our moral intuitions to say that a person functions as a person because she is a person, not that she is a person because she functions as a person." Consequently, it is more reasonable to posit an *essential* definition of personhood that equates a person with an entity that is a particular kind of being that is able to function in a particular kind of way. In other words, as the ancients understood well, an adult human male is a person not because he can think or feel or desire right now, but because he is a kind of being, a human being, who has a nature that includes the capacities to function in these particular ways. In the same way, the human embryo is a person not because he can sense or think or desire, but because he too is a human being with a nature that includes the capacities to perform these acts.

Now, the abortion advocate could retort by claiming that the response given above is itself flawed because it does not properly recognize that the sleeping, the unconscious, and the comatose differ from the unborn in a morally significant way: Sleeping, unconscious, and comatose individuals were once persons who were once able to think and to feel and to desire, while the unborn never were. Moreover, it is likely that these individuals will function as persons again once they awake. Thus, the proponent of abortion could argue that sleeping, unconscious, and comatose individuals, in contrast to unborn human beings, are persons because one is a person if one once functioned as a person, and will probably function as a person again in the future.

In response, the abortion advocate does not realize that to claim that one can be functional as a person, then become nonfunctional as a person, and then become functional again as a person is to implicitly presuppose that the person has a stable underlying nature that perdures through sleep, unconsciousness, or coma, a nature that is the source of his ability to function in a particular way. In other words, with this retort, the proponent of the non-personhood argument actually presupposes the truth of the essential definition of personhood that he is attempting to deny. He affirms that a stable human nature exists that is the source of human function and the

ground for moral status, a human nature that, according to developmental biology, originates at fertilization when the human organism comes into being.

Finally, as numerous scholars have pointed out, the non-personhood argument leads to an implicit endorsement of substance dualism, the erroneous proposition that posits that the human person understood as a conscious being, called either the soul or the mind, is substantially distinct from the human being understood as a biological organism, called the body. Dualism—and therefore, the non-personhood argument—is flawed because it forgets that human persons are not just conscious minds. We are embodied beings, human beings that the Aristotelian-Thomistic tradition describes as integrated and unified substances composed of two complementary spiritual and material principles. Our commonsense experience confirms this: when we are sick with the flu, we do not say, "My body has the flu." Rather, we say, "*I* have the flu." When someone hits us, we do not say, "Don't hit my body." Instead we say, "Don't hit *me!*" Our identity, and thus, our personhood, has a bodily dimension. Moreover, as Maurice Merleau-Ponty has convincingly argued, even our acts of perceiving the world are not purely mental events. Rather, they arise from the agent's interaction, as a body-subject, with his world. Therefore, a proper understanding of personhood has to appreciate that as embodied persons, *wherever* our bodies are, there we are. More important for our purposes, however, a proper understanding of personhood would acknowledge that *whenever* our bodies were, there we were as well. And if there is anything that developmental biology has shown us over the last few decades, it is that our bodies have their origins at fertilization, when the body plan is established. Thus, a five-day-old human embryo is a person because he is the same embodied being he will be when he is a fortyone- year-old adult.

The Bodily Rights Argument

Third, some pro-abortion proponents have argued that the unborn baby, regardless of whether he is a human person who has a full right to life, cannot use the body of another individual, his mother, against her will. A woman, the argument continues, cannot be forced

to use her organs to sustain another person's life. Just as one does not have the right to use another person's liver if one's liver has failed, the unborn baby does not have the right to use his mother's organs to sustain his own life. Thus, the woman has a right to deny her baby the use of her organs. She has a right to an abortion.

The objection is flawed for several reasons. Three will be discussed here. First, it assumes that moral obligations must be voluntarily accepted in order to have moral force. However, it is possible for someone to become responsible for another person without his having chosen that responsibility. Imagine a woman who discovers an abandoned baby behind her home one frigid winter night. Is she not morally obligated to take the child indoors, feed it, and care for it until such a time as someone else can take over? In the same way, a woman who finds herself with child, even unexpectedly, is morally obligated to bring him to term to preserve his life. Second, it overlooks the fact that preserving the life of another human being is a higher good than simply preserving the free use of one's body. For example, if a woman breastfeeds or bottle-feeds her child, she is using her body to do this. Few of us would say that she therefore has a right to refuse this kind of support if the child would die without it. Or take this other scenario: suppose that a woman returns home to discover an abandoned child at her doorstep. For the sake of argument, let us also suppose that there is no one else who can take care of this child for nine months. (After that time, a couple has offered to adopt the baby.) Imagine further that the presence of the child in the woman's home would cause her bouts of morning sickness, cramps, and other minor discomfort. Would the woman have the right to let the baby starve in its crib simply because she did not want to use her body to feed him? Both our commonsense moral intuitions and the law say no.

Finally, the bodily rights argument fails to acknowledge that abortion, in most cases, is an act of killing and not merely an act that withholds life support. It involves an attack on the body of the unborn child that can include the burning, the crushing, and the dismembering of the fetus. Thus, just as it would be wrong to attack the woman's body, it is wrong to attack the body of the fetus. Whatever rights a

woman has, they do not include a right to a bodily attack on her own unborn child.

The Delayed Hominization Argument

Finally, unlike the three other objections just considered, the argument for delayed hominization has a uniquely Catholic provenance. Appealing to the thought of Aristotle and St. Thomas Aquinas, several Catholic philosophers and theologians, the more influential of whom include Joseph Donceel, S.J., Thomas A. Shannon, Allan Wolter, O.F.M., and Jean Porter, have argued that the earliest human embryo is not a human being because his body is capable only of biological and not of rational action. According to the theory of delayed hominization, the embryo passes through stages of vegetative and animal ensoulment before arriving at a human stage when the body is sufficiently organized and developed for the infusion of the rational soul by the immediate action of the Creator. For the ancients, this moment occurred forty days after conception. In like manner, modern proponents of this theory hold that the developing human being is not truly human until it has developed a nervous system that makes it apt to receive a properly rational soul. In response, it is important to note that the theory of delayed hominization was based upon two biological assumptions that we now know are false. First, Aristotle and the ancients thought that the human embryo was formed into a human being from the mother's menstrual blood, which was homogenous and therefore needed to be formed in a series of progressive steps by some external agent. Second, they thought that this external agent was the father's semen, which remained in the womb, separate from the menstrual blood, forming it first as a vegetative body, and then as an animal body, and finally as a human body, which could then be ensouled by a human soul because it had a human heart. Thus, based on their flawed biology, the ancients believed that hominization could be completed only after a period of time after fertilization, when the human organism came into being from the gradual action of the father's semen on the mother's menstrual blood.

In light of recent biological discoveries, however, we now know that the human organism is present once fertilization begins when

the sperm and the egg physically interact. Thus, calling the human organism an embryo, fetus, infant, teenager, or adult is to arbitrarily label and distinguish certain segments of a continuous chain of developmental events that do not differ in kind. Each is a different manifestation of the same human organism, the same living system, at a later stage of change. Once human development begins at fertilization, there simply is no place in the developmental process for the series of substantial changes envisioned by delayed hominization. Substantial change can occur only at the onset of development because the organization of the molecules that drives development and specifies the identity of the human organism is established then. All change after this point can only be accidental change that does not involve the change of a being's nature. Thus, the same sound philosophy that led the ancients to affirm a theory of delayed hominization now leads us to affirm that hominization is complete at fertilization when the human organism comes into being.

The Immorality of Abortion after Rape

Rape, the forcible violation of the sexual intimacy of another person, is a brutal crime of violence that does injury to justice and charity. As the *Catechism of the Catholic Church* teaches, rape "deeply wounds the respect, freedom and physical and moral integrity to which every person has a right. It causes grave damage that can mark the victim for life. It is always an intrinsically evil act. In those situations when the victim becomes pregnant, some have argued that abortion should be permitted to help the woman heal from and move beyond the trauma of rape. In response, the circumstances surrounding the sexual act have no bearing on the dignity of the child who is conceived. The unborn child remains a human being, a person of immeasurable worth, who has a rightful claim to life. Thus, a sexual violation, no matter how despicable, cannot justify the killing of the innocent child who was conceived during that act. It would be a further act of grave injustice to punish a child for the sins of his father.

But does the pregnancy not compound the psychological problems that arise from rape? How can we force a woman to carry her pregnancy to term when it is a constant reminder of her

sexual violation? Certainly this is a complex issue. It is a natural human reaction to try to eradicate all traces of a traumatic experience. However, should our response to a trauma be equally traumatic? Significantly, one early study of pregnant rape victims published less than a decade after *Roe v. Wade* found that 75 percent of these women (28 of 37 victims) chose *against* abortion. Some of the reasons given by the victims for their choice are illuminating. First, some believed that abortion would just be another act of violence perpetrated against them and their children. As such, they believed that abortion was immoral. Others thought that their child's life may have some intrinsic meaning or purpose that they did not yet understand. They hoped that perhaps good could come out of evil. Finally, a few felt that they would suffer more mental anguish from taking the life of the unborn child than carrying the child to term. Intriguingly, when asked what conditions or situations made it most difficult for the victim to continue her pregnancy, the most frequent response was social pressure—the opinions, attitudes, and beliefs of others about the rape and pregnancy. In sum, the testimonies of these women are evidence that encouraging abortion as a panacea for rape pregnancy may in fact be counterproductive since this may prevent the healing that can come about from carrying the unborn baby to term.

Distinguishing Direct and Indirect Abortions

As we defined above, a direct abortion is the directly intended killing of an unborn child. This is gravely evil. An indirect abortion, on the other hand, is the foreseen but unintended loss of a baby as a result of a medical procedure necessary for the preservation of the life of his mother. The classic example involves the pregnant woman who discovers that she has cancer of the uterus. The doctor tells her that the uterus must be removed immediately in order to save her life. Can she morally consent to this procedure even if she knows that her developmentally immature baby would not be able to survive outside her body? The Catholic moral tradition appealing to the principle of double effect says that she can do this as long as she and her surgeon do not intend the death of her child.

Recall from chapter 1 that for the principle of double effect to apply, four conditions have to be met. These conditions ensure that the agent's act is a good one. First, the act has to be morally good or at least morally neutral. Here, in this surgical procedure, the removal of a cancerous organ is in itself a good act. It preserves the health and life of the patient. Second, the agent must desire and choose the good effect and not desire the evil outcome. Thus, for the surgical procedure to be morally commendable, the mother and her surgeon must only desire the saving of her life. The death of the baby would be a foreseen but unintended side effect of the surgical procedure. Third, the beneficial effect must not come about as a result of the harmful effect. Or to put it another way, the bad effect cannot *cause* the good effect. Here, the saving of the mother's life is a direct result of the removal of the cancerous uterus and not a result of the baby's death. In support of this, note that the exact same surgical procedure performed on a mother with a fetus who is at least twenty-four weeks old could save her life without necessarily leading to the death of her child because of technological advances in neonatal intensive care.

Thus, the surgical procedure saves the life of the mother independently of the death of the baby. Finally, for the principle of double effect to apply, the beneficial effect must be of equal or greater moral gravity than the foreseen harmful effect. In our example, saving of the mother's life is of proportionate moral gravity as permitting the baby's death. In sum, in the case of the surgical removal of a cancerous and gravid uterus, the principle of double effect would morally justify the actions of the mother and of the surgeon as long as they do not desire or choose the death of her child. Thus, indirect abortions are morally justifiable. As the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops puts it: "Operations, treatments, and medications that have as their direct purpose the cure of a proportionately serious pathological condition of a pregnant woman are permitted when they cannot be safely postponed until the newborn child is viable, even if they will result in the death of the unborn child.

Finally, we need to distinguish an indirect from a therapeutic abortion, which is defined as the termination of pregnancy before fetal viability in order to preserve maternal health. In most cases, the abortion is performed—the baby is killed—precisely to preserve either the health or the life of the mother. In other words, the saving of the mother's life is a direct result of the baby's death. Thus, a therapeutic abortion is in fact an instance of a direct abortion. As Blessed John Paul II reminds us, a direct abortion includes every act tending to destroy human life in the womb "whether such destruction is intended as an *end* or only as a *means* to an end." This moral argument also applies to so-called selective reduction procedures that are used to kill one or more fetuses when a mother becomes pregnant with multiple babies after infertility treatment. As the Congregation for the Doctrine of the Faith explained: "From the ethical point of view, *embryo reduction is an intentional selective abortion.* It is in fact the deliberate and direct elimination of one or more innocent human beings in the initial phase of their existence and as such it always constitutes a grave moral disorder. Direct abortions, regardless of the further ends for which they are done, are always intrinsically evil.

Disputed Questions The Management of Ectopic Pregnancies

An ectopic pregnancy occurs when the developing embryo implants himself outside the uterus where he normally belongs. Instead, he implants either in the fallopian tube, or in rare cases, in the ovary, in the cervix, or elsewhere in the abdomen. Such pregnancies can threaten the life of the mother because of the danger of bleeding. There are four general approaches to managing ectopic pregnancies.

First, there is "expectant" therapy. Here, one simply waits for the tubal pregnancy to resolve itself by spontaneous abortion or miscarriage. Numerous studies have shown that between 47 percent and 82 percent of ectopic pregnancies resolve themselves in this way. Second, there are surgical procedures to remove that part of the mother affected by the extrauterine pregnancy. This could involve the removal of the cervix, the ovary, the entire fallopian tube, or

even that portion of the tube containing the ectopic pregnancy. The removal of the fallopian tube is called a salpingectomy. Third, there is a surgical procedure, called a salpingostomy, where an incision is made in the affected part of the fallopian tube so that the developing embryo can be extracted by the use of forceps or other instruments. Finally, there is drug therapy involving the use of methotrexate (MTX). MTX resolves ectopic pregnancies by attacking and killing the trophoblast, the outer layer of cells of the embryo that eventually develops into the placenta.

The Catholic Church has not yet made a definitive moral judgment regarding the management of ectopic pregnancies. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops only state that in cases of extrauterine pregnancies, "no intervention is morally licit which constitutes a direct abortion. We should note however that expert theological opinion does exist regarding the four procedures discussed above. First, expectant therapy is not morally problematic since no medical intervention occurs here. Second, with either the salpingectomy or the removal of other affected organs in the woman's body, there is a consensus among Catholic bioethicists that this type of surgical procedure is an indirect abortion morally analogous to the removal of the cancerous uterus of a pregnant woman. Here the death of the immature baby would be the foreseen but unintended side effect of a surgical procedure that preserves the life of his mother. Thus this procedure would be morally permissible under the principle of double effect. In contrast, there is no consensus regarding the liceity of either the salpingostomy or MTX. Some Catholic moralists—and I count myself among them—argue that the use of both of these approaches constitutes a direct abortion because these procedures involve direct and lethal attacks on the unborn child. Other moralists disagree. These theologians argue that both the salpingostomy and MTX use are only indirect abortions. In the case of MTX use, for example, they suggest that the surgeon simply seeks to remove the trophoblastic tissue that is damaging the fallopian tube. Thus, the death of the embryo is only a foreseen but unintended side effect of the procedures. What these moral theologians overlook is that the

trophoblast is an essential organ of the developing embryo. He uses it to receive nourishment from his mother. Therefore, destroying the trophoblast of an embryo is comparable to destroying the heart of an adult human being. How can these acts be anything but direct attacks on the life of the person?

Prenatal Testing and the Premature Induction of Labor

In the past thirty years, prenatal tests have been developed that allow physicians to evaluate the health and overall well-being of unborn children. These tests raise grave moral concerns since they can be used either to promote a safe pregnancy and birth or to detect fetal abnormalities in order to avoid the birth of a disabled child. In addition, tests that are invasive carry a risk of losing or damaging the unborn child.

The Catholic Church teaches that with the informed consent of the parents, prenatal testing is morally permissible "if prenatal diagnosis respects the life and integrity of the embryo and the human foetus and is directed towards its safeguarding or healing as an individual. In other words, tests that promote the health of the mother and her unborn baby—for instance, those blood tests routinely used in prenatal care to determine both blood type and Rhesus (*Rh*) factor compatibility between mother and unborn child—are morally commendable. Ultrasound used to assess the best time and mode of delivery of the child would also fall under this category.

In contrast, tests that are undertaken simply to detect a fetal abnormality so that an abortion can be performed are morally ruled out. In most clinical scenarios, these include blood tests to measure either alpha- fetoprotein (AFP) or human chorionic gonadotropin (hCG) levels. Both tests are routinely used to detect either neural tube defects or Down syndrome so that an abortion can be offered to the mother. The same thing can be said about amniocentesis and chorionic villus sampling. In both these invasive tests, cells are obtained either from the amniotic fluid surrounding the unborn child or from the chorionic tissue surrounding the unborn baby in order to detect a growing number of chromosomal abnormalities. Significantly, both procedures are associated with an increased risk for miscarriage.

For instance, according to the U.S. Centers for Disease Control (CDC), the risk for miscarriage associated with amniocentesis is about one in two hundred pregnancies (0.5%). Again, both of these procedures are used to routinely advise mothers to avoid the birth of children with disabilities. In such cases, they are morally reprehensible. It is not surprising that disability rights advocates have criticized selective prenatal testing for promoting a eugenic mindset that devalues disabled persons. Thus, these are the kinds of test that the pregnant mother should refuse since they do not promote either her or her unborn child's health. Finally, we should acknowledge that there is also a growing movement to use prenatal testing to detect neural tube defects so that corrective prenatal pediatric neurosurgery can be done, or to give families advance warning of a disease or disabling condition so that they can make adequate preparations for the care of their child. This is morally laudable and should be encouraged. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state that prenatal diagnosis is permitted "when the procedure does not threaten the life or physical integrity of the unborn child or the mother and does not subject them to disproportionate risks; when the diagnosis can provide information to guide preventative care for the mother or pre- or postnatal care for the child; and when the parents, or at least the mother, give free and informed consent.

Next, as we noted above, with the advent of prenatal testing, congenital defects can now be diagnosed and repaired weeks or even months before the unborn baby reaches full term. However, some of these congenital abnormalities are inevitably fatal. For instance, most newborns lacking the cerebral hemispheres of their brain, a lethal defect called anencephaly, die soon after birth. Given these tragic circumstances, some doctors have counseled mothers carrying anencephalics to prematurely induce labor. Is this moral? Catholic moral theologians are divided on this issue. Within the Catholic moral tradition, two things are not disputed.

First, anencephalic babies remain human persons regardless of the degree of severity of their congenital deformity. They are persons whose brains have failed to complete embryonic development. Thus,

anencephalics have to be treated with the inestimable and inherent dignity that is properly theirs. As persons, they have just as much of a right to life as their healthy siblings. Second, there is an important distinction between the premature induction of labor before the viability of the unborn child and induction after viability. For most, if not all, Catholic moral theologians, premature delivery of the anencephalic child *before viability* would constitute a direct abortion. Here, the death of the child would be a direct result of its premature delivery. It would be intrinsically evil.

In contrast, some Catholic theologians have suggested that the premature induction of labor for an anencephalic baby *after viability* would be morally licit. Norman Ford, S.D.B., has suggested that after a gestational age of thirty-three weeks—at this age, healthy newborns have a two out of three chance of survival even without neonatal intensive care—anencephalic babies can be delivered prematurely to alleviate the psychological burden on the mother as well as to minimize her potential health risks from obstetrical complications. In addition, pointing to epidemiological data from Australia that indicate that a significant number of anencephalic fetuses (73%) die just before or during labor at full-term, Ford notes that this early induction of labor would minimize the possible fetal trauma experienced by the anencephalic child during the final weeks of pregnancy. In this scenario, Ford argues that the anencephalic newborn dies from the lethal defect and not from prematurity. Thus, he concludes that this would not constitute a direct abortion.

In response, Catholic physician Eugene Diamond and other Catholic moralists have argued that the early induction of labor of an anencephalic is always unjustified because the purpose of the procedure is unavoidably the earlier death of the anencephalic child who dies two months earlier than if allowed to go to term. Thus, it would be an instance of a direct abortion. Furthermore, Diamond points out that this procedure leads to the societal devaluation of handicapped children. Clearly, however, Diamond's argument overlooks the epidemiological statistics that suggest that premature induction can preclude the trauma experienced by an anencephalic child during the final weeks of pregnancy. These data suggest that

the premature induction of labor, as Ford proposes, could also be a medical intervention that tries to minimize the stress of birth experienced by the anencephalic child. If so, then the death of the newborn would be an unintended but foreseen side effect of an act undertaken to protect the unborn child from the unnecessary suffering associated with the trauma of birth at full term. Significantly, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state: "For a proportionate reason, labor may be induced after a fetus is viable.

Finally, we should add that regardless of the time of delivery, comfort care and nursing care, including hydration and nutrition according to the needs of the newborn, even a newborn with a fatal condition, should always be provided. Furthermore, all effort should be taken to provide for the emotional, psychological, and spiritual needs of the parents of the child.

The Question of Ensoulment

The term "soul" signifies the spiritual principle of the human being. The *Catechism of the Catholic Church* describes it this way: "It is because of its spiritual soul that the body made of matter becomes a living, human body. The Catholic Church also teaches that God immediately creates every spiritual soul. In other words, while the human parents, each in his or her own way, contribute to the making of their child, it is God who directly infuses the soul into the individual. Furthermore, the spiritual soul is immortal and does not perish when it separates from the body at death. It will be reunited with its body at the final resurrection.

When is the spiritual soul infused into the person? The Catholic Church has not yet definitively answered this philosophical question. However, in its *Declaration on Procured Abortion,* the Congregation for the Doctrine of the Faith, acknowledging the discoveries of the biomedical sciences, concluded the following: "From the time that the ovum is fertilized, a life is begun which is neither that of the father nor of the mother; it is rather the life of a new human being with his own growth. It would never be made human if it were not human already. Given the scientific facts outlined

earlier in this chapter, the CDF then argued that "it suffices that this presence of the soul be probable (and one can never prove the contrary) in order that the taking of life involve accepting the risk of killing a man, not only waiting for, but already in possession of his soul. Thus, the CDF in a subsequent document, *Dignitas personae*, declared the following:

Although the presence of the spiritual soul cannot be observed experimentally, the conclusions of science regarding the human embryo give "a valuable indication for discerning by the use of reason a personal presence at the moment of the first appearance of human life: how could a human individual not be a human person?" Indeed the reality of the human being for the entire span of life, both before and after birth, does not allow us to posit either a change in nature or a gradation in moral value, since it possesses *full anthropological and ethical status*. The human embryo has, therefore, from the very beginning, the dignity proper to a person.

In sum, prudentially, we need to treat human embryos as human persons even if we are not metaphysically certain if they have been ensouled—a conclusion that is beyond the reach of empirical verification because of the immateriality of the soul, though science can demonstrate that the human embryo is already a human individual—because of the grave moral harm that we could do to these embryonic human beings and to ourselves if we treated them otherwise.

Chapter 3

Bioethics and Human Procreation

It has been more than thirty years since Louise Joy Brown, the world's first baby conceived by in vitro fertilization (IVF) in a laboratory, was born in England on July 25, 1978. Since then, IVF and the other assisted reproductive technologies (ART) have radically changed the procreative landscape of contemporary society. Today, a postmenopausal sixty-year old woman can still become a mother by carrying a child conceived using her husband's sperm and the egg of a young Ivy League graduate purchased for fifty thousand dollars from an Internet egg bank. Also today, two men in a same-sex relationship can father children by employing a woman who will act as a surrogate mother who will carry to term embryos conceived with their sperm. Finally, today, a woman carrying six babies conceived by ART can choose to selectively "reduce" her pregnancy to increase the chances that some of her children will survive to birth. Technology has changed the way that our society begets and brings children into the world. In this chapter, which explores

the moral questions raised by scientific developments that impact human procreation—scientific advances that can help a couple assist or prevent the conception of their child—we will begin with an overview of the Catholic Church's understanding of human sexuality and the inherent link between the unitive and procreative meanings of authentic conjugal acts. We will then move to those moral questions surrounding the regulation of births, focusing on the moral difference between natural family planning methods and contraception. Basically, couples who use NFP do not inhibit their fertility but keep it intact and work within it. Contraceptive couples, on the other hand, distort the structure and meaning of human sexuality and as such are morally reprehensible. Next,we turn to those moral questions that arise when women use contraceptive pills either to treat an existing medical condition or to prevent conception after rape. Both of these practices can be morally justified under certain circumstances. Finally, we deal with questions that arise from infertility and the technologies that seek to address the sufferings of an infertile couple, including IVF, other forms of ART, and the emerging possibility of human cloning. We close with a consideration of the moral dispute occasioned by proposals to promote the adoption of abandoned human IVF embryos who are destined for destruction.

The Meaning of Human Sexuality and the Theology of the Body

The unitive and procreative meanings of our sexual acts have a profound theological and personal significance that are inextricably linked. This is the truth at the heart of the Catholic Church's teaching on the morality of human procreation. Therefore, to understand the Church's answers to the bioethical questions raised by technological advances that impact human procreation, we need to begin with a sketch of the Church's magnificent yet often misunderstood vision of human sexuality. Here, we will focus especially on Blessed John Paul II's theology of the body, a series of weekly catecheses delivered early in his pontificate on the meaning of human sexuality and on the morality of our sexual acts. These catecheses remain an eloquent

account of the Catholic Church's understanding of human sexuality and a persuasive argument for its claim that there is a necessary link between the unitive and procreative dimensions of human sexuality. To recognize the truth about the profound meaning of human sexuality, the pope begins his catecheses by reminding us that each of us is fundamentally incomplete. Each of us is alone. Citing the creation narratives in Genesis, Blessed John Paul II observes that this alone-ness is a constitutive and an ontological dimension of the human condition that was already present in the beginning as the original solitude of Adam: "Man is alone because he is 'different' from the visible world, from the world of living beings. If we are honest with ourselves, the pope continues, we discover that this alone-ness generates a profound yearning within each one of us to be made complete, to be made whole, through and with another person. This yearning—what Blessed John Paul II calls the sexual urge—moves us to seek another in a communion of persons. As the pope explains: "[S]olitude is the way that leads to the unity that we can define, following Vatican II, as *communio personarum* [a communion of persons]."

To understand human sexuality as the Catholic tradition understands it, therefore, one must realize that it emerges from a natural inclination within human persons to enter into communion with one another. But how do we achieve communion? How are we made complete? The key to answering these questions and others like them, according to the pope, is the law of the gift that is revealed by the human body: created either as male or as female, we discover that we are made for a communionof persons—ultimately, of course, for communion with the Triune God, Father, Son, and Holy Spirit—where each of us freely gives himself to another in love and receives another in love in return. Properly understood, therefore, our bodies have a spousal meaning, which John Paul II defines as the body's "power to express love: precisely that love in which the human person becomes a gift and—through this gift—fulfills the very meaning of his being and existence. Self-giving and love are synonymous in the mind of the pope. All of us, the Holy Father proclaims, are called to give ourselves away in love to another. In this disinterested gift of

ourselves, we form a communion with the other, and in doing so, we find ourselves. According to the pope, this invitation to union, this call to spousal love revealed by the reality of our sexual difference, is "the fundamental component of human existence in the world.

Next, in his theology of the body, the pope reveals that the communion that comes from self-giving presupposes mutual acts of giving and accepting: "These two functions of the mutual exchange are deeply connected in the whole process of the 'gift of self': giving and accepting the gift interpenetrate in such a way that the very act of giving becomes acceptance, and acceptance transforms itself into giving. Our ordinary everyday experience confirms this basic insight of the theology of the body. When a child is small, he gives his mother a drawing he has made to put on the refrigerator door. This drawing is a gift that is meant to be a part of him. It is an expression of his love precisely because it is something personal. It is something that belongs to him. Through his drawing, the child gives himself to his mother, and when she accepts it, she forms a union with her son, the union we call the love between a mother and her son. As the child matures, he continues to give himself away in different ways. Often, he shares his secrets, his hopes, and his dreams with his closest friends. These again are expressions of his love precisely because they are things that are part of him. They are profoundly his, and they are part of who he is. By sharing them with his friends, he gives himself to them, and when they reciprocate in kind, they form a union with him, the union we call friendship. These vignettes illustrate that to realize any union, there must be a mutual giving and accepting of persons. This is the essence of the love that creates and nurtures communions of persons.

According to pope John Paul II, though many types of unions are possible throughout our lives, the most radical and intimate form of human communion is the sexual union of a man and a woman in the covenant of marriage. It is radical because this union and this union alone can involve a *total* self-gift where the spouses are able to give themselves to each other with and through their bodies. The Holy Father has described this total self-donation and fidelity

communicated by sexual intimacy within marriage as one dimension of the "language of the body. In sexual union, a married couple, with and through their bodies, can speak a language of love. They can tell each other, "I give myself totally to you. I also receive you totally." However, they can do this only when their sexual acts involve a total and mutual exchange of persons. This only happens, according to the pope, when their sexual acts are conjugal acts that include the giving and accepting of each spouse's fertility. Anything less than this, any sexual act that involves the intentional withholding of either spouse's fertility, would not be a total self-gift, and as such, would not be unitive.

In light of his phenomenological analysis, the pope proposes that the human body reveals the hidden mystery of God from all eternity: "The body, in fact, and only the body, is capable of making visible what is invisible: the spiritual and the divine. It has been created to transfer into the visible reality of the world the mystery hidden from eternity in God, and thus to be a sign of it. First, in their loving, the married couple images the unity of God, for in their union, they make visible the unity of the Creator who as Father, Son, and Holy Spirit is in Himself a life-giving communion of persons. Second, in their loving, the spouses image the fruitfulness of God, for in their union, they make visible the power of the Creator who in His providence can cause their radical self-gift to generate a new person, a child: "The *union of man and woman* in marriage is a way of imitating in the flesh the Creator's generosity and fecundity. Finally, the mystery of the one-flesh communion between man and woman foreshadows the mystery of Christ's communion with His Church (cf. Eph 5:31–32). Human sexuality and procreation are deeply meaningful because they allow two human beings in a communion of persons to image the mystery of the Most Holy Trinity. In sum, the unitive and procreative dimensions of human sexuality are inextricably linked for two reasons. First, from the perspective of reason, they are linked because the total and mutual exchange of persons that unites the two spouses in their conjugal acts necessarily involves the mutual exchange of the gift of their fertility. To put it another way, in order to be unitive, conjugal love must also be open to the procreative.

Next, from the perspective of faith, they are linked because conjugal acts can make God, who is both one and life-giving, visible in the world only when they are simultaneously ordered toward the union of the spouses and the transmission of life: love by its very nature is a participation in the God who is love. The Catholic Church's teaching on the morality of procreation flows from these truths.

Regulating Birth The Vocation of the Parent

Since conjugal love is ordered toward the union of two persons, it is ordained by its very nature toward the establishment of a family. To put it another way, a married couple by the nature of their vocations as husband and wife are called to be parents, a *telos* that necessarily includes the desire for the begetting and educating of children, the supreme gift of marriage. As the Second Vatican Council taught: "Married couples should regard as their proper mission to transmit human life and to educate their children; they should realize that they are thereby cooperating with the love of God the Creator and are, in a certain sense, its interpreters." However, every married couple is also called to the responsible exercise of parenthood. As pope John Paul II affirms: "In its true meaning, responsible procreation requires couples to be obedient to the Lord's call and to act as faithful interpreters of his plan. This happens when the family is generously open to new lives and when couples maintain an attitude of openness and service to life even if, for serious reasons and in respect for the moral law, they choose to avoid a new birth for the time being or indefinitely." Thus, a couple is not obliged to have as many children as they could physically have. But which reasons are serious enough to justify the regulation of birth?

To guide the couple making decisions regarding family size, the Second Vatican Council taught that a husband and a wife should regard it as their proper mission to transmit human life and to educate their children; they should realize that they are thereby cooperating with the love of God the Creator and are, in a certain sense, its interpreters. This involves the fulfillment of their role with a sense of human and Christian responsibility and the formation of correct judgments through docile respect for God and common reflection

and effort; it also involves a consideration of their own good and the good of their children already born or yet to come, an ability to read the signs of the times and of their own situation on the mate-rial and spiritual level, and, finally, an estimation of the good of the family, of society, and of the Church. In other words, the decision to regulate the size of one's family is one that will depend upon the particular circumstances of each family evaluated against at least five criteria: (1) the good of the marriage, including the health of both husband and wife; (2) the good of the children, those born and those perhaps to come; (3) the financial welfare of the family; (4) the spiritual development of all involved; and (5) the good of the Church and of society. This decision needs to be discerned by each married couple with the help of both prayer and prudence. There could be many reasons that might convince a couple to limit the size of their family.

However, they have to be careful not to base their decisions on materialistic factors alone. Life is a gift to be shared, and Christian couples are called to be as generous in the service of life as their circumstances permit. Putting it another way, having another child is more valuable and life-giving than either having a swimming pool in the backyard or providing an Ivy League education for one's children. Children in large families receive benefits from being raised with numerous siblings. Thus, pope John Paul II reminds couples: Decisions about the number of children and the sacrifices to be made for them must not be taken only with a view to adding to comfort and preserving a peaceful existence. Reflecting upon this matter before God, with the graces drawn from the Sacrament, and guided by the teaching of the Church, parents will remind themselves that it is certainly less serious to deny their children certain comforts or material advantages than to deprive them of the presence of brothers or sisters, who could help them to grow in humanity and to realize the beauty of life at all its ages and in all its variety. Once a couple has discerned in prayer that for serious and responsible reasons, they are being called to avoid a new birth for the time being or indefinitely, they may regulate their births with chaste methods that respect the dignity of the human person and the profound meaning of conjugal love. Finally, we should add that the call to responsible

parenthood may involve a call to a couple not to decrease but to *increase* their family size. It may involve "the willingness to welcome a greater number of children." This is because of the good that children bring not only to their immediate families but also to society, to the Church, and to the human family as a whole.

The Teaching of the Catholic Church

Recall from chapter 1 that human acts are good if they are rightly directed to those purposes that are in harmony with our ultimate end of happiness in God. In accordance with this basic moral principle, our sexual acts are good if they are ordered toward the end of marriage in both of its complementary dimensions, the unitive dimension and the procreative dimension. This can happen, however, only when sexual acts involve a total and mutual exchange of persons, which can happen only when they are conjugal acts that are open to the transmission of life. Thus, the Catholic Church teaches, "it is necessary that each and every marriage act remain ordered *per se* to the procreation of human life." This teaching—called the inseparability principle—is "based on the inseparable connection, established by God, which man on his own initiative may not break, between the unitive significance and the procreative significance which are both inherent to the marriage act." As a corollary to this truth, any attempt to sterilize the sexual act either through contraception or through direct sterilization undermines the integrity of the gift of self, for here, the husband not only withholds his fertility from his wife but also refuses to accept her fertility and vice versa. A couple who engages in a sterilized sexual act, that is, a sexual act without the total giving and accepting of persons that it should signify, falsifies the language of the body. In the end, despite their best intentions, spouses who actively frustrate their fertility inevitably treat one another as objects to be used rather than as persons to be loved and mysteries to be contemplated.

Natural Family Planning and Contraception

Authentic conjugal acts have to be open to the transmission of life. This criterion can be used to judge the morality of the different methods available to regulate birth, methods that can be divided

into two categories, natural family planning (NFP) methods and contraceptive methods. Methods involving natural family planning use the natural rhythms of the woman's body to determine when sexual relations may or may not lead to pregnancy. With the two most common NFP methods, the Billings Ovulation Method and the sympto-thermal method, couples observe changes in the woman's cervical mucus, in her bodily temperature, and/or in other bodily signs to determine her fertile period. Since both cervical mucus and bodily temperature are responsive to the hormonal changes that regulate fertility, NFP couples are able to accurately determine when they are fertile and when they are not. Thus, NFP is very effective both for achieving and for avoiding pregnancy. It is not to be confused with the older and less effective rhythm or calendar method, which estimated the couple's fertile and non-fertile periods by observing when these periods occurred in previous cycles. Contraceptive methods of birth control consist of "any action which either before, at the moment of, or after sexual intercourse, is specifically intended to prevent procreation—whether as an end or as a means." In other words, contraception involves any action that is intentionally undertaken to sterilize a couple's love, either temporarily or permanently. There are three basic kinds of contraceptive methods. Chemical contra-ceptives include oral contraceptives such as the Pill, hormonal injections such as Depo-Provera, and hormonal implants such as Norplant. Barrier methods include condoms and diaphragms that prevent fertilization by impeding the union of sperm and egg. These are usually used with a spermicidal or chemical agent to enhance their effectiveness. Surgical procedures include tubal ligations, vasectomies, and even hysterectomies that are performed to sterilize an individual. Finally, we should note that several studies have demonstrated that NFP methods are just as effective as commonly used contraceptive methods for the prevention of pregnancy. For instance, the percentage of American women experiencing an unintended pregnancy within the first year of perfect use of the sympto-thermal method of NFP is just over 2 percent. This is in comparison with a failure rate of approximately 2 percent for the condom and under 1 percent for the Pill.

Judging the Morality of NFP and Contraception

The criterion that authentic conjugal acts have to be open to the transmission of life can be used to judge the morality of the different methods available to regulate births. Natural family planning methods to regulate birth meet this standard because they respect the structure and meaning of human sexuality and as such are morally upright. Couples who use NFP do not inhibit their fertility but keep it intact and work within it. If they have a just reason to avoid pregnancy, they choose to abstain from intercourse during their fertile period. During their infertile period, however, they could choose to engage in the conjugal act. Their lovemaking during this time would still involve a complete, total, and mutual exchange of selves. The spouses still do not hold anything back. The man still gives his wife all that he has, while she in return still gives her husband everything that she has. Because of the way she is created, however, a wife's total self-gift during her infertile period does not include the capacity to conceive a child. In the end, therefore, the fact that a pregnancy usually does not result from those marital acts performed during a cou-ple's infertile period is not the couple's doing but a consequence of God's design. The couple remains open to both the unitive and procreative dimensions of the marital act. Indeed, couples using NFP who are seeking to live out the vision of authentic human sexuality proposed by the Catholic tradition should be willing to accept a child in the unlikely event that the wife does become pregnant. Not surprisingly, given that it respects the dignity of the spouses, NFP promotes communication between the spouses—the spouses need to keep talking to each other about intimate matters in order for them to share responsibility for their combined fertility—and encourages tenderness between them.

The couple is encouraged to grow in the virtue of chastity and to develop an authentic human freedom that liberates them from the sometimes overwhelming power of lust. This may explain why the divorce rate among NFP couples in the 1990s was between A1D 10 and A1D 25 of the overall divorce rate in the United States. The virtuous use of NFP can strengthen a marriage by increasing marital peace, decreasing spousal selfishness, and increasing the parents'

appreciation of their children. In contrast, contraceptive methods to regulate births do not pass the test that they respect the inseparability principle. They distort the structure and meaning of human sexuality and as such are morally reprehensible. Couples who use contraception withhold their fertility. They withhold part of themselves from each other. With their bodies, they say to each other, "I give you everything *except* my power to give life. You can have all of me *except* my gift to make you a parent, a father or a mother, of our child. This, I do not give you." Couples who engage in contraceptive sex are lying to each other with their bodies—they are telling each other that they love each other without giving each other the total self-gift that is the sign of authentic love.

More over, sex that is not a total self- gift to the other can easily become self-directed and selfish, reducing it to a means of self-indulgence and physical gratification. It can do much damage to marriage. Thus, it is not surprising that couples who engage in contraceptive sex can often feel used, for implicit in their action is a mutual rejection of the other. In recent years, sociological research, including the work of Nobel Prize–winning economist George Akerlof, has argued persuasively that contraceptive practices have undermined marriage by discouraging men both to marry and to live with their children, leading to numerous social ills. They have especially exacerbated the already difficult lives of the poor. Thus, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops make clear that "Catholic health institutions may not promote or condone contraceptive practices but should provide, for married couples and the medical staff who counsel them, instruction both about the Church's teaching on responsible parenthood and in methods of natural family planning."

Common Objections to the Teaching of the Catholic Church On July 25, 1968, Pope Paul VI published his landmark encyclical, *Humanae vitae*, which reiterated the constant tradition of the Church with regard to the immorality of contraception. The encyclical reaffirmed the necessary link between the unitive and procreative dimensions of human sexuality, concluding that "it is necessary that each and every marriage act remain ordered *per se* to the procreation

of human life." This teaching has been confirmed by both pope John Paul II and Pope Benedict XVI. More decisively, after consultation with all the bishops of the Catholic Church, it has been reaffirmed in the *Catechism of the Catholic Church,* suggesting that it is a definitive teaching of the ordinary Magisterium, or teaching authority of the Church, requiring "obedience of intellect and will" from all Catholics. At the time of its publication, *Humanae vitae* generated a firestorm of protest and led to the publication of numerous treatises challenging its teaching.

Here we will concentrate on the four most common objections raised by those who still dissent from the Church's teaching. First, some have argued that it is contradictory to affirm the morality of NFP while condemning contraception since both involve the same intention to avoid pregnancy. As David F. Kelly puts it: "The only difference between the permitted method and other forbidden methods, such as condoms, would have to be found in the act itself. Surely the couple's intention is the same in both procedures: to have sex and avoid having children. Thus, *both* procedures would seem equally to 'separate the unitive and the procreative aspects of married sexuality,' which recent doc- uments forbid and propose as the basis for the condemnation of direct contraception." In response, as I already explained above, it is important to affirm that using NFP to exercise responsible parenthood radically differs from using contraception to achieve the same end because in the former the spouses seek to achieve a good end by a means that is consonant with human nature and beatitude, while in the latter the couple seeks to achieve the same end by a means contrary to their good.

More specifically, the NFP couple does not intend to render a fertile act infertile—a means that is contrary to human excellence and perfection—while the contraceptive couple does precisely this. Therefore, in the former case, the spouses are still causing the total self-gift that is integral to authentic human sexuality, while in the latter case, the husband and the wife are not capable of the same. As Blessed John Paul II taught, NFP and contraception are different because in the former, the couple respect the inseparable connection between the unitive and procreative meanings of human sexuality,...

acting as "ministers" of God's plan and they "benefit from" their sexuality according to the original dynamism of "total" self-giving, without manipulation or alteration, [while in the latter, the couple] separate[s] these two meanings that God the creator has inscribed in the being of man and woman [acting] as "arbiters" of the divine plan .... manipulat[ing] and degrad[ing] human sexuality and with it themselves and their married partner by altering its value of "total" self-giving. The use of NFP and that of contraception are radically different kinds of human acts.

Next, critics contend that the teaching of the Church on contraception is erroneous because of its emphasis on the immorality of a single contraceptive act even when this act is performed within a lifetime of sexual acts, most of which are open to children by a married couple who only want to achieve responsible parenthood. As Paul Lauritzen has argued, "the inseparability principle, as it is formulated in *Humanae vitae* .... is badly flawed because it focuses on the physiological integrity of the act of sexual intercourse at the expense of responsible parenthood." In support of his argument, he cites the majority report of the Papal Commission on Birth Control with added emphasis: "The morality of sexual acts between married people takes it meaning first of all and specifically from the ordering of their responsible, generous and prudent parenthood. *It does not then depend upon the direct fecundity of each and every particular act.*" In response, as I already explained above, individual human acts are morally significant in themselves because they are our proximate means toward growing in perfection and attaining the beatitude for which we yearn. Furthermore, single acts matter because single acts not only shape but also reveal the acting person. We know others and ourselves through our individual acts. Our commonsense experience confirms this truth.

A single act of adultery, even after decades of marital fidelity, can irreparably damage a marriage. A single lie can undermine a trusted friendship. In the same way, a single contraceptive act, in itself, because it distorts the structure and meaning of human sexuality, hinders the spouses from attaining the beatitude that comes from the practice of chaste sexual acts. Therefore, it is morally defective.

Third, critics argue that the Church's opposition to contraception is based upon an outdated and flawed methodology that emphasizes the biological or physical aspects of the sexual act without any concern for the personal or human dimensions of the act in its circumstances. Instead of this antiquated "physicalist" methodology, David F. Kelly and other revisionist theologians suggest a more contemporary "personalist" approach that would look at the human, social, spiritual, physical, and psychological consequences of the contraceptive act, revealing that "it is not valid to make an absolute moral rule against such a [contraceptive] practice because often the human and personal growth, the holiness if you will, of the people demands or at least permits the use of contraceptives." In response, as Gustave Martelet, S.J., has persuasively shown, the teaching of *Humanae vitae* based its argument not only upon the physical structure of but also upon the human *meaning* of the sexual act.

Commenting on the teaching of the encyclical, Martelet writes: "The inseparability of meanings in 'every marriage act' does not, then, rest primarily on a biological structure which in fact separates them; on the contrary, it rests on a decision: that of maintaining in the conjugal act its 'sense of mutual and true love,' no less than its 'ordination to the exalted vocation of man to parenthood.'a†œ" Thus, it is erroneous to argue that the Church's teaching that is opposed to contraception is based on a so called physicalist methodology that ignores the human person. Rather, as pope John Paul II's theology of the body reveals, an authentic personalism makes the Church's teaching on the immorality of contraception and its detrimental effect on human and personal growth even more apparent. As such it can never be reconciled with the universal call to holiness.

Finally, critics of the Church's condemnation of contraception argue that the teaching must be erroneous because a significant number of Catholics, even those otherwise devout, have rejected it, suggesting that this teaching is not from the Holy Spirit, who guides all Christians. For example, in a recent pamphlet, a group of dissenting Catholics has concluded that the Vatican should change the Church's position on the birth control in light of the rejection of this teaching by many of its lay members: "It is also clear that the Catholic church

cannot move forward until it honestly confronts the paradox of *Humanae vitae:* that most Catholics use modern contraceptives, believe it is a moral choice to do so, and consider themselves Catholics in good standing." In response, we must begin by distinguishing between appeals to the sense of the faithful, what theologians have called the *sensus fidelium*, or more properly, the *sensus fidei*, and to popular opinion within the Church. As the Second Vatican Council taught, the former is a theological source attributable to the Holy Spirit: "The whole body of the faithful who have an anointing that comes from the holy one (cf. 1 Jn 2:20 and 27) cannot err in matters of belief. This characteristic is shown in the supernatural appreciation of the faith *(sensus fidei)* of the whole people, when, 'from the bishops to the last of the faithful' they manifest a universal consent in matters of faith and morals."

In contrast, the latter is merely a sociological fact. As Avery Cardinal Dulles, S.J., has observed, "Public opinion may be correct, but it often reflects the tendencies of our fallen human nature, the trends of the times, and the pressures of the public media." How then are we to evaluate the theological significance of the often-cited statistic that a majority of Catholics have rejected the Church's teaching on contraception? Is it of God? There is probably no better test than the one proposed by the Lord Jesus Christ Himself, that we judge a tree by its fruit: "You will know them by their fruits. Are grapes gathered from thorns, or figs from thistles? So, every sound tree bears good fruit, but the bad tree bears evil fruit" (Matt 7:16–17). And, as I already noted above, sociological research has demonstrated that contraceptive practices have undermined marriage by discouraging men to marry and to live with their children, leading to numerous and serious social ills. It is clear that the fruit of contraception has not been good. It is not of God.

Distinguishing Direct and Indirect Contraception

Contraception—more precisely, direct contraception—consists of every action that seeks, whether as an end or as a means, to render a person sterile or infertile, either permanently or temporarily, for whatever reason. This is immoral because it does violence to the

dignity of the human person and undermines the meaning of human sexuality. Putting it bluntly in the language of the body, contraceptive intercourse turns lovers into liars. Indirect "contraception," on the other hand, involves actions that bring about the foreseen but unintended infertility or sterility of a person as a result of a medical procedure directed at the treatment of some present pathology. For instance, in women, the birth control pill sometimes is prescribed to treat endometriosis, a painful condition that occurs when the tissue that lines the uterus grows elsewhere in the abdomen.

In another example, in men, both testicles may be removed in order to cure patients from testicular cancer. These medical procedures render the patients infertile or even sterile, but the Catholic moral tradition, appealing to the principle of double effect, reasons that they are morally permissible because the patients do not intend their infertility or sterility. These patients simply want to be treated either for the endometriosis or for the testicular cancer, and their infertility or sterility is a foreseen but unintended side effect of the treatment. Note that this moral analysis presupposes that no simpler therapy is available and that the medical procedure is done only for a proportionately grave reason. These two premises ensure that the patients are truly choosing the medical procedure as a treatment for the pathology rather than as a method of contraception. The analysis here parallels the reasoning outlined in chapter 2 for the morality of indirect abortions. Thus, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops explains: "Direct sterilization of either men or women, whether permanent or temporary, is not permitted in a Catholic health care institution. [However,] procedures that induce sterility are permitted when their direct effect is the cure or alleviation of a present and serious pathology and a simpler treatment is not available."

Finally, we should emphasize that the distinction between direct and indirect contraception applies only to medical procedures that treat a present pathology. The moral analysis made here cannot be used to justify procedures that sterilize a patient in order to prevent a future pathology that may arise from a future pregnancy. For instance, a doctor may suggest performing either a tubal ligation or

a hysterectomy on a woman who might not be able to carry a future pregnancy without medical risk. In these cases, however, neither the fallopian tubes nor the uterus, in and of themselves, pose a pathological problem for the woman at the present time. Thus, the Catholic Church rules out these procedures because here, "the end of avoiding risks to the mother, deriving from a possible pregnancy, is ... pursued by means of a direct sterilization, in itself always morally illicit, while other ways, which are morally licit [e.g., complete or periodic abstinence] remain open to free choice." In other words, these procedures are effective only because they sterilize the individuals. Sterilization is not incidental to the efficacy of the treatment. Thus, in these procedures intended to prevent the harms of a future pregnancy, sterilization cannot but be directly intended and chosen by the patients and their doctors. As such, it is morally disordered.

A Disputed Question: The Use of Condoms to Prevent the Transmission of HIV/AIDS

In an article entitled, "The Truth about Condoms," Martin Rhonheimer, a priest of Opus Dei and a professor at the Pontifical University of the Holy Cross in Rome, proposed that an HIV-infected spouse may use a condom to protect his wife from an infection. Rhonheimer argues that condom use to prevent the transmission of HIV would not constitute an act of contraception because, properly speaking, the moral object of such an act is not to prevent conception—the moral object of a contraceptive act—but to prevent infection. Moreover, he suggests that the use of a condom to prevent transmission of HIV is compatible with the Church's teaching that conjugal acts must be open to the transmission of life because, in his opinion, "the required 'openness' of the marital act to the transmission of life must be of an intentional kind: Nothing must be done to use the gift of sexuality in a way incompatible with a will to serve the transmission of human life." In contrast, other Catholic moralists have argued that any act in which insemination is impeded cannot be called a marital act because it is not an act of a generative kind. Thus, according to these theologians, by its very nature, condomistic sex is contraceptive. To put it another way, they propose that a

couple that uses a condom to prevent the transmission of HIV necessarily intends to alter the finality of their sexual act, thus severing the unitive meaning of their act from its procreative meaning. As such it is contraceptive and therefore intrinsically evil. Rhonheimer has replied to his interlocutors by proposing that he and his critics disagree because they believe that the decisive point in the case of contraception is a determinate behavioral pattern that essentially includes the deposition of the man's semen into the woman's vagina. Thus, condomistic sex is necessarily contraceptive sex. He, on the other hand, contends that impeding insemination actually is contraception, but only provided that it is done for the sake of impeding the natural purpose of insemination, which is to conceive new human life.

Therefore, condomistic sex done for the sake of preventing infection rather than for the sake of preventing conception is not contraceptive sex. Rhonheimer concludes that his account is ethically more satisfying because "it integrates nature and its requirements into a broader moral perspective, which is the perspective of the virtues, without focusing in such an exclusive way on the behavioural pattern of the male's contribution to the marital act." Moreover, he challenges his critics to provide a compelling argument in favour of the moral relevance of *never* deliberately impeding insemination during the marital act. He asks them: "Provided there is no proposal to impede conception and therefore no intentional or deliberate connection between impeding insemination and impeding procreation, why is the prevention of insemination still morally relevant or even determinative?" In response, a man unable to inseminate his wife is unable to procreate. This reveals that the conjugal act is ordered toward a procreative end that is intimately linked to insemination. Thus, a sexual act that impedes insemination necessarily impedes the procreative nature of the conjugal act, and as such is contraceptive. Recall from chapter 1 that the physical structure of a human act limits the moral objects that can be legitimately chosen to specify it from the perspective of the acting person in the same way that matter limits form. Therefore, by its nature, a condomistic sexual act limits the moral objects that can be legitimately chosen by a

married couple. Using a condom necessarily impedes the procreative nature of the conjugal act, and as such, the impediment of procreation needs to be included in the moral object chosen by the couple as they describe their action. Thus, despite their further intention to prevent the transmission of the AIDS virus, a couple using a condom for prophylactic purposes cannot claim that they are not engaged in a contraceptive act.

One additional comment needs to be made about this controversy. I think that we have sidelined the most important question in this debate: What does *love* demand of a husband and a wife when one of them is infected with HIV/AIDS? In other words, would a husband who truly loved his wife ever take the chance of exposing her to a lethal virus? Can love ever risk the life of a beloved? I think not. Condom use is not 100 percent effective at preventing the spread of HIV/AIDS. Thus, I do not think that a husband who truly loved his wife would ever put her life at risk by having marital relations with her, even with a condom. In the end, therefore, the only truly authentic Christian response to the disputed question over the moral liceity of prophylactic condom use in marriage must be this: Never condoms. Always abstinence. Finally, we close with a brief discussion of condom use among unmarried HIV-infected individuals.

Critics of the Catholic Church's teaching on contraception often argue that it has hindered efforts to halt the spread of HIV/AIDS, especially in Africa. In response, it is clear that condom promotion is effective in halting HIV/AIDS spread mainly through prostitution, as in Thailand, and also, to some extent, among other high-risk groups, including men who have sex with men. However, there is no evidence that condom use has had a primary role in contributing to HIV decline in more generalized, primarily heterosexual populations like those in Africa, probably because it is difficult to maintain consistent condom use within more regular and, typically, concurrent partnerships. In fact, there are data that suggest that one of the most successful strategies for reducing the spread of HIV/AIDS in this context involves programs that encourage monogamy and fidelity. Moreover, there are data that point to a link between a

greater availability and use of condoms and higher— and not lower— HIV infection rates. This may be due in part to a phenomenon known as risk compensation, meaning that when one uses a risk-reduction "technology" such as condoms, one often loses the benefit (reduction in risk) by "compensating" or taking greater chances than one would take without the risk-reduction technology. Thus in the long run, it appears that the most effective answer to the HIV/AIDS epidemic involves not promoting condom use, but encouraging male circumcision and challenging individuals to live virtuous and chaste lives that reduce multiple sexual partnerships.

The Use of Contraceptives during and after Sexual Assault Rape is a great moral evil. It is "the forcible violation of the sexual intimacy of another person... [It] deeply wounds the respect, freedom, and physical and moral integrity to which every person has a right.... It is always an intrinsically evil act." If a woman is in serious danger of being raped, many Catholic moralists have convincingly argued that she can choose to protect herself from her rapist's sperm and the further violation it could cause if it fertilized her egg. To understand the argument that moral theologians make to justify the use of a contraceptive in the context of a sexual assault, we need to recall that a couple choosing to contracept is intentionally choosing to engage in the sexual act in a manner that would prevent the possible conception of their child. To put it another way, the spouses are attempting to choose the unitive dimension of sex while simultaneously rejecting its procreative dimension. Notice, however, that this moral analysis presupposes that the couple has freely chosen to engage in the sexual act. Otherwise, how could they choose one of the dimensions of human sexuality while rejecting the other? Properly understood, therefore, a contraceptive act is every action that, whether in anticipation of a *freely* chosen sexual act or in its accomplishment, proposes, whether as an end or as a means, to render procreation impossible.

By definition, however, an act of rape is not a freely chosen sexual act. Rather, it is an act of violence. For this reason, if a rape victim chooses to use a condom, a diaphragm, or a spermicidal jelly, she would not be contracepting because here she is not choosing to

sterilize a freely chosen sexual act. She is not choosing the unitive dimension of sex while simultaneously rejecting its procreative dimension. Indeed, properly speaking, she is not choosing sex at all. Rather, she is choosing to defend herself from a further violation from her rapist and the further perpetuation of an unjust act of sexual violence. This is morally justifiable. Finally, we should stress the following: though a woman who has been raped may choose either methods that destroy sperm or those that prevent the ovulation of her egg to prevent a pregnancy, she may not attempt to remove, destroy, or interfere with the implantation of an embryo who may have already been conceived. This would constitute a direct abortion and would therefore be immoral. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops reads as follows: "A female who has been raped should be able to defend herself against a potential conception from the sexual assault. If, after appropriate testing, there is no evidence that conception has occurred already, she may be treated with medications that would prevent ovulation, sperm capacitation, or fertilization. It is not permissible, however, to initiate or to recommend treatment that have as their purpose or direct effect the removal, destruction, or interference with the implantation of a fertilized ovum." As we discussed in chapter 2, it would be gravely unjust to punish a child for the sin of her father.

A Disputed Question: The Morality of Rape Protocols

In recent years, there has been a debate among Catholic moral theologians regarding the use of rape protocols to care for women who have been sexually assaulted. The issue is whether or not potentially aborti-facient medications should be given to a woman who presents herself in an emergency room after a sexual assault. As I already cited above, the ERDs support the use of contraceptives after sexual assault because this is not a contraceptive act properly so called. However, the ERDs do not provide details as to what constitutes "appropriate testing" or "evidence that conception has occurred." In response to this lacuna, Catholic moralists have proposed two frameworks for rape protocols to care for victims of sexual assault. The first approach, often called the ovulation

approach, tests both for pregnancy and for ovulation and offers contraceptive medication to rape victims only if they are neither pregnant nor ovulating nor recently ovulated. This approach seeks not only to prevent conception resulting from a sexual assault, but also to prevent the destruction of human life if conception has already occurred. Some Catholic moralists have criticized the ovulation approach because they are concerned that it is unnecessarily restrictive. Instead, they propose a second approach, called the pregnancy approach, which tests only for pregnancy and then offers contraceptive medication to rape victims if they are not pregnant.

To resolve this dispute, it is important to point out that emergency contraceptives are not all the same. It is likely that there are emergency contraceptives—for instance, the Yuzpe regimen that is able to prevent pregnancies up to 120 hours after sexual intercourse—that are abortifacients as well. Before prescribing these emergency contraceptives, it would be prudent for a physician to minimize the risk of an abortion with a rape protocol that embraces the ovulation approach. As the Congregation for the Doctrine of the Faith warns: "[A]nyone who seeks to prevent the implantation of an embryo which may possibly have been conceived and who therefore either requests or prescribes such a pharmaceutical [that has the effect of inhibiting implantation] generally intends abortion." In contrast, as I have argued elsewhere, it is unlikely that the contraceptive Plan B, or levonorgestrel, has post-fertilization effects that would risk the life of an embryo. Therefore, there could be reasons to prudently forsake the ovulation approach for the pregnancy approach when prescribing Plan B for sexual assault. For instance, I think that a Catholic doctor with a practice in a rural setting in Idaho who does not have easy access to the laboratory equipment that is required for the ovulation approach could, with moral assurance, prescribe Plan B to a rape victim who is not pregnant without testing to see if she had ovulated.

The Cross of Infertility and the Use of ART

Infertility is an increasingly common problem in the developed world. According to the widely accepted definition of the American Society for Reproductive Medicine, a couple is infertile when they

are unable to achieve a pregnancy after one year of regular, non-contraceptive intercourse. The *Merck Manual of Diagnosis and Therapy*, 18th edition, reports that one in five couples in the United States experiences infertility. Infertility has many causes, including sperm disorders (35% of couples), ovulatory dysfunction (20% of couples), tubal dysfunction (30% of couples), abnormal cervical mucus (5% of couples), and unidentified factors (10% of couples). Given the central role of children in the life of a family, it is not surprising that infertility can cause profound suffering within a marriage. In the Old Testament, Rachel cries to her husband Jacob, "Give me children, or I shall die!" (Gn 30:1). Thus, the Catholic Church is clear that research aimed at reducing human sterility is to be encouraged. In the past several decades, many technological advances that treat infertility have been made.

However, what is technically possible is not for that very reason necessarily morally permissible. Rather, as the Congregation for the Doctrine of the Faith has made clear, both the dignity of the human person and the profound meaning associated with human sexuality and procreation determine the moral limits of technological interventions at the beginning of life. To morally evaluate the different techniques for medically assisted procreation, we have to recall two important principles. First, as we discussed in chapter 2, human persons can never be treated as objects because of their intrinsic dignity. This applies to children, regardless of their stage of development. Second, as I noted earlier in this chapter, the marital act between two spouses is meaningful because human sexuality involves the self-giving of persons. Therefore, if conjugal love is to be authentic, it has to be a complete, mutual, and total self-giving of persons. Otherwise, it attacks the dignity of the spouses and undermines their union.

In light of this anthropology, the basic principle that governs the moral evaluation of assisted reproductive technologies (ART) is the following: a medical intervention respects the dignity of persons when it seeks "either to facilitate the natural act [of conjugal love], or to enable the natural act, normally carried out, to attain its proper end." The *Ethical and Religious Directives*of the United States

Conference of Catholic Bishops formulates this principle this way: "When the marital act of sexual intercourse is not able to attain its procreative purpose, assistance that does not separate the unitive and procreative ends of the act, and does not substitute for the marital act itself, may be used to help married couples conceive."

Treating Infertility Judging the Morality of ART

Basically, those procedures that help a couple to conceive without bypassing the need for the conjugal act are good. These include, among others, both hormonal treatments to regularize a woman's reproductive cycle or to boost a man's sperm production and surgical interventions to correct defective fallopian tubes and to reverse other structural defects. These treatments restore the couple to health by treating the underlying disease process that causes the infertility. The infertile couple becomes fertile. In and through their marital acts, they are now able to conceive a child who remains a fruit of their love. The child is begotten and not made. In contrast, procedures that bypass sexual intercourse are not good. These include, among others, in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), and zygote intrafallopian tube transfer (ZIFT). These procedures involve fertilizing a woman's (or a donor's) eggs with her husband's (or a donor's) sperm in a Petri dish in a laboratory and transferring the embryos into her womb. They do not respect the dignity either of the human person or of human procreation because they inherently reduce the child to an object and dissociate the procreative from the unitive dimension of marital love. In other words, regardless of the intentions of the parents involved, these technologies treat the child like an object of market exchange, something manufactured, sold, and bought. Rather than being the fruit of his parents' love expressed in the marital act, the child is now a manmade product, the end result of a technological process that takes place on a laboratory bench. Here, the child is *not* begotten but made. Significantly, these treatments do not treat the underlying disease processes that cause the infertility, and thus they do not restore the couple to health. In truth, the infertile couple remains infertile, because these technologies substitute for, rather than assist, the conjugal act. Finally, two additional comments: First, one

controversial procedure to treat infertility involves the use of drugs that hyperstimulate a woman's ovaries. These drugs—Clomid and Pergonal are commonly used—increase the chances of a couple conceiving a child through sexual intercourse. This therapeutic approach is morally permissible as long as the ovarian stimulation is controlled to reduce the risk of a multi-fetal pregnancy. Abortion can *never* be an option to "reduce" a pregnancy. As *Dignitas personae* makes very clear, "*embryo reduction is an intentional selective abortion.*" It is a sad commentary on our society that drugs that help infertile couples conceive children are often used in conjunction with abortions that kill the unborn children of those same childless couples.

The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops mandate that "only those techniques of assisted conception that respect the unitive and procreative meanings of sexual intercourse and do not involve the destruction of human embryos, or their deliberate generation in such numbers that it is clearly envisaged that all cannot implant .... may be used as therapies for infertility." Second, some Catholic moral theologians faithful to the Magisterium have argued that under certain specified conditions, gamete intrafallopian transfer (GIFT) and artificial insemination by husband (AIH) can be performed within marriage without violating the dignity of the human person and of human procreation. Other theologians have disagreed. Given this situation, however, and until the Church teaches otherwise, individual Catholics may choose to use these procedures according to the dictates of a rightly formed conscience and the virtue of prudence. Judging the Morality of Preimplantation Genetic Diagnosis Preimplantation genetic diagnosis (PGD or PIGD), and more recently, preimplantation genetic haplotyping (PGH), are technological practices associated with IVF that are used to determine if embryos created in vitro contain particular genetic traits. Such diagnosis is done in order to screen either for desirable embryos that do not carry a genetic defect or for those that do possess a particular genetic trait. For instance, couples have already used PGD to identify both embryos who are genetically matched to already-born siblings in

the hope that these embryos could become tissue or organ donors to save the lives of their sick brothers or sisters (the savior sibling scenario), and embryos who are deaf for a deaf couple who wanted a deaf child. These desirable embryos would then be implanted into their mother's womb and allowed to grow to term. Undesirable embryos, on the other hand, would be discarded and destroyed. The Catholic Church has categorically condemned the practice of preimplantation genetic diagnosis. The Congregation for the Doctrine of the Faith has reasoned as follows: Preimplantation diagnosis—connected as it is with artificial fertilization, which is itself always intrinsically illicit—is directed toward the *qualitative selection and consequent destruction of embryos,* which constitutes an act of abortion. Preimplantation diagnosis is therefore the expression of a *eugenic mentality* that "accepts selective abortion in order to prevent the birth of children affected by various types of anomalies. Such an attitude is shameful and utterly reprehensible." Preimplantation genetic diagnosis to identify and to cull undesirable human embryos can never be reconciled with the pursuit of beatitude and human excellence.

Judging the Morality of Donors and Surrogates

With the advent of assisted reproductive technologies, infertile couples are increasingly choosing to obtain or to purchase sperm and eggs from third-party donors. Moreover, women unable to carry a pregnancy to term are using surrogate mothers to carry the child in their womb. Given this, it is not surprising that websites advertizing the sale of sperm and eggs are proliferating on the Internet alongside websites that advertise the services of women willing to be surrogate mothers for a fee. Today, a child can be born who has five "parents": the man who contributed his sperm, the woman who contributed her egg, the woman who carried the child in her womb, and the infertile couple seeking to have the child. Is this good? Simply, no. Though donors and surrogates often have very noble intentions—they are seeking to help an infertile couple alleviate their suffering and experience the happiness of having a child—their use in human procreation remains immoral. When a couple marries, they promise each other that their love will be exclusive. Thus, the marriage

covenant affords the couple the exclusive right to become father and mother solely through each other. Putting it another way, having babies is something that a husband and a wife do with each other and only with each other. The use of gametes from a third-party donor, however, introduces a third person—often a stranger—into the intimacy of marital life. This is immoral because it violates the unity and integrity of the marriage covenant. Furthermore, the use of donors and surrogates is also an injustice for the child. It unnecessarily deprives him of the relationships he could have had with his biological parents and introduces potentially confusing relational ambiguities into his life. It is significant that numerous studies have shown that an overwhelming majority (about 80%) of parents who have used gametes from third-party donors do not wish to disclose this to their children. Nondisclosure largely stemmed from a desire to protect the child, suggesting that even these parents intuitively recognized that their use of third-party donors is in some way detrimental to the child's well-being. Therefore, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops mandate the following: "Because of the dignity of the child and of marriage, and because of the uniqueness of the mother-child relationship, participation in contracts or arrangements for surrogate motherhood is not permitted.

Moreover, the commercialization of such surrogacy denigrates the dignity of women, especially the poor." For the Catholic Church, a child has the right to be conceived, to be carried in the womb, to be brought into the world, and to be brought up by his own biological parents. This is good for the child. All unnecessary attacks of this good, no matter how noble the motivation, threaten the unity and stability of the family. Not surprisingly, such damage would also have repercussions on civil society as a whole. Judging the Morality of Reproductive Cloning Technology On February 27, 1997, scientists from Scotland shocked the world when they reported the creation of the first mammalian clone, the famous sheep named Dolly. Using a procedure called somatic cell nuclear transfer (SCNT), these researchers were able to create a practically identical, but younger, copy of an adult sheep by introducing the genetic program of that

adult into an ennucleated egg, by activating it so that it becomes an embryo that begins development, and then by implanting it into the uterus of another animal. This was the first time asexual reproduction had been demonstrated in mammals. Since then, many other animals, including goats, cows, mice, pigs, cats, rabbits, dogs, and deer, have been cloned. There are those who argue that human cloning is a beneficial technical advance to help infertile couples, even same-sex couples, who desire to have a child of their own. For example, a man who does not produce any sperm could still have a child who inherits his genome if he transferred one of his nuclei into an enucleated egg taken from his wife. The resulting cloned embryo would then be implanted into his wife, who would carry the child to term.

At the present time, there appears to be a widespread moral and political consensus against reproductive cloning or cloning for birth. The Pontifical Academy for Life outlined three basic reasons for the immorality of human cloning in a document, *Reflections on Cloning*, published in 1997. First, cloning leads to the radical exploitation of women, who are reduced either to egg-making factories or to wombs to gestate a clone. Next, it also leads to the perversion of basic human relationships, where "a wom-an could be the twin sister of her mother, lack a biological father, and be the daughter of her grandfather," and to the acceptance of relationships of domination where some individuals can have such dominion over others that they are able to determine the genetic makeup of other human beings. Finally, human cloning attacks and undermines the dignity of the cloned individual. As the Congregation for the Doctrine of the Faith has taught: "Human cloning is intrinsically illicit in that, by taking the ethical negativity of techniques of artificial fertilization to their extreme, it seeks to *give rise to a new human being without a connection to the act of reciprocal selfgiving between spouses* and, more radically, *without any link to sexuality.* This leads to manipulation and abuses gravely injurious to human dignity." Cloning is a process that treats a child as a product who is manufactured in the lab rather than as a person who is procreated in the loving embrace of his father and his mother.

In addition to these reasons, other moralists have emphasized that the low success rate and the high numbers of birth defects often associated with cloned animals created using current cloning protocols heightens the risk that human cloning would produce a sick or dying infant. They have also argued that cloning deprives the cloned individual of an open future. He does not have the freedom to choose his future. Note that each of us was given the challenge and the privilege of discovering our future. We were free to discover the divinely ordained vocations that would give meaning to our lives. We were free to dream about our futures, whether it was the life of a pianist, an athlete, a lawyer, or a priest, and, with God's help, to try to achieve those dreams. However, a cloned child would not have this freedom. He would be born with expectations determined by the life of the individual from whom he was cloned and would be expected to follow in the footsteps of that person. For example, if Michael Jordan was cloned, would anyone expect Michael Jordan Jr. To be anything other than a basketball player? As the Congregation of the Doctrine of the Faith emphatically explained: "If cloning were to be done for *reproduction*, this would impose on the resulting individual a predetermined genetic identity, subjecting him—as has been stated—to a form of *biological slavery*, from which it would be difficult to free himself." This is clearly unjust. Finally, despite the intrinsic immorality of human cloning, I should point out that the use of cloning technology with plants and animals is not necessarily wrong, especially if it leads to advances that benefit human society and the environment. For instance, cloning technology could be used to propagate lines of drought-resistant rice or stress-resistant wheat. These crops could help combat world hunger. Cloning technology could also be used to repopulate endangered animals, including the giant panda (*Ailuropoda melanoleuca*) and the Sumatran tiger (*Panthera tigris sumatrae*). As I will discuss in chapter 7, plant and animal research is justifiable, in principle, as long as this research respects some basic moral principles.

Common Objections to the Church's Teaching

In our culture, there are those who oppose the Catholic Church's teaching on the use of assisted reproductive technologies. They argue

that a couple has the right to use whatever means are available to become parents. According to this argument, every couple—some would even add, every individual, married or not—has a right to a child. In response, the *Catechism of the Catholic Church* is clear: "A child is not something *owed* to one, but is a *gift*. The 'supreme gift of marriage' is a human person. A child may not be considered a piece of property, an idea to which an alleged 'right to a child' would lead." Putting it another way, a couple does not and cannot have a right to a child because a child is a human person. Can one person ever have the right to another person? Can a man claim a right to a wife, or a woman a right to a husband? No one is en-titled to a spouse for the same reason that no couple is entitled to a child—no person is ever entitled to another person. Indeed, as the *Catechism* points out, "in this area, only the child possesses genuine rights: the right 'to be the fruit of the specific act of the conjugal love of his parents,' and 'the right to be respected as a person from the moment of his conception.'a†œ" Therefore, an infertile couple seeking to respect genuine human rights should seek medical advice from physicians who respect the dignity both of the human person and of human procreation, instead of resorting to assisted reproductive technologies. One resource is the Pope Paul VI Institute for the Study of Human Reproduction in Omaha, Nebraska, which has pioneered Natural Procreative (NaPro) Technology, a medical and surgical approach that treats the underlying disease process of which infertility is only a symptom. Their comprehensive method has been successful at curing infertility and, notably, is also less expensive than the assisted reproductive technologies.

Next, there are others who argue that the Church's ban on the use of IVF in the simple case between a husband and a wife is erroneous because of its claim that a child conceived as the product of an intervention of medical or biological techniques cannot be the fruit of his parents' love. As Richard A. McCormick, S.J., puts it, this conclusion "is a *non sequitur,* and both prospective parents and medical technologists would recognize it as such. Sexual intercourse is not the only loving act in marriage." He continues: "When Cardinal Joseph Ratzinger added in a March 14 press

conference that the use of IVF and ET is not a loving act but an 'egoistic' one, he was uttering sheer nonsense." In response, it is important to emphasize that loving someone involves desiring his good. When parents choose to conceive their child with IVF, they inevitably allow others to treat their child as an object who is created in a laboratory. This is true regardless of the reasons they give for allowing this to happen, reasons that could include fulfilling their deepest yearning for a child of their own and enhancing their marital bond. Thus, regardless of their best intentions, parents who use IVF necessarily treat their child as a means—a means to fulfill their reproductive needs—rather than as end in himself. This objectively undermines the child's dignity and attacks his good. This is not authentic love. Finally, there are those who have argued that the Church's teaching is erroneous because parents who allow doctors to treat their children in hospitals are no different from parents who allow technicians to create their children in the laboratory. Both involve treating children as objects of technological manipulation. Since the former intervention is clearly good, the argument concludes that the latter one must be good as well.

In response, we should affirm that there is a difference between the two types of interventions. In hospitals, the technological interventions are being accomplished *for* the sake of the child who is sick. As such, the child is still being treated not as a means but as an end. He is being treated as a person in need of healing. In the case of the child conceived in vitro, however, technology is being used *on* him and not *for* him. Thus, the child is being treated not as an end but as a means, in this case, a means to fulfill his parents' desires for a larger family.

To conclude this discussion, we need to acknowledge the struggle of those couples who discover that they are still unable to conceive despite their best efforts to use legitimate approaches to cure their infertility. Aware of their suffering, the Church reminds them of the power of the Cross: Couples who find themselves in this sad situation are called to find in it an opportunity for sharing in a particular way in the Lord's Cross, the source of spiritual fruitfulness. Sterile couples must not forget that "even when procreation is not possible, conjugal

life does not for this reason lose its value. Physical sterility in fact can be for spouses the occasion for other important service to the life of the human person, for example, adoption, various forms of educational work, and assistance to other families and to poor or handicapped children." In faith, we know that carrying the Cross of the Lord, despite the great suffering involved, can be a great privilege of redemptive value.

Highlighting the Role of Virtue in Bioethics

It should not be surprising that many persons living in our sex-saturated culture, including many Catholics, find it difficult, if not impossible, to understand and to accept the Church's teaching on human sexuality and procreation. As St. Thomas Aquinas eloquently explained in his *Summa theologiae*, unchastity or lust—a vice that is rampant in our overly eroticized society—not only corrupts the virtue of prudence but also begets a blindness of spirit that clouds the intellect and weakens the will. Thus, unchaste individuals who routinely engage in premarital or contraceptive marital sex are often incapable of seeing the truth and the goodness of chaste love.

In light of this, couples struggling with the Church's teachings on human procreation should be invited to grow in the virtue of chastity that orders their sexual desires, by introducing chaste practices into their marriage. Unfortunately, in contemporary culture, chastity is often confused with continence, the virtue that allows one to curb all sexual activity. Chastity is more than simply abstaining from sex. Rather, it is a spiritual discipline that leads the acting person to a self-mastery of his erotic desires so that all sexual activity is ordered according to reason. Chaste practices, including NFP, not only free couples to develop an intimate friendship that respects their dignity as persons, but also allow them to appreciate the truth and the beauty of chaste love. As noted above, it is not surprising that couples who use chaste methods of birth regulation have a lower divorce rate than the average couple. Chastity facilitates the growth of all the virtues, including the virtues of charity, faith, hope, and truth, virtues that can only strengthen a marriage. It also challenges the spouses to a selflessness that is properly ordered to the common good of the

family. In the end, it will help them to understand and to live out the Church's vision of human sexuality. The truth and beauty of this moral vision needs to be lived out if it is to be fully appreciated.

Finally, we should acknowledge that initial efforts to grow in the virtue of chastity are often difficult because they involve undoing years of unchaste practices. Therefore, couples striving to become chaste should also be invited to fast. As many of the Church's saints recognized, the discipline of fasting orders the inner life of the individual and keeps the turbulence of sensuality in check. It is not surprising that St. Thomas Aquinas declared that fasting is a guardian of chastity. Fasting is an act of the virtue of abstinence that frees the intellect and liberates the spirit so that the acting person may more easily contemplate heavenly things. In doing so, fasting will help a couple not only to discern, but also to discover for themselves, the physical and spiritual goods that come with temperance and its allied virtues, one of which is the virtue of chastity. Couples should fast to learn how to love well.

Chapter 4

Bioethics at the End of Life

Since its publication in two medical journals in the United States in 2005, the Groningen Protocol developed in the Netherlands for the killing of a newborn infant who, in the judgment of his physicians, is experiencing unbearable suffering, has generated much controversy. The protocol has five criteria: First, the suffering of the child must be so hopeless and severe that the newborn has no prospects of a future. Second, the suffering of the child must be beyond the remedy of medicine. Third, the parents of the child must give their consent to the deliberate ending of life. Fourth, an independent doctor not involved in the child's medical care must confirm the original diagnosis and prognosis of unbearable suffering. Finally, euthanasia must be performed in accordance with accepted medical practice. The criteria were developed after the Groningen Committee considered twenty-two instances of life-ending interventions, all involving newborn infants with very severe forms of spina bifida, a developmental defect of the spine, that were reported to the Dutch authorities between 1997 and 2004. In

these cases and others like them, the authors of the Groningen Protocol concluded that parents and physicians "may concur that death would be more humane than continued life." How are we to evaluate the moral issues raised by Groningen and similar protocols that advocate the so-called mercy killing of patients, even the youngest of patients? In this chapter, which deals with the moral issues that surround death and the dying process, we begin with a theological account of death. How should a Christian understand death? How should he respond to death? How should he prepare for death? Next, we turn to the two most common scenarios in the clinical setting that raise troubling moral questions at the end of life. The first deals with the management of intense pain that risks hastening the patient's death, while the second deals with the refusal or the discontinuation of medical treatment. We then consider the moral debate surrounding euthanasia and physician-assisted suicide: may a clinician choose to end the life or aid in the ending of a life of a dying or suffering patient? Next, we deal with the treatment of those patients who are incapacitated by severe disorders of consciousness. As Christians, how are we to care for these individuals in either the persistent vegetative state (PVS) or the minimally conscious state (MCS)? May we deny them food and water? Finally, we end with a brief discussion of the clinician's role in end-of-life decisions.

The Christian Meaning of Death

In different health-care contexts, experiences have shown that many Catholics, patients and their family members alike, unnecessarily struggle with many of the moral issues raised at life's end because they fear that death is the mere extinction of life, the annihilation of the human person. They have forgotten, or they have never learned, of the hope that is given to us in Jesus Christ. Therefore, it is important that we begin our discussion of the bioethics at the end of life with a brief summary of a Christian theology of death.

As the Gospel reveals, the Christian God is a god not of death but of the living (cf. Lk 29:38). Thus, the Christian faith affirms life even when life is overshadowed by suffering and by death. It can do this because in truth, death is not the end of life. Though death is a

natural event—every human being by nature is mortal (cf. Heb 9:27)—sacred Scripture reveals that we were not destined to die (cf. Rom 6:23; 1 Cor 15:21). God's origi- nal intention was to give us the grace of immortality so that we could live forever. Death therefore is, and always will be, a tragedy. It is contrary to the plans of the Creator and entered the world as a consequence of sin: "Therefore, just as through one person sin entered the world, and through sin, death, and thus death came to all, inasmuch as all sinned" (Rom 5:12). Thus, we should not be surprised when patients facing their mortality are struck by the injustice of death. It was not supposed to be so.

Death, however, is not the end of the story, because the obedience of Jesus has transformed the curse of death into a blessing (cf. Rom 5:19–21). The Lord's death destroyed not only the one who holds the power of death (cf. Heb 2:14) but also death itself (cf. 2 Tm 1:10). Since death could not hold Him (cf. Acts 2:24), Christ is now the Lord both of the dead and of the living (cf. Rom 14:9). Hence, in light of the Christ's victory over death, death can now be understood as gain (cf. Phil 1:21), as being at home with the Lord (cf. 2 Cor 5:8), as sleep (cf. Jn 11:11), and as a new birth into eternal life (cf. Jn 3:3–8). Death is not the extinction of life: "For those who die in Christ's grace it is a participation in the death of the Lord, so that they can also share his Resurrection."

To sum up, from the perspective of the Gospel, death is much more than the mere separation of the soul from the body. As the *Catechism of the Catholic Church* teaches, in death, God calls man to himself. This truth is evident in the Church's prayer of commendation at the moment of death: Go forth, Christian soul, from this world in the name of God the almighty Father, who created you, in the name of Jesus Christ, Son of the living God, who suffered for you, in the name of the Holy Spirit, who was poured out upon you, go forth, faithful Christian. May you live in peace this day, may your home be with God in Zion, with Mary, the virgin Mother of God, with Joseph, and all the angels and saints.

Accordingly, Christians should approach death as a long-awaited encounter with the Lord: in life, we hear His voice, and now at

death, we have a chance to see His face. Not surprisingly, the Church urges us to prepare for the hour of our death. Spiritual writers throughout the ages have unanimously taught that the only adequate preparation for death is a vir-tuous life. This is the work of a lifetime. However, the dying process can often be a graced moment at life's end that allows an individual to more properly face his mortality. Often, it can be a time of healing and reconciliation, a gift from God. Catholic bioethicists working at the end of life need to remember that as moral theologians who are called to help others seek beatitude, they have an important role to play as patients prepare for their death, not only by addressing their moral concerns at life's end, but also by strengthening their hope for immortality.

Preparing for Death Managing Pain at the End of Life

To prepare for their death, patients need to confront the fears that accompany the dying process. These are legion. However, my pastoral experience has taught me that patients often experience two fundamental fears at life's end that raise bioethical questions. First, they fear the unbearable pain that may plague their dying. Next, they fear a prolonged dying process unnecessarily extended by technological and medical intervention. Catholic bioethicists need to reassure patients that there are virtuous approaches that will help them face and overcome these fears so that they may properly prepare for their death. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state: "Catholic health care institutions offering care to persons in danger of death from illness, accident, advanced age, or similar condition should provide them with appropriate opportunities to prepare for death... They should be provided the spiritual support as well as the opportunity to receive the sacraments in order to prepare well for death."

When cure is not possible, which often happens at life's end, the relief of suffering and the management of pain is the cardinal goal of medicine. Professionally, this is the primary concern of physicians who specialize in palliative medicine, which is the study and management of patients with active, progressive, far-advanced

disease, for whom the prognosis is limited and the focus of care is the quality of life. One important—maybe even the most important—challenge for physicians with patients at life's end is to properly manage their pain and to alleviate their fear that their death will be torturous. Here, treatment with analgesic drugs, which are drugs that relieve pain, remains the treatment of choice. These powerful drugs, many of which are opioids that act like the narcotic morphine, can effectively manage pain. However, their use raises moral questions because the administration of these drugs could also hasten death. Can a doctor or a nurse prescribe these medications even if he knows that they could shorten the life of his patients? (Incidentally, there is now data that suggests that the use of opioids and sedatives for various medical indications during a patient's last days of life is not associated with shortened survival.)

Appealing to the principle of double effect, the Catholic moral tradition has proposed that the use of analgesic drugs is morally justifiable even if it could hasten the death of the patient, as long as the patient and his doctor intend only the relief of pain. The hastening of the death of the patient, if it occurs, is only an indirect outcome, a foreseen but unintended side effect, of their act. Recall that a person's intentions are important for judging the morality of his actions because our intentions reflect our choices, and it is our choices as acts of our wills that make us either good or evil individuals. Thus, in its *Declaration on Euthanasia,* the Congregation for the Doctrine of the Faith, in making the distinction between aggressive palliative care and euthanasia, which is the mercy killing of a patient, concludes that in the former case, "death is no way intended or sought even if the risk of it is reasonably taken; the intention is simply to relieve pain effectively, using for this purpose painkillers available for medicine." Significantly, the importance of using the moral distinction between intending death and intending the relief of pain to distinguish physician-assisted suicide from palliative care was also affirmed by the United States Supreme Court in its landmark case *Washington v.Glucksberg.* Hence, no patient should have to endure unwanted pain, and no doctors and nurses seeking only to relieve the severe pain of their patients should fear moral or legal censure when they

administer analgesics, even if this leads to terminal sedation, a state of deep sleep that precedes death. This is not killing. Nevertheless, the Catholic tradition does affirm that it is good for the patient if he is fully conscious at life's end, because he can then properly prepare for and meet death. Thus, a patient should not be deprived of consciousness unless there is a compelling reason to do so. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops mandate the following: "Patients should be kept as free of pain as possible so that they may die comfortably and with dignity, and in the place where they wish to die. Since a person has a right to prepare for his or her death while fully conscious, he or she should not be deprived of consciousness without a compelling reason."

Finally, the following question often arises: how can one distinguish an intention to relieve the severe pain of a patient from an intention to bring about the death of that patient? Intentions are manifested in intel-ligible actions. Did the nurse administer the minimum dose of narcotic to alleviate pain? Did he use the opioid as a treatment of last resort? All of these actions would indicate that the nurse does not intend the death of the patient. On the other hand, we could—and should—question the actions of a physician who prescribes ten times the recommended dose of an opioid to a dying patient even if he claims that he is simply seeking to alleviate the pain of his patient. He is clearly doing more than this.

Refusing Medical Treatment at the End of Life

At life's end, another moral question that is frequently raised involves the refusal and discontinuation of medical treatment. Often, patients think that they need to accept any and all medical treatments that may become available to them, since life is a great good, a gift from God. Thus, they fear that their deaths will become a protracted and agonizing process dictated by physicians and their machines. This does not have to be the case. As we discussed above, life and health are precious gifts entrusted to each one of us by God. Thus, we each have an obligation to care for them, taking into account the needs of others and the common good. Consequently, we are morally

obligated to use all ordinary means to preserve our lives and our health, including food, drink, housing, and health care. Thus, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state: "A person has a moral obligation to use ordinary or proportionate means of preserving his or her life." However, life is not an absolute good. We will all die. A time will inevitably come when we should simply accept our inability to impede death. In recognition of this truth, the Catholic tradition teaches that we are not morally obligated to use extraordinary means to maintain our lives. This is the principle of elective extraordinary means. Pope Pius XII gave magisterial expression to this principle when he taught:

> Normally, one is held to use only ordinary means—according to the circumstances of persons, places, times and cultures—that is to say, means that do not involve any grave burden for oneself or another. A more strict obligation would be too burdensome for most people and would render the attainment of the higher, more important good too difficult. Life, health, all temporal activities are in fact subordinated to spiritual ends. On the other hand, one is not forbidden to take more than the strictly necessary steps to preserve life and health, as long as one does not fail in some more serious duty. Note that the distinction between ordinary and extraordinary means is a *moral* and not a medical one. In other words, to say that a procedure constitutes extraordinary means is not to say that it is an experimental procedure that is not commonly used in medical practice. Rather, to say that a procedure constitutes extraordinary means is to say that it constitutes an excessive burden to the patient. This is a moral judgment made by the patient or his designated proxy. It is the patient who determines if a particular medical procedure is beneficial and not unreasonably burdensome to him. He does this by considering its hope for benefit as well as the physical, psychological, and financial costs it will place on him and/or his family. For instance, a patient could decide that a particular surgical procedure is unreasonably burdensome because it is too invasive, without any proportionate hope of cure. He could also decide that the same procedure is burdensome because it would place his family in serious longterm financial debt, again without any proportionate hope of a

cure. For any of these and similar reasons, he could judge that the procedure constitutes extraordinary means, and thus, would be morally nonobligatory. Thus, distinguishing extraordinary from ordinary means has to be done on a case-by-case basis. One procedure could be ordinary means for one individual but extraordinary for another because of different personal circumstances.

The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state: "A person may forgo extraordinary or disproportionate means of preserving life. Disproportionate means are those that in the patient's judgment do not offer a reasonable hope of benefit or entail an excessive burden, or impose excessive expense on the family or the community." Finally, we should point out that for the Catholic moral tradition, all means are considered ordinary means if the patient has not been properly reconciled with God. Everything should be done to ensure that no patient dies with mortal sin on his soul. In light of our discussion, therefore, it follows that a patient may refuse any or all treatment, or discontinue any treatment, once he judges that the medical intervention constitutes extraordinary care, and thus is morally optional. Recall that it is the responsibility of the patient or his proxy to make this and all other moral judgments at life's end. As such, concluding that a particular medical treatment constitutes extraordinary care is a subjective decision made on objective grounds. For instance, a terminally ill patient whose daughter is getting married could choose to go on a ventilator until sometime after her child's wedding day. Given her desire to see her daughter exchange marriage vows, the patient judges that the ventilator is not burdensome because it sustains the hope that she will be able to see her daughter's wedding. Sometime after the wedding, however, she could then decide that the ventilator is now burdensome because it is very uncomfortable and prevents her from speaking to her family members. Thus, she could reasonably conclude that the ventilator now constitutes extraordinary means. It can now be discontinued without moral condemnation to allow her to say a few important things to her loved ones before she dies. What is important is that a

patient or his proxy must make a moral judgment regarding the quality of the treatment and *not* the quality of the patient's life. For example, consider the following clinical scenario: An elderly patient with advanced Alzheimer's disease develops pneumonia. Should an antibiotic regimen be administered that can effectively clear the infection? There are some who would argue that the antibiotic treatment constitutes extraordinary means because it will not reverse the dementia. It gives the patient no reasonable hope of cure, and thus, should be morally optional. They would probably go on to argue that the patient should be allowed to die from the pneumonia.

This argument, however, is flawed. It is a medical fact that antibiotics are not used to cure Alzheimer's. They are used to fight opportunistic infections. Thus, those who would judge that the antibiotic constitutes extraordinary means would have to provide reasonable reasons for the burden of the treatment itself: Would the antibiotic lead to medical complications? Would it be too expensive for the patient or his family? Without a reason of this type, the antibiotic treatment would remain ordinary means, because it has a reasonable chance of saving the patient's life by clearing the infection. Thus, it would be morally obligatory to provide the antibiotic. In fact, without a reason for judging the treatment burdensome, withholding the antibiotic could constitute an act of omission that directly leads to the death of the patient. In other words, in this scenario, the act of withholding the antibiotic would necessarily include the intention of killing the patient by an act of omission. This type of act would be morally reprehensible. At this point, however, I should note that when a patient is in the active process of dying, he and his caregivers may decide that the potential benefit of the antibiotic treatment—a few infectiousfree days of life—may not justify the burden of medical care involved. They may then reasonably conclude that the medical intervention is extraordinary and thus morally optional. This scenario often presents itself during hospice care.

Finally, we should acknowledge that a patient's judgment of extraordinary means has to be reasonable and intelligible to reasonable persons. For example, a diabetic could conclude that

his daily injections of insulin are burdensome because they are inconvenient. He could, therefore, argue that he should be allowed to discontinue them. However, this is not reasonable. Daily injections of insulin have become commonplace in the lives of millions of diabetics, and the inconvenience and pain is trivial given the need for these injections to preserve the patient's life. This would be different if the patient had a pathological fear—a vehement repugnance, in Latin, *vehemens horror*—of needles or injections. Here he could reasonably argue that given his particular situation, daily injections of insulin constitute extraordinary means. He could then refuse the injections, though given what is at stake, there would be a moral obligation on the patient's part to honestly seek alternative therapeutic interventions, or to find counseling to overcome his fear. Again, prudent moral choices depend on the unique circumstances of each patient.

Requesting a Do-Not-Resuscitate (DNR) Order

Before 1960, there was little that a physician could do for a patient who suffered a sudden cardiac arrest. In that year, however, a medical team at Johns Hopkins University described the first of now many cardiopulmonary resuscitation (CPR) techniques that can be used to restore circulation and respiration in patients who have suffered a heart attack. Today, CPR is routinely used as the standard of care in emergency scenarios, both in the hospital and elsewhere.

As with any other medical procedure, however, a patient or his proxy may determine that CPR would constitute extraordinary means that is burdensome to the patient. For instance, in several clinical circumstances, including septic shock, acute stroke, metastatic cancer, and severe pneumonia, CPR has been shown to have zero probability of success. In these situations—and there are many other possible scenarios where studies have shown that survival from CPR is extremely limited—the patient could request that his physician sign a do-not-resuscitate (DNR) order to withhold any efforts to resuscitate him in the event of a respiratory or cardiac arrest. In effect, the patient is asking that nothing heroic be done to unduly prolong his life. Here, the patient does not directly will his death.

Rather, he declines any future attempt to resuscitate him—attempts at treatment that he judges to be extraordinary means—so that he may be allowed to die in peace. Understood in this way, a DNR order is really a specific type of advance health-care directive, which, as we discussed in chapter 4, is a patient's instructions for health care that will become effective if he ever loses his decision-making capacity. Finally, all reasonable efforts should be made to provide palliative care to patients who have requested a DNR order. Patients should also be encouraged to properly prepare for death. Patients who are Catholics should be given every opportunity to receive the sacraments and the last rites and be reconciled to God and to their neighbor.

Euthanasia and Physician-Assisted Suicide: The Teaching of the Catholic Church

Euthanasia, which literally means "good death," and is also called mercy killing, is defined by the Congregation for the Doctrine of the Faith as follows: "An action or an omission which of itself or by intention causes death, in order that all suffering may in this way be eliminated." A clinician could intentionally kill a patient by an act of commission such as injecting a poison, or by an act of omission such as withholding essential medication. In either case, what is important is that in both scenarios, the doctor or the nurse intentionally seeks to end the life of the patient. This distinguishes acts of euthanasia from those acts of removing or withholding extraordinary means that were discussed above. Euthanasia may be voluntary, nonvoluntary, or involuntary. It is voluntary when a competent patient requests it; it is nonvoluntary when it is performed on a patient who cannot request it, including infants and incompetent patients; and it is involuntary when it is carried out on a competent patient who does not want it. Physician-assisted suicide is one form of voluntary euthanasia, in which a physician intentionally seeks to help another person, usually a patient suffering from a terminal or a chronically debilitating disease, to take his own life, usually by providing him with a lethal dose of a drug that he can use to kill himself. In this scenario, the physician is cooperating with the patient who seeks his own death.

At the time of this writing, some form of euthanasia or physiciancare. assisted suicide is legal in the Netherlands, Belgium, Switzerland, and Luxembourg. The Netherlands—considered the test case for legalized euthanasia—has legally permitted euthanasia and physician-assisted suicide since a Dutch Supreme Court decision in 1984, though its parliament formally approved a bill permitting these practices only in 2001. In the United States, physician-assisted suicide was legalized in Oregon in 1994 with the passage of the Death with Dignity Act in a voter referendum. Washington State became only the second state in the United States to sanction physician-assisted suicide with the passage of Proposition 1000 on November 4, 2008.

Bluntly, acts of euthanasia and physician-assisted suicide—including the acts of infanticide advocated by the Groningen Protocol—are gravely evil. As the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops make clear: "Catholic health-care institutions may never condone or participate in euthanasia or assisted suicide in any way. Dying patients who request euthanasia should receive loving care, psychological and spiritual support, and appropriate remedies for pain and other symptoms so that they can live with dignity until the time of natural death." Acts of euthanasia or physician-assisted suicide are acts of murder. There are at least five moral arguments against the practices of euthanasia and physician-assisted suicide. First, there is the argument that appeals to the intrinsic inviolability of innocent human life. As many people of different religions and none acknowledge, human beings are of great and equal worth, and as such, should be respected by others and protected by society. The Catholic Church teaches that every human life, no matter how impaired this life may be, whether it is beleaguered with suffering, disability, ignorance, or even sin, remains, in itself, something of great value, because "it remains forever in a special relationship with the Creator.... God alone is the Lord of life from its beginning until its end: no one can under any circumstance claim for himself the right directly to destroy an innocent human being." As the Gospel reveals, human life is a trust that has been put into our stewardship by God, and thus it is not ours to dispose of.

Therefore, as practices that intentionally end the lives of innocent human beings, euthanasia and physician assisted suicide are gravely evil. The Congregation for the Doctrine of Faith teaches: "No one is permitted to ask for this act of killing, either for himself or herself or for another person entrusted to his or her care, nor can he or she consent to it, either explicitly or implicitly. Nor can any authority legitimately recommend or permit such an action. For it is a question of the violation of the divine law, an offense against the dignity of the human person, a crime against life, and an attack on humanity." Second, there is the argument that appeals to the integrity of the medical profession. Both euthanasia and physician-assisted suicide would undermine the medical profession by eroding the trust of patients in their physicians as caregivers. If doctors were permitted to engage in practices that harm their patients, then patients would never know if their doctors were truly acting in their best interests. As the American Geriatric Society (AGS) acknowledges: "Historically, the fundamental goal of the doctor/patient relationship has been to comfort and to cure. To change the physician's role to one in which comfort includes the intentional termination of life is to alter this alliance and could undermine the trust between physician and patient." Given the legalization and acceptance of euthanasia in their society, it should not be surprising that many Dutch patients, before they will check themselves into hospitals, insist on writing contracts assuring that they will not be killed without their explicit consent. Accounts like this reveal that legalized euthanasia has weakened the fiduciary relationship between the health-care professional and his patient to the detriment of sound medical practice and of the common good. Third, there is the argument that appeals to society's commitment to support palliative medicine. In an era driven by cost containment, both euthanasia and physician-assisted suicide would undermine our society's commitment to care for the dying. Promoting euthanasia in all its forms would be cheaper than developing often more expensive and more effective strategies for palliative care. As Neil Gorsuch has chronicled, there is already some evidence that economic considerations play a role in the decision-making process that governs euthanasia and physician-

assisted suicide in the Netherlands. Fourth, there is the argument that appeals to the protection of the sick and the aged.

As the American Geriatric Society (AGS) argues, legalization of euthanasia and physician-assisted suicide would "open the door to abuse of the frail, disabled, and economically disadvantaged of society, by encouraging them to accept death prematurely rather than to burden society and family." Over twenty years ago, it was reported that Governor Richard D. Lamm of Colorado had suggested that elderly people who are terminally ill have a "duty to die and get out of the way." Though his statement generated a firestorm of criticism at the time, there are scholars who have endorsed his view, suggesting that the old and the infirm have a duty to die when they become a burden to their loved ones and to society at large. With rising health-care costs, it is not unreasonable to think that the elderly face increasing pressure to avoid having their families foot the bill for extended palliative care. Finally, there is the slippery slope argument: legalizing euthanasia and physician-assisted suicide could eventually lead to the acceptance of euthanasia for incompetent persons—the killing of the comatose, the demented, and the severely handicapped—and the euthanasia of competent persons without their consent. The Dutch experience with legalized euthanasia provides much support for this slippery slope argument.

A survey taken in 1990, eleven years *before* the Dutch Parliament formally approved a bill permitting assisted suicide and euthanasia, revealed that doctors intentionally sought to shorten more lives without a patient's consent than lives with that consent. It was their primary aim to kill 10,558 patients, 5,450 (52%) of whom had not explicitly asked to have their lives shortened. This trend has continued: as Dr. Herbert Hendin and his colleagues have shown, in 1995, 948 patients were put to death without their consent, while over 80 percent of 1,896 patients were killed with opiates that were administered with the explicit intent of causing death, without the request or the consent of these patients. The data suggest that the legalization of euthanasia has led to the exploitation and the killing of Dutch patients without their consent. It appears that they are being killed because their

physicians have assumed the power to determine that their lives are not worth living. The legalization of euthanasia has

undermined the integrity of the medical profession in the Netherlands and has led to the killing of innocent persons. For this, and the other reasons discussed above, both euthanasia and physician-assisted suicide are morally reprehensible. They attack the good not only of the human person, but also of his community as a whole. Not surprisingly, pope John Paul II has emphatically denounced all forms of euthanasia, including physician-assisted suicide, with a confirmation of the ordinary Magisterium of the Church: "[I]n harmony with the Magisterium of my Predecessors and in communion with the Bishops of the Catholic Church, *I confirm that euthanasia is a grave violation of the law of God,* since it is the deliberate and morally unacceptable killing of a human person. This doctrine is based upon the natural law and upon the written word of God, is transmitted by the Church's Tradition and taught by the ordinary and universal Magisterium." According to the pope, euthanasia is a false mercy, even when it is not motivated by a selfish refusal to be burdened with the life of someone who is suffering. Rather, true compassion leads not to the killing of the person whose suffering we cannot bear, but to the sharing of another's pain as he approaches death. The alternative to performing euthanasia and physician-assisted suicide, therefore, is to enter into solidarity with the suffering patient and to accompany him as he approaches death.

Common Objections: The Appeal to Autonomy and Self-Determination

Respect for autonomy—respect for individual freedom and choice— remains one of the most widely accepted moral principles in our liberal societies of the West. In his book *Life's Dominion*, the legal scholar Ronald Dworkin presents an argument for a strong right for personal autonomy at the end of life. He begins by explaining how one's dying is a critical part of one's life. It is important because how we die can impact and shape the overall meaning and narrative structure of our lives. Dworkin writes: "There is no doubt that most people treat the manner of their deaths as of special, symbolic

importance: they want their deaths, if possible, to express and in that way to vividly confirm the values that they believe most important to their lives." Therefore, Dworkin argues that each individual person should be given the freedom to choose a death that completes the integrity and coherence of his life as he understands it. For those who believe that human life is sacred and intrinsically inviolable because of the human contribution that shapes it, euthanasia or physician-assisted suicide, according to Dworkin, may sometimes support, rather than undermine, that value. To respond, God created human beings as rational and free creatures. As such, we are called to perfect ourselves and establish our identities as moral beings through our free choices and the acts that arise from them. Therefore, the capacity to choose freely is indeed a great good deserving of respect.

However, autonomy and the freedom to determine oneself are not absolute goods that can, in themselves, morally justify human action. Murderers or adulterers or thieves who freely choose to kill, or to betray, or to steal, by virtue of their free choices, are still not morally justified in their actions. Rather, actions are good because they realize some human or communal perfection. As we already discussed above, the prohibition against euthanasia and physician-assisted suicide reflects the conviction that these actions undermine and attack not only the fundamental human good of life, but also the important communal good of the fiduciary relationship between the health-care professional and his patient. These goods are worthwhile even if the patient does not affirm or appreciate them. Thus, euthanasia and physician-assisted suicide, regardless of personal choice, are intrinsically evil in the same way that murder, adultery, and lying, regardless of personal choice, are morally reprehensible. By their very nature, these practices distort and sully both the meaning and the narrative structure of an individual's life. Finally, and somewhat ironically, we should consider the following: if autonomy were in fact such a great good that should be respected absolutely, why then would it be morally acceptable for someone to choose to destroy it, by putting an end to his life, and thus, his capacity to be autonomous? This question is especially pressing since studies have

shown that depression is strongly associated with the desire to die, including the wish for euthanasia and physician-assisted suicide, suggesting that many patients seeking euthanasia at life's end may not be as autonomous as some may think they are.

The Appeal to Compassion

As we noted at the beginning of this chapter, the Groningen Protocol justifies the killing of severely handicapped infants by appealing to mercy: death would put an end to these children's "unbearable" suffering. Proponents of euthanasia and physician-assisted suicide argue that no one should endure pointless suffering and that physicians and other health-care professionals have a mandate to alleviate the suffering of their patients. Therefore, they insist that these practices should be made available to terminally ill patients as a merciful and compassionate way to deliver them from their pain. This would allow them "to die with dignity." To respond, as Blessed John Paul II taught in his allocution to the 19th International Conference of the Pontifical Council for Health Pastoral Care, euthanasia, even if it is motivated by sentiments either of a misconstrued compassion or of a misunderstood preservation of dignity, "actually eliminates the person instead of relieving the individual of suffering." The Holy Father continues: "True compassion, on the contrary, encourages every reasonable effort for the patient's recovery. At the same time, it helps draw the line when it is clear that no further treatment will serve this purpose." Thus, according to the pope, dying patients should be accompanied lovingly to the end of their lives with acts that lessen their suffering to "dispose them to prepare their souls for the encounnally ter with the heavenly Father." Palliative care, and not euthanasia, is the compassionate response to suffering at life's end. As we already noted above, with recent advances in palliative medicine, there is no medical or moral reason why any dying patient should have to endure unwanted pain today. Finally, a few words about the death-with-dignity movement.

According to physician and assisted-suicide advocate, Dr. Timothy Quill, "suicide could be appropriate for patients if they did not want to linger comatose, demented or incontinent." For Quill

and other proponents of euthanasia, patients have to be delivered not only from pain, but also from "undignified" conditions such as those just mentioned. They should be allowed to die "with dignity." Implicit in their argument, however, is the suggestion that the old, the ill, the infirm, and the disabled have less human dignity than the young, the healthy, the robust, and the abled. This assertion needs to be challenged. Felicia Ackerman formulates the objection to what she calls this "bigoted and superficial view of human dignity" with a question: "Does Dr. Quill really want to endorse the view that human dignity resides in the bladder and the rectum?" Clearly, this cannot be true. In response, to understand the death-with-dignity movement, one must recognize that Quill and his associates endorse an account of human dignity that posits that this dignity is extrinsic. In other words, according to this account, to affirm that someone has dignity is to affirm that he is in some *subjective* way worthy of the esteem of others. In this sense, sipping soup with a spoon is dignified while slurping it directly from the bowl is not. Here, dignity is a quality that depends upon how others perceive us. It is a dignity that can be gained or lost as the circumstances of our lives change. Quill and his colleagues embrace this account of attributed human dignity, because they, like many liberal philosophers, posit that an individual's dignity is rooted in his autonomy, which can be gained or lost. Thus, it is not surprising that they conclude that coma, dementia, and incontinence are "undignified" conditions. These are conditions where patients have suffered the loss of their ability to function independently. They have lost their autonomy. This account of attributed human dignity stands in stark contrast with the account described in chapter 2, which posits that human dignity properly understood is intrinsic.

According to this rival account put forward by the Catholic tradition, to affirm that someone is dignified is to affirm that he is in some *objective* way worthy of the respect of others. Here, dignity is an intrinsic quality that does not depend only on how others perceive us. It is an *inherent* dignity that can be possessed only in the absolute sense—one either has it completely or does not have it at all—since one is either a human being or not one at all. Therefore, it can neither be diminished nor lost simply because one is comatose

or demented or incontinent. To put it another way, according to this account of human dignity, a human being can die in an undignified manner—a situation that should be prevented by a patient's health-care providers using all moral means available—but he cannot die "without dignity." Until he ceases to be human, the patient retains his intrinsic dignity regardless of his illness, his disability, or his age. Which one of these two accounts of human dignity is the true one? As I explained in chapter 2, human dignity is inherent, essential, and proper to the human being because he is made in the image and likeness of God. This justification, however, would not convince Quill and his secular associates. However, as we will describe in chapter 8, an intrinsic account of human dignity is also the only account that can coherently sustain a liberal society. Therefore, by the standards of liberalism itself—the same liberalism that motivates Quill and his colleagues to value autonomy—patients who are comatose, demented, or incontinent retain their dignity, and as such, do not need to be "delivered" from these conditions.

The Difference between Killing and Letting Die

In a famous essay published in the *New England Journal of Medicine,* James Rachels argued that there is no moral difference between killing a patient—active euthanasia—and allowing him to die—withdrawing or withholding the use of extraordinary means that may prolong the life of that patient. Thus, he concludes that those who accept the validity of the principle of elective extraordinary means should also accept the legitimacy of euthanasia and physician-assisted suicide. To make his case, Rachels asks his readers to compare the following two scenarios. In the first scenario, Smith stands to gain a large inheritance if anything should happen to his six-year-old cousin. One evening while the child is taking his bath, Smith sneaks into the bathroom and drowns the child, and then arranges things so that it will look like an accident. In the second scenario, Jones also stands to gain if anything should happen to his six-year-old cousin. Like Smith, Jones sneaks in planning to drown the child in his bath. However, just as he enters the bathroom, Jones sees the child slip and hit his head, and fall face down in the water. Jones is delighted; he stands by, ready to push the child's head back

under if it is necessary, but it is not necessary. With only a little thrashing about, the child drowns all by himself, "accidentally," as Jones watches and does nothing. Rachels asks: Smith killed his cousin while Jones allowed his to die. Is there really a moral difference between the two acts? Rachels argues that there is none. He, therefore, concludes that there is no moral difference between intentionally killing someone and withholding or withdrawing some means in order to allow him to die. To respond, Rachels is right in arguing that there is no moral difference between Smith who kills his cousin and Jones who allows his to die. However, what he fails to realize is that there is a moral difference between allowing someone to die by withholding morally *obligatory* means and allowing someone to die by withholding morally *optional* means. Jones was morally obligated to help his drowning cousin because everyone is morally obligated to do whatever is reasonable to help someone who is drowning. Thus, his inaction made him culpable for his cousin's death. His act of omission was an act of intentional killing. Contrast this with an altered scenario. Here, Jones is paralyzed and in a wheelchair. He sees his cousin fall into the bath. Helplessly, Jones watches, does nothing, allowing his cousin to die. Here, Jones is not culpable for his cousin's death because paralyzed individuals are not morally obligated to help someone who is drowning if there is nothing reasonable they could have done. Thus, paralyzed Jones's act of omission is not an act of murder. Withdrawing extraordinary means is not identical to killing a patient because here, the doctor is withdrawing morally optional means that are prolonging the patient's life. This is morally permissible because the death of the individual is only a foreseen but an unintended consequence of a morally upright act, the withdrawal of elective extraordinary means. This is not the same as withdrawing ordinary means. Withdrawing ordinary means to cause the patient to die—also called passive euthanasia—is identical to killing the person, because, by definition, the doctor is morally obligated to use all ordinary means to try and keep his patients alive. Again, the key distinction that is presupposed in the moral distinction between "killing" and "allowing to die" is the distinction between ordinary and extraordinary means.

Caring for Patients with Disorders of Consciousness: Diagnosis and Classification

On March 31, 2005, just after nine o'clock in the morning, Terri Schiavo died at Woodside Hospice in Pinellas Park, Florida, thirteen days after her feeding tube was withdrawn. Terri had been in the persistent vegetative state (PVS) for fifteen years, and her dying generated much public debate over the morality and legality of withdrawing hydration and nutrition from patients suffering from profound disorders of consciousness: may we deny food and water to PVS patients and other patients with similar conditions? The persistent vegetative state is a severe disorder of consciousness that can result after traumatic brain injury. Patients in the PVS are awake but appear not to be aware. They are able to fall asleep and to wake up but are externally characterized by the complete absence of awareness, either of themselves or of their environment. PVS patients are not brain dead. They are able to breathe on their own, to digest food, and to respond to pain. They may even exhibit reflexive crying or smiling behaviors. Significantly, some recent studies have suggested that some PVS patients may still retain cognitive function and awareness despite the absence of external behavior indicators. Patients in the PVS are able to live for extended periods of time as long as they are provided with water, food, and shelter.

There are also well-documented cases of recovery from PVS, even after many years, though medical science is still unable to distinguish with any certainty those patients who will recover from those who will not. PVS should not be confused with other disorders of consciousness. For instance, patients in coma have complete failure of the arousal system. They are unable to wake up from a deep state of unconsciousness. They manifest minimal reflexive behaviors. In contrast, patients in the minimally conscious state (MCS) are distinguished from patients in the PVS or in a coma by the partial preservation of conscious awareness that manifests itself in external behaviors. They may be able to follow simple commands, to reach for objects, or to engage in purposeful behavior. One physician has suggested that the MCS is an intermediate state between a persistent

vegetative state and a permanent vegetative state where a *persistent* vegetative state becomes a permanent vegetative state either three months after an anoxic injury from oxygen deprivation or a year after traumatic injury. Recovery from MCS to higher states of consciousness has been documented. Clearly, states of consciousness fall along a continuum where the upper boundary of a particular type of disorder of consciousness is necessarily arbitrary. Finally, PVS should not be confused with the locked-in syndrome. Patients in the locked-in syndrome are fully conscious and aware of themselves and their environment. However, they are unable to communicate because their body is completely paralyzed. Vertical eye movement and blinking are usually the only voluntary movements that are left intact. These gravely disabled patients too, should be provided with water, food, and shelter.

Providing Food and Water

How are we to care for patients who are not able to eat or to drink without assistance, because they have a disorder of consciousness? On March 20, 2004, in an address to the participants of the International Congress on Life-Sustaining Treatments and the Vegetative State, Blessed John Paul II taught that the administration of food and water, even when provided by artificial means, represents a natural means of preserving life: I should like particularly to underline how the administration of water and food, even when provided by artificial means, always represents a *natural means* of preserving life, not a *medical act*. Its use, furthermore, should be considered, in principle, *ordinary* and *proportionate*, and as such morally obligatory, insofar as and until it is seen to have attained its proper finality, which in the present case consists in providing nourishment to the patient and alleviation of his suffering.

According to the pope, providing food and water to a patient in the vegetative state always constitutes ordinary care as long as it nourishes the individual, and as such, is morally obligatory. On August 1, 2007, the Congregation for the Doctrine of the Faith published a document that definitively interpreted the papal allocution made several years earlier. In response to a question regarding the moral

obligations involved in feeding and hydrating a patient in the vegetative state, the CDF stated the following: "The administration of food and

water even by artificial means is, in principle, an ordinary and proportionate means of preserving life. It is therefore obligatory to the extent to which, and for as long as, it is shown to accomplish its proper finality, which is the hydration and nourishment of the patient. In this way, suffering and death by starvation and dehydration are prevented." Clearly, the Church has discerned that providing food and water to patients constitutes ordinary care as long as it is effective, and as such, is morally obligatory.

Thus, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops affirms: In principle, there is an obligation to provide patients with food and water, including medically assisted nutrition and hydration for those who cannot take food orally. This obligation extends to patients in chronic and presumably irreversible conditions (e.g., the "persistent vegetative state") who can reasonably be expected to live indefinitely if given such care. Medically assisted nutrition and hydration become morally optional when they cannot reasonably be expected to prolong life or when they would be "excessively burdensome for the patient or [would] cause significant physical discomfort, for example resulting from complications in the use of the means employed." The pope's authoritative comments during his allocution resolved a debate among Catholic moral theologians regarding the moral necessity of providing food and drink to PVS, MCS, or comatose patients, even if this requires the use of a tube directly into the patient's stomach, his intestine, or his vein.

The opposing perspectives in the debate over the moral necessity of providing food and water to permanently unconscious patients were highlighted in two, apparently contradictory, statements published by the Texas and the Pennsylvania Bishops Conferences in the early 1990s. According to sixteen Texas bishops—two of Texas's eigh- teen bishops did not sign the document on hydration and nutrition—the withdrawal of artificial hydration and nutrition from patients in the vegetative state can be morally justified if the patient

or his proxy deems them burdensome and thus morally optional. The bishops base their argument on the principle of elective extraordinary means discussed above, suggesting that there are times when feeding and hydrating the patient in the vegetative state can be deemed futile and thus burdensome. In contrast to the bishops of Texas, the bishops of Pennsylvania concluded: "[T]he feeding [of permanently unconscious patients] regardless of whether it be considered as treatment or as care is serving a life sustaining purpose. Therefore, it remains an ordinary means of sustaining life and should be continued." The bishops argued that supplying nourishment sustains life, and as such, is beneficial as long as it is able to preserve life. Moreover, they note that so far as it can be determined by observation, the unconscious patient is not experiencing the anguish that would be borne by a conscious person who is receiving artificial hydration and nutrition. Finally, they point out that resources are available in society to help families of PVS patients who may find that caring for their incapacitated loved one constitutes a financial difficulty or a personal burden.

In light of these observations, the bishops of Pennsylvania conclude that feeding and hydrating either the PVS, the MCS, or the comatose patient cannot be considered burdensome as long as the food and water nourishes the individual. Significantly, the statement from the bishops of Texas ends with the following: "All care and treatment should be directed toward the total well-being of the person in need. Because of the high value of temporal health and life, the presumption is made that the necessary steps will be taken to restore health or at least avert death.

However, the temporal concerns must always be subordinated to the patient's spiritual needs and obligations." The last sentence suggests that their moral position arises from an interpretation of the papal allocution by Pope Pius XII on elective extraordinary means already discussed above that has been championed by Kevin O'Rourke, O.P. As we cited above, Pope Pius XII had said the following: "A more strict obligation [than the use of ordinary means to prolong life] would be too burdensome for most men and would

render the attainment of the higher, more important good too difficult. Life, health, all temporal activities, are in fact subordinated to spiritual ends." O'Rourke suggests that according to Pope Pius XII, "anything that would make the attainment of the spiritual goal of life less secure or seriously difficult would be a grave burden and would be considered an optional or extraordinary means to prolong life." Thus, apparently echoing the bishops of Texas, O'Rourke concludes that artificial hydration and nutrition can be withdrawn as extraordinary means because it is a burdensome and futile medical intervention that cannot help the PVS patient pursue the spiritual goal of life. In response, O'Rourke's interpretation of the papal allocution is erroneous because it would justify too much. Clearly, there are individuals who are born with severe mental handicaps that might prevent them from pursuing the spiritual goal of life. And yet, all reasonable people would concede that they have a right to ordinary or basic care. As William May has pointed out, for example, if O'Rourke's interpretation of Pius XII is correct, it would justify a decision not to stop the reparable arterial bleeding of an infant suffering from Trisomy 21, who has no cognitive abilities. May argues: "Such a baby is not and never will be able to pursue the spiritual goal of life, nor will prolonging its life by stopping the bleeding from the artery *enable* it to pursue this goal, but surely this is ordinary and nonburdensome treatment." He concludes his comments on John Paul II's teaching on the caring of PVS patients this way: "Obviously, John Paul II does not agree with [O'Rourke's] interpretation of the teaching of Pius XII, and rightly so." Finally, we should acknowledge that the teaching of pope John Paul II articulated in his remarks on March 20, 2004, does not preclude the withdrawal of a feeding tube when food and water is no longer needed, and or when food and water fail to nourish the patient. The former applies to clinical scenarios where artificial hydration and nutrition are temporarily provided to a patient who, for a brief period, cannot eat or drink. The latter applies to those cases where a dying patient's body is unable to assimilate any and all nutrients. At this point, artificial hydration and nutrition fails to attain its proper finality of nourishing the patient, and as such, becomes burdensome and morally optional. In fact, continuing to feed and to hydrate these individuals can lead

to breathing difficulties and excessive fluid accumulation, which can make the dying process unnecessarily more difficult for the patient and his loved ones.

A Common Objection Again: The Appeal to Autonomy and Self-Determination

In a commentary that appeared several weeks after Blessed John Paul II's allocution to the international conference considering the care of vegetative state patients, Arthur Caplan, the de facto dean of the corps of secular bioethicists, criticized the papal directive because, in his view, it undermines a powerful social consensus in the United States that affirms a patient's right to refuse medical treatment. He continues: "Not only does the Pope's order undermine these rights [to refuse medical treatment], but his claims that withdrawing feeding tubes is cruel and a form of euthanasia are mistaken." For Caplan, bioethics at the end of life is driven by the mandate to protect a patient's autonomy: "The Pope's aim in reminding us that all people, even those in permanent comas or vegetative states, are human beings deserving of compassion and care is important. But he is wrong about what confers dignity on the sick and the dying. It is not about artificially feeding them against their will, but about finding ways to let their will be respected." Self-determination, according to Caplan, always trumps the obligation to feed and hydrate a patient. In response, the pope's directive does not undermine a patient's right and responsibility for his health-care decisions. The right remains intact. However, this right is not absolute.

As we discussed above, a patient may refuse only medical treatment that has been deemed burdensome, and as such, is morally optional. He should not refuse ordinary means of care. For instance, most reasonable persons would agree that a patient may not simply refuse to eat or to drink while he is in the hospital. In his allocution, pope John Paul II makes a determination that essentially agrees with the bishops of Pennsylvania: a reasoned reflection upon the medical and societal circumstances surrounding artificial hydration and nutrition suggests that in most cases, providing food and water to a permanently unconscious patient—like providing food and water

to a paralyzed, conscious, and alert patient with quadriplegia—is not burdensome, and as such, is not morally optional. Consequently, neither the patient nor his proxy, nor his health-care professional, may withdraw food and water until artificial hydration and nutrition fails to attain its proper finality of nourishing and hydrating the patient.

The Clinician's Role in End-of-Life Decisions

In two different kinds of clinical scenarios at life's end, a physician may want to refuse a treatment requested by a patient. First, a patient (or his proxy) may request a medical intervention that offers no medical benefit. In these situations, numerous physicians and secular bioethicists have argued that a doctor should be allowed to withhold or to withdraw such treatments, even over the objections of the competent patient or his family. However, this movement to give physicians a right to refuse futile treatment has not met with much success. One possible reason for this is the absence of a consensus within the medical community, either on a specific definition of futility or on an empirical basis, for deciding what further treatment would be futile. Instead, recent commentators have emphasized the need for physicians to talk to their patients and their families when they believe that further treatment will have no benefit. The doctor has to help his patient see that treatments that offer no medical benefit are simply hopeless efforts to delay the inevitable. In other words, the clinician needs to help the patient and his family understand that further medical interventions would constitute extraordinary care. These conversations can take place only within a relationship of trust where the doctor makes clear that he is not abandoning or giving up on his patient but actually has his best interests in mind. Second, a patient may request a medical intervention that is immoral. Examples include a request either for euthanasia, for physician-assisted suicide, or for the withdrawal of food and water, to cause death. In these cases, the physician is morally obligated not to comply with his patient's request, even if the request comes from a competent patient.

Thus, the *Eth-ical and Religious Directives* of the United States Conference of Catholic Bishops makes clear that "the free and

informed judgment made by a competent adult patient concerning the use or withdrawal of life-sustaining procedures should always be respected and normally complied with, unless it is contrary to Catholic moral teaching."88 The physician may not even refer the patient to another physician willing to do these procedures because such a referral could, as we will discuss in chapter 8, constitute an act of material cooperation with the patient's immoral act that would make the physician morally culpable. Thus, it is recommended that physicians preempt such requests by publicizing their opposition to immoral medical procedures, so that prospective patients are aware that these services would not be available to them while they are under the care of the clinician.

Highlighting the Role of Virtue in Bioethics

Catholic bioethicists working at the end of life need to remember that they have an important role to play as patients prepare for their death, not only by addressing their moral concerns at life's end but also by boosting the virtue of hope. The moral virtue of hope specifically strengthens the human agent to withstand threats to his well-being in the world by grounding him in an expectation that he will successfully attain his goal. Josef Pieper describes the act of hoping as a reaching out toward happiness: "Hope, like love, is one of the very simple, primordial dispositions of the living person. In hope, man reaches 'with restless heart,' with confidence and patient expectation toward .... the arduous 'not yet' of fulfillment, whether natural or supernatural. As a characteristically human endeavor, then, hoping incarnates a reaching out for anything that is perceived as good, and for the anticipated fulfillment that the possession of something good brings." Moral hope begets courage. It enables the person to endure life's difficulties in expectation of attaining a good. At the end of one's life, however, the moral virtue of hope—human hope—is not enough. In the face of death, the believer needs the *theological* virtue of hope—Christian hope—that is grounded in the merciful power of God, who has promised us salvation. As we saw in chapter 1, theological hope is a gift that unites the Christian with God as his supreme and ultimate good. It orders human longing and expectation by placing the human desire for happiness within

the context of both God's invitation to share the intimacy of His inner life and His power to effect the same. As the Holy Father, Pope Benedict XVI, explained in his encyclical on hope, entitled *Spe salvi* (Saved in Hope), from the Latin *spe salvi facti sumus* (in hope we were saved) (cf. Rom 8:24): "It is, however, hope—not yet fulfillment; hope that gives us the courage to place ourselves on the side of good even in seemingly hopeless situations, aware that, as far as the external course of history is concerned, the power of sin will continue to be a terrible presence." Sacred Scripture portrays Christian hope as a journey in absolute confidence, based on the divine promise, toward the kingdom of God. It is centered on a specific event, namely, the Second Coming of Christ, with its glorious consequences, including our resurrection and our possession of the perfected Kingdom (cf. Mt 25:34). The Act of Hope in the *Baltimore Catechism* beautifully expresses the essence of this theological virtue: "O my God! Relying on Thy infinite goodness and promises, I hope to obtain pardon of my sins, the help of Thy grace, and life everlasting, through the merits of Jesus Christ, my Lord and Redeemer." The Christian who hopes develops a connatural clinging to God in the sure expectation that his Creator will provide whatever is needed for him to attain true happiness.

How does one strengthen the virtue of hope in a person facing his mortality so that he may intend, decide, and execute good acts at the end of his life?

There are at least three pastoral practices that could help here. First, the dying patient should be reminded of God's providence in his life. He should be invited to reflect upon his life to identify those specific times when God sustained him through the difficult and painful moments of his past. These memories are important because they are the fingerprints of God on our lives. They can ground the theological virtue of hope, especially when we realize that the God who has saved us in the past is an unchanging and eternal God who will continue to save us in the future: "Let us hold fast to the confession of our hope without wavering, for he who has promised is faithful" (Heb 10:23). Next, the Christian should be encouraged to meditate

on the reality of heaven. He should be reminded that heaven is "the ultimate end and fulfillment of the deepest human longings, the state of supreme, definitive happiness." By his death and resurrection, our Lord Jesus Christ has opened heaven to us, making us partners in His heavenly glorification to enjoy forever the perfect life with the Most Holy Trinity and with the Virgin Mary, the angels, and all the saints. This is the truth that lies beyond the valley of the shadow of death. It is the truth that can sustain our hope as we face all the difficult moments of life, including and especially our death. Finally, the Catholic should be invited to prepare for his encounter with his Creator with prayer and the sacraments, especially the sacraments of penance, of the anointing of the sick, and of the Eucharist. As the *Catechism of the Catholic Church* teaches, "the prayer of the Church and personal prayer nourish hope in us." In the end, the Christian is called to make the prayer of St. Paul his own: "May the God of hope fill you with all joy and peace in believing, so that by the power of the Holy Spirit you abound in hope" (Rom 15:13). Ultimately, of course, it is God the Holy Spirit, source of hope, who accompanies us as we walk the final journey home.

Chapter 5

Bioethics, Organ Donation, and Transplantation

In this chapter, which deals with the bioethics of organ transplantation, we begin with a brief history of organ transplantation to set the stage for our moral analysis. We then move to the ethical framework that is used to justify the practice of organ donation and exchange: organ donation is an act of self-giving that should be motivated by charity. Next, we discuss the moral issues raised by proposals to procure organs from aborted and disabled donors. May organs be procured from aborted fetuses, anencephalic infants, and unconscious patients in the vegetative state? We then move to the issue raised by our opening vignette of this chapter. Given the lack of available organs from these and more noncontroversial sources, several bioethicists have raised the issue of financial compensation for organ donation to encourage higher "donation" rates. How should we evaluate this proposal and other suggestions that legitimate the sale and purchase of human organs? After this, we move to questions of allocation: Who should receive the limited numbers of organs that are

donated every year? What criteria should be used to triage potential organ recipients? Finally, we end with a critical survey of the debate surrounding the definition of death and the neurological criteria that equate brain death with death, concluding that the available evidence indicates that brain-dead patients are not dead.

Organ Transplantation A Historical Framework

The first successful kidney transplant from one living human being to another, at the Peter Brent Brigham Hospital in Boston on December 23, 1954, was the breakthrough that established the field of human organ transplantation on firm scientific foundations. The medical team led by Dr. Joseph E. Murray removed a kidney from Ronald Herrick and implanted it into his identical twin brother Richard, the victim of a fatal kidney disease. Richard recovered quickly and went on to live nine more years until he died of a heart attack. Transplants of a lung, a liver, and a heart followed within the next decade, though these were not successful in the long term because surgeons were not able to overcome the immune barrier: the donated organs were eventually rejected and destroyed by the recipient's immune system.

The next major breakthrough in transplant medicine involved the discovery of drugs that could suppress the immune system, thus preventing the rejection of a donated organ. The first such immunosuppressant was 6-mercaptopurine, discovered by Robert Schwarts and Walter Dameshek at Tufts University in 1959. However, it was the discovery, in 1978, of the drug cyclosporine A that catalyzed the rapid growth of transplantation in the 1980s. More recent discoveries, including the development of the drug FK-506, have allowed organ donation and transplantation to become routine. According to the tally of the Organ Procurement and Transplantation Network (OPTN), nearly 450,000 organ transplantations have been performed in the United States in the past twenty years.

Finally, the history of organ transplantation in the United States has been punctuated by four important pieces of legislation. First, in 1968, the National Conference of Commissioners on the Uniform State Laws and the American Bar Association approved the Uniform

Anatomical Gift Act (UAGA) to encourage organ donation in the country and to address some of the legal and ethical issues associated with transplantation. The UAGA established the legal foundation for cadaveric organ donation as well as the individual's right to sign a document agreeing to have his organs donated. By 1973, every state in the United States had adopted the recommendations of the UAGA, facilitating the growth of organ transplantation. Next, in 1980, the Uniform Determination of Death Act (UDDA) was approved by the National Conference of Commissioners on the Uniform State Laws and endorsed by the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. It embraced the neurological, or brain-dead, criteria for death that will be discussed in greater detail later in this chapter. Third, in 1984, the U.S. Congress passed the National Organ Transplant Act (NOTA) that established the Organ Procurement and Transplantation Network (OPTN), to maintain a national registry for organ matching. The act not only made recommendations for uniform standards for organ procurement but also made the buying and selling of human organs illegal. Finally, the Organ Donation and Recovery Improvement Act, which was signed into law in 2004, established a federal grant program to provide assistance to living donors for travel and subsistence expenses. It also funded public awareness programs to increase organ donation. collectively, these laws have helped to increase the number of organ transplants in the United States. However, a disparity still exists between the supply and the demand for human organs, and it is a sad reality that according to the OPTN, in 2007, nearly six thousand patients in the United States died while waiting for an organ transplant.

A Moral Framework

How can we justify the procurement and transplantation of human organs? Since the pontificate of the Servant of God, Pope Pius XII (1939–1958), the Catholic Church has explicitly supported the donation and transplantation of organs from both the dead and the living. With regard to donation after death, the *Catechism of the Catholic Church* teaches the following: "Organ donation after death

is a noble and meritorious act and is to be encouraged as an expression of generous solidarity." Here the *Catechism* echoes Pope Pius XII, who taught: "A person may will to dispose of his body and to destine it to ends that are useful, morally irreproachable and even noble, (among them the desire to aid the sick and suffering). One may make a decision of this nature with respect to his own body with full realization of the reverence which is due it.... This decision should not be condemned but positively justified." Pope Pius XII also reminded his audience, however, that the cadaver of a human person, though it is not intrinsically valuable, should still be respected, because the respect for the dignity of the human person, made in the image and likeness of God, requires that we also honor his mortal remains. As the pope taught in the same speech: The human body deserves to be regarded entirely differently [from the dead body of an animal]. The body was the abode of a spiritual and immortal soul, an essential constituent of a human person whose dignity it shared. Something of this dignity still remains in the corpse. We can say also that, since it is a component of man, it has been formed 'to the image and likeness' of God.... Finally, the dead body is destined for the resurrection and eternal life. This is not true of the body of an animal. Therefore, the human cadaver can never be regarded simply as a collection of body parts. Moreover, as the Holy Father noted in another address to a congress of surgeons, the human person is not the master, but only the steward, of his own life and of his body: "God alone is the lord of man's life and bodily integrity, his organs and members and faculties, those in particular which are instruments associated in the work of creation. Neither parents, nor husband or wife, nor even the very person concerned, can do with these as he pleases." Accordingly, no one can treat either his or another's body or organs as property because no one owns them. With regard to donation from a living donor to another person, the *Catechism* approves of the practice, as long as it respects the moral law: "Organ transplants are in conformity with the moral law if the physical and psychological dangers and risks to the donor are proportionate to the good that is sought for the recipient." The specific moral requirements of this teaching have been clarified over the past fifty years. Initially, Catholic moralists were unwilling to endorse organ

donation and transplantation between two living persons because they could not justify a medical procedure that mutilated the healthy donor. Their theological opinion stemmed from the basic principle that God is the ultimate Lord of human life. Therefore, they reasoned that mutilation, any kind of act that injures or impairs bodily integrity, is an immoral act that violates the dominion of God, unless—and this is the principle of totality—the removal of the bodily part leads to the well-being and integrity of the whole. Pope Pius XII taught that three conditions govern the moral licitness of surgical operations:

First, that the continued presence or functioning of a particular organ within the whole organism is causing serious damage or constitutes a menace to it; next, this damage must be remediable or at least can be measurably lessened by the mutilation in question, and the operation's efficacy in this regard should be well assured; finally, one must be reasonable certain that the negative effect, that is, the mutilation and its consequences, will be compensated for by the positive effect: elimination of danger to the whole organism, easing of pain, and so forth.

In light of this analysis, Catholic moralists were initally unwilling to endorse organ donation between the living because, in their judgment, the mutilating surgery associated with procuring an organ could not be condoned, inasmuch as the mutilation is not ordered to the welfare of the donor's body. Pope Pius XII agreed with their moral analysis, declaring that the principle of totality could not be used to justify organ transplants among the living.

In time, however, the majority of Catholic moral theologians soon accepted an alternative theological proposal, first articulated by Bert Cunningham, C.M., which recommended that the self-giving of one's own organs could be justified by the principle of charity. This theological opinion has since become part of the moral teaching of the Catholic Church. According to this reasoning, the healthy person who donates a kidney to a patient is making a genuine act of sacrifice modeled after the Lord's sacrifice of Himself on the Cross. In doing so, the donor fulfills the Lord's great commandment to his disciples: "This is my commandment, that you love one another as I have

loved you. Greater love has no man than this, that a man lay down his life for his friends" (Jn 15:12–13). Organ donation is an act of self-gift of the human person.

To reconcile this reasoning with the moral conviction that no one can unjustifiably mutilate himself or allow another to violate his bodily integrity, Catholic moralists made the distinction between the anatomical and the functional integrity of the donor, and then argued that only the latter is necessary for the bodily integrity that must be maintained and respected by surgeon and patient. Thus, the donation of organs that maintains the functional integrity of the donor, including, for example, the transfusion of blood, the removal of a kidney, or the resection of part of a liver, is morally permissible, because the loss of these organs does not lead to the loss of blood, kidney, or liver function. In contrast, the donation of any organs that destroys a patient's functional integrity, including the donation either of one eye or of an entire lung, is immoral since the donor needs both eyes and both lungs in order to see and to breathe normally. In the same way, the donation of organs that leads to the direct sterilization of the donor, since it would lead to the loss of his functional integrity, would be illicit. Thus, the *Ethical and Religious Directives* of the United States Conference of Catholic Bishops state: "Catholic health care institutions should encourage and provide means whereby those who wish to do so may arrange for the donation of their organs and bodily tissue, for ethically legitimate purposes, so that they may be used for donation and research after death."

In sum, in the tradition of Catholic bioethics, organ transplantation from both the dead and the living can be morally justified by appealing to charity, with the added caveat that organ donation between living persons must maintain the functional integrity of the donor. As Blessed John Paul II emphasized in an address to an International Congress on Transplants: "Every organ transplant has its source in a decision of great ethical value: 'the decision to offer without reward a part of one's own body for the health and well-being of another person.' Here precisely lies the nobility of the gesture, a gesture which is a genuine act of love." In an earlier speech to the First International Congress of the Society for Organ Sharing, the pope had explained

the moral limits for this charitable gift: "A person can only donate that of which he can deprive himself without serious danger or harm to his own life or personal identity, and for a just and proportionate reason." As we have seen before, the moral standard for organ transplantation, as it is for other medical interventions, is that it respects the integrity and the dignity of the human person. Significantly, we need to emphasize that all donors and recipients have to give their informed consent prior to the surgical removal and transplantation of organs.

As the *Catechism of the Catholic Church* makes clear, the donor must give his free and informed consent prior to his death, or his next of kin must do so at the time of his death: organ transplantation "is not morally acceptable if the donor or his proxy has not given explicit consent." Informed consent is a necessary component of the Church's teaching on the morality of organ donation and transplantation for at least two reasons. First, informed consent affirms and protects the intrinsic dignity and inviolability of the human person, who is free. As Pope Pius XII made clear: "Unless circumstances impose an obligation, we must respect the liberty and spontaneity of the parties involved. Ordinarily, the deed [of organ donation] cannot be presented as a duty or as an obligatory act of charity. In proposing it, an intelligent reserve must certainly be maintained in order to avoid serious internal and external conflicts." Next, informed consent respects the essential formality of the donated organ as a gift that one person gives to another. Thus, as the Holy Father, Pope Benedict XVI, taught in an address to the participants of the international congress A Gift for Life: Considerations on Organ Donation, held in Rome from November 6–8, 2008: "With frequency, organ transplantation takes place as a completely gratuitous gesture on the part of the family member who has been certifiably pronounced dead. In these cases, informed consent is a precondition of freedom so that the transplant can be characterized as being a gift and not interpreted as a coercive or abusive act." Informed consent guarantees that the gift of a donated organ remains precisely that, a gift. Finally, I should point out that this requirement for informed consent rules out a system of organ procurement that

favors replacing informed with presumed consent. Such a system of presumed consent, which has already been adopted as social policy in numerous Catholic nations in Europe, would automatically register all adults as organ donors unless they opt out. It would make organ donation the default position, permitting surgeons to retrieve organs from every dead patient who has not explicitly objected to such a surgical intervention. Since it rejects informed consent, such a system would undermine the dignity of the organ donor as a charitable gift-giver and the formality of the donated organ as a gift. Therefore, I propose that individual Catholics and Catholic institutions, especially Catholic hospitals, must reject presumed consent and not cooperate with this unjust system of organ procurement.

Procuring Organs from Aborted and Disabled Donors

The shortage of available organs for transplantation has prompted different individuals and organizations to propose that aborted, anencephalic, and unconscious individuals in the vegetative state should be considered as potential sources for human organs. Not surprisingly, these proposals have raised numerous moral issues and concerns. In recent years, the transplantation of fetal cells and tissues into the brain and/or spinal cord has been pursued as a potential cure for numerous diseases of the central nervous system, including Parkinson's disease and Huntington's disease, just to name two. Since the United States Congress passed the National Institutes of Health (NIH) Revitalization Act in 1993, allowing for unrestricted use of fetal tissue for experimentation, these transplanted cells have often been derived from aborted fetuses. Is this practice morally licit? In response, Pope Blessed John Paul II taught the following in his encyclical, *Evangelium vitae:* This moral consideration [of abortion] also regards procedures that exploit living human embryos and foetuses—sometimes specifically "produced" for this purpose by *in vitro* fertilization—either to be used as "biological material" or as *providers of organs or tissue for transplants* in the treatment of certain of certain diseases. The killing of innocent human creatures, even if carried out to help others, constitutes an absolutely unacceptable act. The Congregation for the Doctrine of the Faith, in

its instruction *Dignitas personae*, has confirmed this moral prohibition: It needs to be stated that there is a duty to refuse to use such "biological material [of illicit origin]" even when there is no close connection between the researcher and the actions of those who performed the artificial fertilization or the abortion, or when there was no prior agreement with the centers in whichthe artificial fertilization took place. This duty springs from the necessity to *remove oneself*, within the area of one's own research, *from a gravely unjust legal situation and to affirm with clarity the value of human life*.

There are at least three reasons for this moral prohibition. First, the use of fetal tissues and cells for transplantation and research tends to legitimize abortion and to lead to future abortions. There is evidence that women who are about to have an abortion overwhelmingly approve of fetal research, possibly because they need an option that would alleviate the anxiety and guilt associated with their choice to end their pregnancy. Another survey revealed that 12 percent of the women queried reported that they would more likely elect to have an abortion if they could donate tissue for fetal tissue transplantation. It is clear that the possibility of using fetal tissue for therapeutic purposes would encourage women to choose abortion when they may not have done so. Next, the use of fetal tissues for transplantation and research would require collaboration with the abortion industry, which should be strenuously discouraged. Cooperation with evil has to be avoided when at all possible, lest our actions lead not only to scandal, but also to complicity with the evil acts of others. Finally, some ethicists have raised concerns about the informed consent obtained from women who have chosen to donate fetal tissue for transplantation after they have aborted their child, suggesting that the decision to abort disqualifies the mother from playing any role in the disposition of her fetal child's remains. Would we allow a woman who has killed her two-year-old daughter to donate her child's organs for transplantation at a pediatric hospital?

Next, the use of anencephalic infants as organ donors has also been proposed as a means to decrease the shortage of transplantable organs. Anencephalics are born without a forebrain, a complete skull,

and a scalp, though they have a functioning brainstem. Consequently, they are often able to breathe, to suck, and to engage in spontaneous movements of their eyes, their arms and legs, and their faces, on their own. The lifespan of an anencephalic neonate is generally very short. Many die within a few hours, less than half survive more than a day, and fewer than 10 percent survive more than a week. However, because these neonates often do not receive aggressive treatment to keep them alive, their potential lifespan is probably longer than their current actual lifespan. Initially, the Council on Ethical and Judicial Affairs of the American Medical Association (AMA) proposed that organs may be taken from living anencephalic infants without a pronouncement of death, provided that the parents initiate the discussion and that other transplantation standards of care are retained. The council justified its proposal by arguing the following: "The use of the anencephalic neonate as a live donor is a limited exception to the general standard [that donors of vital organs be first declared dead] because of the fact that the infant has never experienced, and will never experience, consciousness."

In response, the Committee on Doctrine of the United States Conference of Catholic Bishops concluded the following: "It is most commendable for parents to wish to donate the organs of an anencephalic child for transplants that may assist other children, but this may never be permitted before the donor child is certainly dead." In other words, procuring vital organs from an anencephalic child is meritorious as long as this does not kill the child. No one may take the life of an innocent human being, even if the taking of that life would benefit others. Finally, to respond specifically to the argument advanced by the AMA Ethics Council to justify anencephalic donation, a human being retains his inviolability even if he is unconscious or is unable to experience consciousness, because, human dignity is intrinsic and depends solely on the humanity of the human being. Incidentally, a study of twelve anencephalic infants at Loma Linda University Medical Center in California, who were supported with intensive care measures for one week to facilitate a declaration of brain death, revealed that anencephalic infants do not make good organ donors. Successful organ donation did not occur

from any of the infants because the hypoventilation—the breathing difficulty—that eventually kills the anencephalic child renders vital organs unsuitable for transplantation. The authors concluded that with the restrictions of the law in place at that time, more specifically the dead-donor rule, it would not be feasible to procure solid organs for transplantation from anencephalic infants.

The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops makes clear: "The use of tissue or organs from an infant may be permitted after death has been determined and with the informed consent of the parents or guardians." Finally, several commentators have proposed that organs should be procured from patients in the vegetative state for whom a decision has already been taken to withdraw treatment to allow them to die. They justify their proposal by claiming that "there is no clear moral distinction between allowing to die by omission of treatment and more actively ending life, for instance, by injection of a fatal substance. The outcome is the same." In response, there is a moral difference between killing a patient and allowing him to die. The key distinction presupposed in the moral distinction between "killing" and "allowing to die" is the distinction between withdrawing ordinary and withdrawing extraordinary means. One may not procure the vital organs of a patient in the vegetative state—thus killing him—even if the taking of that patient's life would benefit others, because no one may take the life of an innocent human being, even if the taking of that life would benefit other individuals. As the *Catechism of the Catholic Church* teaches: "It is not morally admissible directly to bring about the disabling mutilation or death of a human being, even in order to delay the death of other persons." In conclusion, in light of all the proposals to obtain organs from severely disabled persons, we should heed the warning of Blessed John Paul II, who condemned all abuses that could occur in the name of transplant medicine: "Nor can we remain silent in the face of other more furtive, but no less serious and real, forms of euthanasia. These could occur for example when, in order to increase the availability of organs for transplants, organs are removed without respecting objective and adequate criteria which verify the death of the donor." Organ

transplantation is a laudable practice only if it respects the dignity of the human person.

Procuring Organs from Animal and Bioengineered Donors

As numerous commentators have observed, the transplantation of organs from one animal species into another, a proposal called xenotransplantation, could potentially relieve the chronic shortage of human organs available for transplantation. To date, chimpanzee, baboon, and pig organs have been transplanted into human recipients with limited success. However, recent technological innovations have enhanced the feasibility of xenotransplantation. First, pigs have been genetically engineered that lack many of the molecular signals that would elicit an immune response in a human donor. The availability of these animals should mitigate rejection from the human recipient's immune system. Second, careful selection and/or genetic engineering of pig herds should minimize the risk of porcine cross-species virus infection into human recipients. Third and finally, a recent report has described a technique that could be used to suppress pig viruses in pig organs prior to human transplantation. With these developments, xenotransplant experts believe that we are now on the threshold of the first clinical trials involving animal-to-human organ transplantation, suggesting that the first clinical application may involve pig heart xenografting as a bridging method to sustain the life of a patient awaiting a human heart.

To examine the ethical issues raised by these technological advances, the Pontifical Academy for Life published a study entitled "Propects for Xenotransplantation: Scientific Aspects and Ethical Considerations," on September 26, 2001. In the study, the Pontifical Academy concluded that xenotransplantation is morally acceptable in principle, as long as three conditions are met. First, physicians have to ensure the safety of all human recipients. Second, surgeons need to preserve the personal identity of the person receiving the animal organ, concluding, "in general, the implantation of a foreign organ into a human body finds an ethical limit in the degree of change that it may entail in the identity of the person who receives it." In making these recommendations, the Pontifical Academy for Life was simply reiterating the teaching of Popes Pius XII and Blessed John

Paul II, who had upheld the moral legitimacy of xenotransplantation, in principle, on the condition that "the transplanted organ must not impair the integrity of the psychological or genetic identity of the person receiving it; and there must also be a proven biological possibility that the transplant will be successful and will not expose the recipient to inordinate risk." Third, the Pontifical Academy also insisted that scientists prevent all unnecessary animal suffering and that they respect the biodiversity and balance of species in the animal world.

Finally, a word about bioengineered organs: several years ago, a mother of two became the first transplant patient to receive an organ that was grown to order in a laboratory. Claudia Castillo underwent an operation in Barcelona to replace her windpipe after tuberculosis had left her unable to breathe. The bioengineered organ was created in the laboratory using Mrs. Castillo's own stem cells, using a donor trachea to provide the mechanical framework. The medical advance came two years after surgeons in the United States had transplanted seven patients with bladder tissue grown in the laboratory. Bioengineering organs using stem cells obtained using morally licit techniques could potentially revolutionize organ transplantation without raising any ethical problems, other than those associated with a typical surgical procedure.

Organ Trafficking: A Moral Analysis

As we described in the opening vignette of this chapter, there is a global market for the sale and purchase of human organs. It is estimated that 5–10 percent of the kidney transplants performed annually throughout the world can be attributed to organ trafficking and transplant tourism. Despite attempts by some Catholic moralists to justify organ sales using the thought of St. Thomas Aquinas, Pope Pius XII, or Pope John Paul II, the Catholic Church has consistently opposed the commercialization of human organs, though it has acknowledged that a reasonable stipend can be given to the donor to compensate him for lost wages and other costs that he may have accrued because of the transplantation procedure. The *Ethical and Religious Directives* of the United States Conference of Catholic Bishops is clear in this regard when it directs that during the

procurement and transplantation of organs, "economic advantages should not accrue to the donor." Both state and federal laws in the United States also prohibit the buying and selling of human organs. The National Organ Transplant Act (NOTA) makes it illegal to "acquire, receive, or transfer any human organ for valuable consideration for use in organ transplantation." Similarly, the Uniform Anatomical Gift Act (UAGA), as it was revised in 1987, makes it a felony to "knowingly for valuable consideration purchase or sell" cadaveric organs for transplantation. Finally, the medical and transplant community has also condemned both organ trafficking and organ tourism.

The primary reason for the Church's prohibition against the commercialization of human organs is that the ban protects the dignity of the gift-giver and the character of the donated organ as a free gift that is given by the donor in charity. Pope John Paul II explained it as follows: Love, communion, solidarity and absolute respect for the dignity of the human person constitute the only legitimate context of organ transplantation. It is essential not to ignore the moral and spiritual values which come into play when individuals, while observing the ethical norms which guarantee the dignity of the human person and bring it to perfection, freely and consciously decide to give a part of themselves, a part of their own body, in order to save the life of another human being. In effect, the human body is always a personal body, the body of a person. The body cannot be treated as a merely physical or biological entity, nor can its organs and tissues ever be used as items for sale or exchange.

Such a reductive materialist conception would lead to a merely instrumental use of the body, and therefore of the person. In such a perspective, organ transplantation and the grafting of tissue would no longer correspond to an act of donation but would amount to the dispossession or plundering of the body. This theme recurred in the address of the Holy Father, Pope Benedict XVI, to the participants of an international congress on organ transplants organized by the Pontifical Academy for Life: The possibility of organ sales, as well as the adoption of discriminatory and utilitarian criteria, would greatly clash with the underlying meaning of the gift that would place it out

of consideration, qualifying it as a morally illicit act. Transplant abuses and their trafficking, which often involve innocent people like babies, must find the scientific and medical community ready to unite in rejecting such unacceptable practices. Therefore they are to be decisively condemned as abominable. The buying and selling of human organs is incompatible with the moral framework that is used to justify the procurement and transplantation of human organs. It would transform organ donors from givers to vendors, and donated organs from gifts to merchandise. As such, it has to be rejected as a morally illicit practice.

A Common Objection: The Regulated Sale of Organs

In recent years, voices favoring the regulated sale of organs, particularly of kidneys obtained from living persons, have become more audible. As one representative of this view, Arthur J. Amatas, a past president of the American Society of Transplant Surgeons, has proposed that the regulated commercialization of living kidney donation would greatly increase the supply of kidneys, not only saving lives but also lowering the number of patients who have to suffer dialysis. In this system of "compensated donation," organ donors would receive payment from the government or a government-approved agency. In brief, Amatas defends his proposal by arguing that a system of compensated donation would both save lives and protect individual liberty. In particular, he suggests that compensated donation would respect the freedom of individual donors: "I am advocating not that people be treated by others as property, but only that they have the autonomy to treat their own parts as property." Finally, to respond to critics who argue that the commercialization of human organs would exploit the poor, Amatas counters by suggesting that compensated donation, among other benefits, would actually give the financially disenfranchised the possibility of bettering their lives.

In response, as we discussed above, a system of compensated donation would undermine the moral framework used to justify organ donation, the framework grounded upon the conviction that the donated organ is a free and charitable gift of self. Instead, the organ

becomes a commodity that drives a commercial transaction. Not surprisingly, financial considerations, rather than the health and welfare of recipients and donors, tend to become a priority for the involved parties. One report from Pakistan, comparing the health of commercialized donors to a control population of nonpaid donors, revealed a high incidence of both hepatitis C and B in the donors, who had sold their kidneys, suggesting that the financial incentives had resulted in a lower standard of care for the organ vendors. Next, compensated donation *does* lead to the exploitation of the poor. Amatas's appeal to the autonomy of the indigent Filipino or the underprivileged Pakistani who sells his kidney to the American tourist is misleading. It fails to recognize that neither organ vendor is free nor autonomous when both are confronted with the choice either of selling their organs or of letting their children starve. Therefore, a system of compensated donation, especially one that is targeted primarily at those who have no other alternative to provide resources for themselves or their families, is inherently coercive. Moreover, as we discussed earlier, individual autonomy is not an absolute good. It is governed by the truth. In this case, the truth that the sale of human organs undermines the dignity of the human donor places legitimate limits on the autonomy of the donor, even one who may be wealthy enough not to experience the coercive nature of organ sales. Finally, there is empirical evidence from Hong Kong and Israel that suggests that the commercialization of organ donation would decrease the rate of noncommercial living and deceased donation. This is not unexpected. Why should someone choose to freely give away his organ in Boston when the potential recipient could simply purchase a kidney in Manila?

Allocating Organs: A Moral Framework

The need for donated organs far exceeds the number of available organs. How should we distribute and allocate these scarce organs to the many sick and dying patients on the transplant waiting list? The method of distribution and allocation of donations will literally mean that some people will live while others will die. In justice, common goods have to be given not equally, but proportionately

according to each citizen's contributions and needs. This is reasonable. The family without any food should receive more from the common purse than the family with plenty. In transplant medicine, therefore, the organ transplant network should allocate human organs to recipients based on their particular need. Determining this need involves a complex algorithm that takes into account both the efficiency of organ use and the urgency of patient need. At the present time, this algorithm assigns a donor organ to a particular recipient based upon the following criteria: the closeness of the immunological match between the organ and the recipient, the urgency of the medical need of the recipient, the time spent by the recipient on the waiting list, and the distance separating the donor organ and the recipient. Finally, the allocation of scarce organs has raised specific disputed questions regarding particular patient populations. For instance, bioethicists are asking if alcoholics who have damaged their own livers should compete equally with patients who need a liver through no fault of their own. Some suggest that alcoholics should receive a lower priority for liver transplantations because they are morally responsible for their medical conditions. In contrast, I propose that moral responsibility should not be used as a criterion for the allocation of moral resources, not only because it is difficult to quantify moral culpability—is an individual who is genetically predisposed toward alcoholism less culpable than another who is not?—but also because including moral criteria in allocating medical resources would undermine the practice of medicine—should a physician treat a stab victim before he treats the victim's assailant who is in greater need of medical attention? Medicine should be motivated, first and foremost, by the desire to treat the sickest among us who would benefit most from that treatment.

Chapter 6

Biomedical Research

In this chapter, which deals with the moral questions raised by biomedical research, we will begin with a discussion of the vocation of the scientist, by focusing on recent papal addresses to the Pontifical Academy of Sciences. According to the popes, the scientist is a professional who is called to serve the human person by discovering the truth about creation and by improving society through technological advances. We then deal with experiments with human subjects: what are the moral limits for protocols that involve human participants, especially experiments that target developmentally immature human beings, such as embryos and fetuses? Next, we address two specialized areas of biomedical research involving human subjects, genetic engineering and neuroscience, which have been the focus of much recent ethical debate. We continue with a parallel discussion of the morality of animal testing: how can one justify the routine, and sometimes lethal, experiments that are done with monkeys, rabbits, and mice, in laboratories throughout the world? Finally, we close with a

discussion of the moral controversy surrounding stem cell research and the emerging field of regenerative medicine.

The Vocation of the Scientist

Like the health care professional considered in chapter 4, the research scientist has a specific vocation prepared by the Lord. As Blessed John Paul II explained to the members of the Pontifical Academy of Sciences, a scientist is a way of being someone, rather than just a way of doing something: "Every scientist, through personal study and research, completes himself and his own humanity. You [scientists] are authoritative witnesses to this. Each one of you, indeed, thinking of his own life and his own experience, could say that research has constructed and in a certain way has marked his personality." Like everyone else who has a vocation, a scientist is called to pursue his research endeavors for his own salvation and for the salvation of others.

In his many addresses to the Pontifical Academy of Sciences, Blessed John Paul II highlighted three important dimensions of the scientist's vocation. First, the scientist is a person who is called to seek truth: "The search for truth is the task of basic science. The researcher who moves on this first versant of science, feels all the fascination of St. Augustine's words: *'Intellectum valde ama,'* 'he loves intelligence' and the function that is characteristic of it, to know truth." More specifically, the scientist uses both his capacity to reason and his faculty for wonder, "to understand in an ever better way the particular reality of man in relation to the biologicalphysical processes of nature, to discover always new aspects of the cosmos, to know more about the location and the distribution of resources, the social and environmental dynamics, and the logic of progress and development." In this way, the scientist ascertains the laws that govern the created order we call the universe, and in doing so, manifests our dominion over and stewardship of creation. Ultimately, and this is significant, according to Blessed John Paul II, science leads us to a better understanding of the human person: "Scientific truth, which is itself a participation in divine Truth, can help philosophy and theology to understand ever more fully the human person and

God's Revelation about man, a Revelation that is completed and perfected in Jesus Christ."

Next, according to the Holy Father, in seeking the truth, the scientist is also a person who is called to seek God. He is a person who is in a unique position to perceive the transcendence of a reality that points to its Creator: "The scientist's condition as a sentinel in the modern world, as one who is the first to glimpse the enormous complexity together with the marvelous harmony of reality, makes him a privileged witness of the plausibility of religion, a man capable of showing how the admission of transcendence, far from harming the autonomy and the ends of research, rather stimulates it to continually surpass itself in an experience of selftranscendence which reveals the human mystery." The scientist, by virtue of his vocation, is called to an encounter with God, the Creator of heaven and earth. Indeed, undertaking scientific research can be a form of wor-ship, because "by exploring the greatest and the smallest, [it] contributes to the glory of God which is reflected in every part of the universe."

Finally, the pope explains that in seeking truth, the scientist is called to a life of service to his brothers and sisters: "Scientists, therefore, precisely because they 'know more,' are called to 'serve more.' Since the freedom they enjoy in research gives them access to specialized knowledge, they have the responsibility of using it wisely for the benefit of the entire human family." This call to service bears fruit in the benefits that science can bring to society through basic research and technological innovation. Thus, the Holy Father insisted that scientific knowledge is ordered not to the private good of the individual scientist or even to the limited good of a particular group of individuals, but to the common good of society as a whole: "You are asked to work in a way that serves the good of individuals and of all humanity, while always being attentive to the dignity of every human being and to respect for creation." This moral charge is an integral dimension of the scientist's vocation and his professional calling in life. As the Congregation for the Doctrine of the Faith, quoting the Second Vatican Council, put it: "Science and technology require, for their own intrinsic meaning, an unconditional respect for the fundamental criteria of the moral law: That is to say, they must

be at the service of the human person, of his inalienable rights and his true and integral good according to the design and will of God."1 In sum, in pursuing their experimental protocols and clinical trials, scientists must always strive to grow in virtue and in human excellence if they are to remain faithful to their vocation to serve both God and the human person.

Experimentation with Adult Human Subjects: Biomedical Research and Clinical Trials

According to the registry maintained by the U.S. National Institutes of Health, there were approximately 93,900 clinical trials taking place in 173 countries in the middle of 2010. Most of these clinical trials include both interventional and observational studies that involve human subjects. Interventional studies admit research subjects who are assigned by the investigator to a protocol or other medical intervention so that treatment outcomes can be measured, while observational studies admit subjects who are simply observed by the research investigators.

What are the moral guidelines for clinical research and experimental trials? The ethical parameters that should govern experimentation with human subjects were first articulated in the Nuremberg Code, which was written in 1947 in response to the atrocities carried out by Nazi scientists on vulnerable subjects, and were later developed in the Declaration of Helsinki, first adopted in 1964, by the World Medical Association. Both documents protect and promote the dignity of the research subject. They mandate that all research subjects must be kept safe, because no research is more valuable than the well-being and life of the human participants in the clinical trial or experimental study. Moreover, they insist that all participants must give their informed consent to research, and be allowed to discontinue participation in the clinical trial at any time. Therefore, physician-investigators and other scientists must be qualified to supervise the experimental trials involving human subjects, they must avoid causing harm, injury, or death, and they must discontinue their experiments if they discover that their research might cause the same. Next, the code and the declaration require

that a research program involving human subjects, to be morally justified, must be based on prior animal studies, and must not only be valuable to society, but also provide a reasonable benefit proportionate to the burden requested of the research participant. Finally, Helsinki prescribed that in designing their clinical trial or experiment, researchers must try neither to exclude nor to unfairly burden a particular population of potential human subjects unless there is an overwhelming reason to do so.

The Catholic Church has endorsed the ethical principles summarized in the Nuremberg Code and the Declaration of Helsinki. First, as the *Catechism of the Catholic Church* makes clear, science and technology are precious resources when they are placed at the service of the human person and promote his integral development for the benefit of all. More specifically, scientific experiments on human individuals or groups that can contribute to healing the sick and the advancement of public health are also praiseworthy. However, these experiments must be governed by moral principles that respect the dignity of the human person: Research or experimentation on the human being cannot legitimate acts that are in themselves contrary to the dignity of persons and to the moral law. The subjects' potential consent does not justify such acts. Experimentation on human beings is not morally legitimate if it exposes the subject's life or physical and psychological integrity to disproportionate or avoidable risks. Experimentation on human beings does not conform to the dignity of the person if it takes place without the informed consent of the subject or those who legitimately speak for him.

To be justified, human experimentation has to respect the moral law. Of these moral guidelines for clinical trials and experiments with human subjects, one of the most important is the requirement for informed consent. As we discussed in chapter 4, there are several necessary elements for informed consent in the clinical encounter. The patients must understand the therapeutic protocol involved, they must be made aware of any reasonable alternatives to the proposed intervention if one is available, and they must appreciate the risks and the benefits associated with the medical intervention. They must

then give their free consent to the medical intervention. These requirements for informed consent also apply to human experimentation where the therapeutic protocol is replaced by the experimental protocol of the clinical trial.

Finally, it is important to acknowledge that there is an important and morally significant difference between medical care and experimental regimens. The former is ordered primarily toward the good of the patient. It is patient-centered, and as such, is governed by professional standards of care. In contrast, the latter is ordered primarily toward the common good by generating knowledge that could improve the health care of a particular patient population. This difference justifies the use of mock drugs, commonly called placebos, which have no therapeutic effect, in clinical trials as long as reasonable safeguards are taken to minimize the risk to the participants in the study. Thus, it is clearly immoral if patients assigned a placebo would be substantially more likely to suffer serious and permanent harm or even death. On the other hand, placebo-controlled trials for a new treatment for the common cold or for male pattern baldness would be moral, since the discomfort associated with these conditions does not impair health or cause severe discomfort. Therefore, participants of an experimental study must be told that their involvement in the clinical trial includes the risk that they may not receive any treat-ment whatsoever for their ailment, as long as this does not lead to serious harm. This is an important dimension of the process of informed consent in the context of experimental trials with human subjects.

Experimentation with Immature Human Subjects: Embryo, Fetal, and Child Research

Many experimental research programs require the participation of persons who are unable to give their free and informed consent. These vulnerable individuals include, among others, psychiatric patients, incarcerated prisoners, young children, and unborn fetuses and early human embryos. As we discussed in chapter 4, informed consent in therapeutic situations can be given by a proxy who acts on behalf of the incompetent patient to protect and further the

patient's good. A parallel scenario also applies for a nontherapeutic study or clinical trial. A moral consensus exists among Catholic moral theologians that proxy consent for incompetent individuals, including children, can be justified for nontherapeutic studies as long the patient or the prisoner or the child is not exposed to significant risk or harm. Germain Grisez has identified a significant risk as a risk that is "beyond the level of life's common risks." This ordinary-risk standard is a reasonable one. In these cases, the proxy serves the common good while exercising responsible stewardship over his charges.

With regard to unborn human persons, however, the Magisterium of the Catholic Church is clear: proxy consent can never be given for the participation of fetuses or embryos in nontherapeutic experimental research. The Congregation for the Doctrine of the Faith explained this moral prohibition as follows: As regards experimentation, and presupposing the general distinction between experimentation for purposes which are not directly therapeutic and experimentation which is clearly therapeutic for the subject himself, in the case in point one must also distinguish between experimentation carried out on embryos which are still alive and experimentation carried out on embryos which are dead. If the embryos are living, whether viable or not, they must be respected just like any other human person; experimentation on embryos which is not directly therapeutic is illicit. No objective, even though noble in itself, such as a foreseeable advantage to science, to other human beings or to society, can in any way justify experimentation on living human embryos or foetuses, whether viable or not, either inside or outside the mother's womb. The informed consent ordinarily required for clinical experimentation on adults cannot be granted by the parents, who may not freely dispose of the physical integrity or life of the unborn child. Moreover, experimentation on embryos and foetuses always involves risk, and indeed in most cases it involves the certain expectation of harm to their physical integrity or even their death. To use human embryos or foetuses as the object or instrument of experimentation constitutes a crime against their dignity as human beings having a right to the same respect that is due to the child already born and to every human person. Unborn human persons

are particularly vulnerable individuals because of their developmental immaturity, and as such, nontherapeutic experiments with them necessarily involve risks that exceed the ordinary, common risk standard. They can never be morally justified.

Experimentation with Human Subjects: Genetic Engineering and Genethics

Though the human genome published at the dawn of the twenty-first century—three billion DNA bases, twenty or so thousand genes, and thirteen years of labor—remains a landmark achievement in the history of science, it is only one of many genomes that have been or are being deciphered. The publication of these genomes, each of which is a complete catalog of all the genes of an organism, raises numerous moral questions. In particular, the post-genomic age will have to struggle with the ethics of genetic manipulation. When, if ever, is it morally permissible to modify genes in plants, in animals, and especially, in human beings? This will be the fundamental question for a post-genomic ethics that deals with the moral issues raised by genetics—a field some have called "genethics" —because it grapples with the possibility of altering the very nature of nature, especially of human nature, itself.

With regard to genetic engineering involving human subjects, a distinction must be made between genetic manipulations that are ordered toward the cure or the alleviation of human disease—gene therapy—and those genetic manipulations that are ordered toward the alteration of the human genome for nontherapeutic purposes—gene enhancement. Moreover, gene therapies can be further divided into two categories. Somatic cell gene therapy seeks to eliminate or reduce the effects of genetic defects in a patient's somatic cells, which include all his cells other than his reproductive cells. Examples of this genetic approach include clinical trials to correct primary immunodeficiencies, a group of inherited genetic diseases that compromise a patient's immune response. Here, physicians and genetic engineers use different viruses and other means to introduce normal genes into a patient's diseased immune cells in the hope of reversing the symptoms of the illness. Gene therapy could also be

used to treat cancer by introducing genes into the cancer cells, making them more susceptible to chemotherapy or radiation, and to cure AIDS by genetically altering the patient's white blood cells so they are resistant to HIV infection. The effects of these genetic manipulations would be limited to the patient himself. In contrast, germ cell gene therapy seeks to correct a genetic defect in a patient's germ cells, that is, his sperm cells or her egg cells, so that his or her children will be free of the genetic disease. It has not yet been performed on human beings, though experimental protocols have already been developed to correct genetic defects in mice and in their progeny. In theory, the effects of this kind of genetic manipulation would extend to all the patient's descendents and would permanently change the human gene pool.

To evaluate the morality of these technologies, Pope John Paul II has articulated the basic moral norm regarding the genetic manipulation of human subjects: "All interference in the [human] genome should be done in a way that absolutely respects the specific nature of the human species, the transcendental vocation of every being and his incomparable dignity." In an address to the Pontifical Academy of Sciences, he also acknowledged the promise of genetic interventions that lead to the healing of patients: "A strictly therapeutic intervention whose explicit objective is the healing of various maladies such as those stemming from deficiencies of chromosomes will, in principle, be considered desirable, provided it is directed to the true promotion of the personal well-being of man and does not infringe on his integrity or worsen his conditions of life. Such an intervention, indeed, would fall within the logic of the Christian moral tradition." Pope Benedict XVI has reiterated this teaching: "The Church appreciates and encourages the progress of the biomedical sciences which open up unprecedented therapeutic prospects until now unknown, for example, through the use of somatic stem cells, or treatment that aims to restore fertility or cure genetic diseases." In other words, according to both these popes, gene therapy, in principle, is good.

More recently, the Congregation for the Doctrine of the Faith (CDF) has further specified a prudential distinction in its moral

evaluation of both somatic and germ cell therapy. First, the CDF approved of somatic cell gene therapy: "Procedures used on somatic cells for strictly therapeutic purposes are in principle morally licit." This kind of gene therapy is laudable because it seeks "to restore the normal genetic configuration of the patient or to counter damage caused by genetic anomalies or those related to other pathologies." In contrast, the CDF is cautious about germ line gene therapy. In the same document, it concluded that "in the present state of research, it is not morally permissible to act in a way that may cause possible harm to the resulting progeny," in part because the risks connected to any genetic manipulation are considerable. Therefore, until technological innovation improves the safety of these genetic modifications, germ cell gene therapy should be out of bounds for human subjects. Finally, in its discussion of the morality of genetic modifications, the CDF adds that somatic gene therapy, to be morally licit, must not only seek to minimize the risk to the patient but also require his informed consent.

With regard to the genetic alterations of human subjects that are not directly curative, especially alterations that seek to "improve" or "enhance" human nature, Blessed John Paul II has reasoned that this kind of biological manipulation is morally problematic: "No social or scientific usefulness and no ideological purpose could ever justify an intervention on the human genome unless it be therapeutic, that is its finality must be the natural development of the human being." The CDF has justified this prohibition by noting that genetic manipulation for the enhancement of human nature is inherently eugenic and, as such, would lead to the marginalization of individuals: Some have imagined the possibility of using techniques of genetic engineering to introduce alterations with the presumed aim of improving and strengthening the gene pool. Some of these proposals exhibit a certain dissatisfaction or even rejection of the value of the human being as a finite creature and person.

Apart from technical difficulties and the real and potential risks involved, such manipulation would promote a eugenic mentality and would lead to indirect social stigma with regard to people who lack certain qualities, while privileging qualities that happen to be

appreciated by a certain culture or society; such qualities do not constitute what is specifically human. This would be in contrast with the fundamental truth of the equality of all human beings which is expressed in the principle of justice, the violation of which, in the long run, would harm peaceful coexistence among individuals. In other words, genetic enhancement would be unjust because it would widen the gap between the haves and the have-nots. It could potentially lead to the creation of a genetically enhanced "superior" class of individuals with advantages over their genetically non-augmented peers that far exceed any benefits that parents are now able to give their children through education or training. Moreover, according to the CDF, germ cell gene therapy would inevitably undermine the common good by contributing to a culture of domination, where one class of individuals would eventually be able to regulate, and therefore to limit, the genetic future of another group of persons:

Furthermore, one wonders who would be able to establish which modifications were to be held as positive and which not, or what limits should be placed on individual requests for improvement since it would be materially impossible to fulfill the wishes of every single person. Any conceivable response to these questions would, however, derive from arbitrary and questionable criteria. All of this leads to the conclusion that the prospect of such an intervention would end sooner or later by harming the common good, by favouring the will of some over the freedom of others. Social justice requires that the commonweal seek to use its limited resources to improve the wellbeing of those at its margins, rather than to further marginalize them by enhancing an elite few far above the norm.

Genetic Testing of Human Subjects

With developments in genetics, it is now possible to identify individuals who are likely, or more likely than the typical person, to develop a particular disease. Genetic testing in adults can be undertaken for several reasons. A diagnostic genetic test can be used to verify the cause of a patient's symptoms; a pre-symptomatic test can be used to determine if a patient carries the mutated gene

for a particular disease, for example, Huntington's disease, before symptoms manifest themselves; and a predispositional test may identify a higher-than-average probability for developing a disease. All of these uses can be incorporated into medical care that is consistent with a virtuous life. Therefore, as the bishops of the United States point out, the Catholic Church "welcomes [genetic] testing when it functions as an extension of sound medical practice." However, in the same document, the bishops condemn any prenatal testing to detect genetic defects so that an abortion can be performed. However, prenatal testing to detect genetic defects to give families advance warning of a disease or disabling condition, so that they can make adequate preparations for the care of their child, is laudable. Finally, the bishops raise several cautions about the proper use and abuse of genetic information: "If someone tests positive [for a genetic mutation that predisposes the individual to a disease], should this information be available to insurance companies, whose financial success depends on minimizing risk? Potential employers? Potential marriage partners? What if the existence of a gene disposing to homosexuality is confirmed? Who should have access to test results? These simple examples illustrate the enormous potential for abuse." These questions raise complex moral questions that will require not only prudence, but also the other virtues to discern well, likely on a case-by-case basis.

Finally, the prospects of genetic testing raise the issue of the prophylactic or preventive removal of body parts or organs. For instance, women who carry mutations in either the *BRCA1* or the *BRCA2* genes routinely undergo surgeries to remove their breasts and their ovaries before these organs develop tumors. Can these medical interventions be justified for individuals whose family history and/or genetic testing indicate a highly elevated cancer risk? the Catholic moral tradition recognizes that the removal of a bodily part can be justified if the surgical intervention leads to the well-being and integrity of the whole. Recall that Pope Pius XII taught that three conditions govern the morality of a surgical procedure that removes a human organ: First, that the continued presence or functioning of a particular organ within the whole organism is causing

serious damage or constitutes a menace to it; next, this damage must be remediable or at least can be measurably lessened by the mutilation in question, and the operation's efficacy in this regard should be well assured; finally, one must be reasonably certain that the negative effect, that is, the mutilation and its consequences, will be compensated for by the positive effect: elimination of danger to the whole organism, easing of pain, and so forth.

Prophylactic surgery to remove genetically mutated breasts and ovaries appears to fulfill these criteria, and, therefore, is morally justifiable. Some may suggest that the excision of organs cannot be condoned because these body parts are not a present threat to the woman since they are not yet cancerous. However, there is scientific evidence that the development of cancer is a gradual and progressive process that can precede the appearance of a malignant tumor by months and even by years. Thus, it is not unreasonable to argue that breasts and ovaries with *BRCA1* or *BRCA2* mutations are already diseased even if they have not yet developed tumors at the time of the prophylactic surgery.

Experimentation with Human Subjects: Neuroscience and Neuroethics

The Decade of the Brain proclaimed by President George H. W. Bush on July 17, 1990, ended at the turn of the millennium. Nonetheless, the rapid progress in neuroscience that was catalyzed by the ten-year effort "to enhance public awareness of the benefits to be derived from brain research" has continued. Significant scientific and technological advances include the invention of functional magnetic resonance imaging (fMRI) to map brain activity, and the discovery of drugs that enhance cognition and strengthen memory. Not surprisingly, these milestones have also heralded the birth of a specialized focus in bioethics now called "neuroethics," which grapples with the moral questions raised by possible technological and pharmacological interventions that affect the human brain.

One insightful commentator has identified three emerging issues in contemporary neuroethics that exemplify the wide range of moral issues that are being raised by developments in neuroscience,

including the enhancement of normal brain function, the court-ordered exploitation of psychopharmacopia to rehabilitate socially undesirable behaviors, and the application of neurotechnology to "read minds." To illustrate the ethical complexity of these technological advances, I will consider here the moral questions raised by the discovery of psychotropic drugs that have been used to improve the mood, cognition, or behavior of patients struggling with mental illness.

Psychotropic or psychoactive drugs that act primarily upon the central nervous system to alter brain function are routinely used to help those struggling with a wide range of mental troubles. Three categories of drugs will be considered here with the following moral question in mind: should they also be used to enhance normal human function? First, selective serotonin reuptake inhibitors (SSRIs) are a class of antidepressants used in the treatment of depression and anxiety disorder. However, they can also be used to enhance the mood of healthy individuals. A handful of studies with healthy subjects has already demonstrated that taking SSRIs—fluoxetine (Prozac) would be one example of this class of drugs—reduces self-reported negative passions, including fear and hostility, without affecting positive affects such as happiness and excitement. The drugs also increase one's sociability and enhance cooperativity in laboratory interactions and test scenarios. Next, stimulant medications, such as methylphenidate (Ritalin) and amphetamines (Adderol), are used to treat attention deficit hyperactivity disorder (ADHD) by regulating the amounts of the neurotransmitters dopamine and norepinephrine in the brain. However, like the SSRIs, these drugs can also be taken by healthy individuals, in this case to boost those cognitive functions involved in problem solving and planning. In colleges throughout the country, these drugs are being taken, without prescription, by healthy students who wish to stay alert and focused for studying, for test taking, and even for partying. A sur-vey in the scientific journal, *Nature,* revealed that 62 percent of the 1,400 respondents from sixty countries—most of whom were scientists—had taken the drug Ritalin without prescription, to enhance concentration and to improve focus on a specific task. For some, this practice is the academic equivalent to doping in sports. Finally, the ampakines, a novel class

of psychoactive compounds that facilitate learning and memory, are being used to treat Alzheimer's disease and schizophrenia patients. However, like the other cognitive enhancers described above, these drugs can also be used to boost memory in healthy individuals. The United States military has even explored the use of ampakines to increase military effectiveness by allowing soldiers to function in a sleep-deprived state. Again, should these drugs be used to enhance human function in healthy individuals?

The Catholic Church has remained fairly silent on the majority of moral issues raised by neuroscience, recognizing that many of the decisions involving this technology have to be governed by prudence. Clearly, pharmacotherapy to help patients struggling with mental distress is morally justifiable as long as care is taken to ensure the safety of those receiving the drugs. As Blessed John Paul II reminded a conference on illnesses of the human mind: "Whoever suffers from mental illness *always* bears God's image and likeness in themselves, as does every human being. In addition, they *always* have the inalienable right not only to be considered as an image of God and therefore as a person, but also to be treated as such." But what about the use of cognitive enhancers to better normal human function? The Catholic Church has yet to speak definitively on this matter. However, it is noteworthy that the President's Council on Bioethics has discussed the moral implications of technology that is used to enhance human function to produce "superior performance" to determine whether or not such improvements compromise the humanity and individuality of the human agent. In its report, the council raised concerns that drugs used to enhance human function could lead to unfairness and inequality, to overt and subtle social coercion and constraint, to detrimental side effects that would undermine the individual's health and well-being, and most significantly, to the distortion of the true dignity of excellent human activity. These possibilities would be inimical to the pursuit of human flourishing, and, thus, would support prohibitions against use of these drugs in healthy individuals.

In light of our emphasis on virtue in bioethics, however, I also suggest that we could address the moral concerns raised by cognitive

enhancers—and other biotechnological interventions that could enhance human function—by asking the following question: would use of these cognitive enhancers allow the human agent to grow in virtue and human excellence? In some scenarios, the use of these psychoactive drugs could help the human agent to better attain the end of his vocation in the service of the common good without any harmful effects. For instance, taking cognitive enhancers to help an air traffic controller to more accurately and efficiently keep track of airplanes would be laudable. It would make the individual a more excellent professional. In other scenarios, however, the use of these drugs would encourage the acting person to develop vices inimical to human flourishing. For example, taking Ritalin to better one's performance on the Medical College Admissions Test (MCAT) would be reprehensible. It would make the student a cheater, since medical schools presuppose that the test evaluates the native cognitive abilities of their applicants. In sum, a virtue ethic should help us to properly appropriate technological interventions that enhance human function without making us lose sight of the goal of seeking human excellence.

Experimentation with Animals and Plants

Over 20 million animals are used every year in the United States as models for biological and medical research to study human physiology and anatomy, human disease and injury, and human development and psychology. Increasingly, scientists are using genetic techniques to engineer animals so that they more closely mimic the biology of human patients. For example, as we discussed in chapter 6, molecular biologists have genetically altered pigs so that their organs could be transplanted into human patients. Virologists studying HIV have also generated mice whose own immune cells have been replaced by their human counterparts. These mice will help biologists better understand the complex physiological changes that give rise to AIDS.

Researchers also use plants routinely for basic research. They seek not only to understand the physiology of these organisms, but also to apply this knowledge to genetically modify food crops to create variants that are resistant to disease or to drought. As one

illustration of this approach, genetic engineers have made "golden rice" by inserting two genes into a rice plant that allow the rice to make beta-carotene, a precursor of pro-vitamin A. This transgenic crop was developed as a fortified food to be used in areas where there is a shortage of dietary vitamin A, potentially preventing malnourishment and blindness in many children. Humanized mice and genetically engineered rice are only two examples of the varied ways in which the biomedical researchers use, test, and modify animals and plants in the laboratory.

In principle, the Catholic Church is supportive of animal research. The Church teaches that God entrusted the animals to the stewardship of those whom He created in His own image and likeness, and that animals do not and cannot have the dignity ascribed to human beings. Hence, it is legitimate to use animals for food, for clothing, and for biomedical research "if it remains within reasonable limits and contributes to caring for or saving human lives." This use would include the genetic engineering of animals. However, all effort must be taken to minimize the suffering of the animal subjects because "it is contrary to human dig-nity to cause animals to suffer or die needlessly." The Pontifical Academy of Life has also commented: "Moreover, there is a place for research, including cloning, in the vegetable and animal kingdoms, wherever it answers a need or provides a significant benefit for man or for other living beings, provided that the rules for protecting the animal itself and the obligation to respect the biodiversity of species are observed." Within reason, animals have a legitimate place in biomedical research that seeks to benefit human society.

Likewise, the Catholic Church is generally supportive of plant research. The Church has cautiously endorsed the promise of genetically modified (GM) foods, though it has not passed any definitive judgment on the moral questions raised by agribiotechnology. In an address for the Jubilee of the Agricultural World, Blessed John Paul II said the following: "Fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air" (Gn 1:28). These famous words of Genesis entrust the earth to man's use, not abuse. They do not make man the absolute

arbiter of the earth's governance, but the Creator's "co-worker": a stupendous mission, but one which is also marked by precise boundaries that can never be transgressed with impunity. This is a principle to be remembered in agricultural production itself, whenever there is a question of its advance through the application of biotechnologies, which cannot be evaluated solely on the basis of immediate economic interests. They must be submitted beforehand to rigorous scientific and ethical examination, to prevent them from becoming disastrous for human health and the future of the earth.

This precautionary stance has also been adopted by the United States Conference of Catholic Bishops in its reflections on food, farmers, and farmworkers: "[W]e believe that use of genetically altered products should proceed cautiously with serious and urgent attention to their possible human, health, and environmental impacts." The bishops of the United States conclude with prudent advice: "The driving force in this debate [over GM foods] should not be profit or ideology, but how hunger can be overcome, how poor farmers can be assisted, and how people participate in the debate and decisions." In contrast, the National Conference of Bishops of Brazil has opposed GM crops, arguing that the use of GM foods involves potential risks to human health; that the technology benefits a small group of large corporations to the detriment of small family farmers; and that these crops would damage the environment. The disagreement between the two national conferences of Catholic bishops regarding the use of GM crops highlights the lack of clarity in this moral debate and the numerous, often unverifiable, claims and counterclaims that have been put forward by the opposing sides. Critics argue that this technological innovation is morally problematic for several reasons. First, they contend that genetically modifying crops would harm the environment, by leading, for example, to the uncontrolled spread of foreign genes into nontarget plant species, including, and problematically, weeds. These "superweeds" would then become herbicideresistant, potentially jeopardizing the food supply of the poor. Critics also cite one controversial study that suggested that pollen from geneti-cally modified corn causes high mortality rates in monarch butterfly caterpillars, suggesting that GM crops could poison the birds and insects that would inevitably ingest

these plants in the field. Next, opponents of GM foods have identified potential risks for human beings, suggesting that these products could cause an allergic reaction in people. Finally, they argue that the spread of GM agriculture could unjustly undermine the livelihood of small-scale subsistence farmers, who would be unable to compete with powerful agribusiness corporations.

In contrast, proponents of GM foods have pointed to the potential benefits to agricultural productivity that could alleviate global hunger and malnutrition. The creation of golden rice, to be fed to human populations experiencing a vitamin A deficiency, illustrates this possibility. Genetic modification could also be used to create more nutritious and healthier food crops, including plants that contain medically significant drugs and vaccines. Next, pro-GM advocates claim that genetically engineered pest and disease resistance could reduce the need for pesticides, thereby decreasing the environmental threat from these toxic chemicals. Finally, they propose that farmers in developing countries could benefit from transgenic crops, though a fairly high level of national institutional capacity would be required to ensure that farmers have access to suitable innovations on competitive terms.

To summarize the parameters of the moral conversation: creating GM crops to alleviate human hunger is commendable as long as care is taken to minimize the risk to consumers. However, at present, morally evaluating this technology cannot be divorced from a moral analysis of the agribiotech industry, a potentially exploitative corporate structure that seeks to maximize profit rather than to seek a profit margin commensurable with the promotion of the common good. As the Pontifical Council for Justice and Peace taught: "Modern biotechnologies have powerful social, economic and political impact locally, nationally and internationally. They need to be evaluated according to the ethical criteria that must always guide human activities and relations in the social, economic and political spheres. Above all, the criteria of justice and solidarity must be taken into account." In sum, the production and sale of genetically engineered crops, to be moral, has to consider the legitimate needs not only of the scientists

and investors who contributed to their development, but also of the farmers whose livelihood would be shaped by the technology.

Finally, we end with a brief discussion regarding the patenting of genes and genetically modified living organisms: is this practice morally permissible? A patent is a set of exclusive rights granted by a state to an inventor for a fixed period of time that allows the inventor, through the courts, to stop rivals from making, using, or selling his invention without his permission in exchange for his agreement to share the details of his invention with the public. In 1980, the United States Supreme Court granted a patent to a microbiologist for a genetically engineered microorganism that could clean up oil spills in the ocean. It was the first American patent granted for a living organism. In 1987, the United States Patent and Trademark Office (PTO) ruled that all nonnaturally occurring, nonhuman multicellular living organisms are patentable subject matter. Among the notable patents issued by the PTO subsequent to this ruling was for the Harvard OncoMouse, a transgenic mouse genetically engineered to develop cancer for the purpose of cancer research. To date, patents have been granted for animal and human genes, for animal and human cells, and for genetically modified plants and animals. Significantly, on March 29, 2010, a United States federal judge in New York invalidated seven patents related to the two genes *BRCA1* and *BRCA2*, which, when mutated, have been associated with breast cancer. The ruling was appealed.

The Magisterium of the Catholic Church has not made any definitive statements regarding gene patents. At this point, it is important to stress the distinction between patenting *human* genes and patenting *animal* or *plant* genes, a distinction that follows from the radically different natures of human beings and of nonhuman organisms. Regarding the former practice, Blessed John Paul II has commented: "We rejoice that numerous researchers have refused to allow discoveries made about the [human] genome to be patented. Since the human body is not an object that can be disposed of at will, the results of research should be made available to the whole scientific community and cannot be the property of a small group." Like human organs, human genes should not be treated as

commodities or as property, because the human person is not the master, but only the steward, of his own life, his body, and therefore, his genes. Regarding the practice of patenting animals, plants, and/or their genes, on the other hand, the bishops of the United States have proposed the following:

Both public and private entities have an obligation to use their property, including intellectual and scientific property, to promote the good of all people. To ensure that the benefits of emerging technologies are widely shared, patents should be granted for the minimum time and under the minimum conditions necessary to provide incentives for innovation. Agricultural products and processes developed over time by indigenous people should not be patented by outsiders without consent and fair compensation. To ensure that poor countries can take advantage of new technologies, strategies and programs will be needed to help transfer these technologies affordably. The driving force in this debate should not be profit or ideology, but how hunger can be overcome, how poor farmers can be assisted, and how people participate in the debate and decisions.

The bishops conclude that the patenting of life genes is not inherently immoral as long as all reasonable efforts are undertaken to avoid the exploitation of the poor. Within contemporary society, there is an ongoing debate surrounding the legitimacy of life patents. Opponents cite three common reasons for their position. First, they argue that living organisms, as creatures of God, should not be equated with human technical inventions. They continue by suggesting that the patenting of life forms promotes an irreverent materialistic conception of life. Next, opponents contend that a gene sequence is not a conventional chemical substance, but is more like an information code with different functions. Thus, the holder of a patent that describes one commercial use should not receive a monopoly on all possible functions. Finally, critics claim that patents hinder scientific research and development, not only by creating a climate of secrecy in science that would hinder the normal exchange of information that is essential for scientific discovery, but also by preventing the reasonable use of living organisms in laboratories.

In contrast, proponents of life patents justify the patent system as a way to promote technological progress in a manner akin to the justification given in the United States Constitution. Patents, including patents for bioengineered organisms and their genes, promote this progress by providing financial incentives for innovation and by requiring inventors to disclose their inventions, which would enable others skilled in the field to test and to improve on them. Moreover, advocates propose that the extent to which life patents contribute to the commodification of living beings is not clear, since patents do not provide an affirmative right to use an invention but only provide a right to bar others from using it. Therefore, proponents conclude that patenting living organisms and their de-rivatives is a practice that actually promotes the common good by accelerating technological advance.

In conclusion, in light of the arguments proffered by both sides of this debate, the statement of the bishops of the United States remains a reasonable one. In principle, the practice of patenting nonhuman organisms and their genes should be morally permissible, as long as all precaution is taken in justice to consider and respect the legitimate needs of the stakeholders involved, especially the poorest of the poor. It would be comparable to the morally acceptable practice of treating nonhuman organisms as property, property that we commonly call crops, livestock, and pets. Ownership gives the owner of the plant or the animal certain rights, including the right to breed and to sell the organism, and the right to prevent others from doing the same with his property. In a parallel manner, patenting would be a practice that gives the inventor analogous rights over his intellectual property.

Experimentation with Human Cells: Stem Cell Research and Regenerative Medicine

A typical adult human being is made up of trillions of cells of different types. There are one hundred and twenty or so of these different cell types—bone cells, skin cells, muscle cells, and blood cells are only some of these types—each with its own unique shape and function. These specialized cells are called differentiated cells

because they have different functions. In general, these specialized cells have two basic characteristics. First, they have a limited lifespan. In other words, in the laboratory, a population of these cells can divide only about fifty times or so before growing old and dying. Second, when they divide, these specialized cells can produce only daughter cells of their own type. Thus, a skin cell can produce only other skin cells, while a muscle cell can produce only other muscle cells. They are unipotent cells.

Differentiated human cells and tissues are routinely cultured in laboratories throughout the world for experiments of different types. They are essential elements of numerous research programs that seek to uncover the secrets of both normal and diseased cells. Blessed John Paul II has acknowledged the importance of these research efforts to better understand the most intimate mechanisms of life: "It must be emphasized that new techniques, such as the cultivation of cells and tissues, have had a notable development which permits very important progress in biological sciences." Differentiated human cells are also used to identify and to test novel drugs that could be used to treat disease and genetic anomalies. In principle, experimental protocols using human cells and tissues should be morally permissible, as long as the cells are obtained with the informed consent of the volunteers or the patients who gave them to science. In addition to the numerous kinds of differentiated cells, the human being also has a different category of cells called stem cells. These cells are rare. In contrast to skin, muscle, and other differentiated cells, stem cells are relatively nonspecialized and are therefore called "undifferentiated" cells. Stem cells too have two basic characteristics. First, they are immortal. In the laboratory, stem cells will continue to divide and to grow as long as they are kept in a suitable environment and receive all necessary nutrients. Second, when they divide, stem cells can produce cells of different cell types. Thus, a stem cell could produce a skin cell or a muscle cell or a liver cell, depending on the particular environment it finds itself in. Like the stem of a plant that can produce branches or leaves or flowers, a stem cell can generate a variety of different cell types.

In human beings, as in other animal species, there are two general classes of stem cells. Embryonic stem cells, or ES cells, are stem cells that are harvested from five-day-old human embryos that are destroyed in the process. In theory, they are able to produce all of the one hundred and twenty or so cell types that are found in an adult's body, and are there-fore called pluripotent stem cells. Adult stem cells, or AS cells, are stem cells that are found in different tissues in human beings at a later stage of development. Adult stem cells include stem cells taken from, among other tissues, bone marrow, fetal cord blood, fat, and liver. They are able to produce many, but not all, of the one hundred and twenty or so cell types in the adult body, and are, therefore, called multipotent stem cells. There are scientific papers that suggest that adult stem cells—especially stem cells from the bone marrow and from the testicle—may be as pluripotent as embryonic stem cells, though these results remain controversial. Stem cell research has generated much excitement since human embryonic stem cells were discovered more than ten years ago at the University of Wisconsin–Madison. First, many scientists believe that stem cells are exciting because they will soon revolutionize medicine by catalyzing the emergence of the new field of regenerative medicine. Regenerative medicine will allow physicians to replace lost or damaged cells with stem cells or differentiated cells derived from them. Second, scientists also believe that stem cells will be useful laboratory tools, not only to better understand the origin and causes for many chronic and acute diseases, but also to develop drugs to treat these illnesses. Both approaches could lead to cures that would alleviate the suffering of millions.

Many chronic and acute injuries that are common in the developed world involve the loss or death of a particular cell type in the patient. Chronic conditions include Parkinson's disease, a degenerative disease of the central nervous system that results from the loss of specialized nerve cells in the brain that secrete dopamine, and juvenile, or type 1, diabetes, a metabolic disease associated with the loss of specialized cells in the pancreas that secrete insulin into the blood. Acute conditions include spinal cord injury and heart attacks, which are debilitating because they lead to the death of

cells in the spinal cord and in the heart respectively. Proponents of regenerative medicine hope to treat these diseases and others like them by using stem cells to replace the lost or damaged cells. Let us say that an adult—let us call him Jim—gets Parkinson's disease fifty years from now. Regenerative medicine would allow Jim's physician to use stem cells to cure him of this affliction. The physician would simply take stem cells (or cells derived from them) and introduce them into his patient's nervous system. Since these cells have the ability to become cells of different types, the hope is that they would repair the diseased Parkinson's brain by becoming new dopamine-producing nerve cells, thus replacing the specialized nerve cells that had been lost. The same would hold true for treating heart attacks. If Jim suffers a heart attack fifty years from now, regenerative medicine would allow his cardiologist to simply inject stem cells (or cells derived from them) into his blood stream. The hope would be that these cells would migrate to and regenerate Jim's heart by becoming new heart cells—called cardiomyocytes—thus replacing the heart cells that were killed during the heart attack.

Finally, while regenerative medicine promises to lead directly to cures, scientists also believe that stem cells taken from patients with different diseases could themselves be used as research tools in the laboratory to better understand the origins and development of disease. For instance, stem cells obtained from a patient with amyotrophic lateral sclerosis, or Lou Gehrig's disease, could help scientists to comprehend the gradual deterioration of motor neurons that occurs during the course of this debilitating neuromuscular disease. In this way, disease-specific stem cells used as research tools could lead indirectly to cures for many illnesses. Not surprisingly, stem cell research is a promising source of hope for many patients. Is stem cell research a moral practice? At the outset, it is important to stress that not all stem cell research is controversial. A moral consensus exists applauding and encouraging the development of cell-replacement therapies that arise from human adult stem cell research. However, much moral and political debate surrounds human embryonic stem cell researchbecause it is associated with the destruction of human embryos. As Pope Benedict XVI explained

to a conference of stem cell biologists: Research, in such cases, irrespective of efficacious therapeutic results is not truly at the service of humanity. In fact, this research advances through the suppression of human lives that are equal in dignity to the lives of other hu236 Research Bioethics Bench to Bedside man individuals and to the lives of the researchers themselves. History itself has condemned such a science in the past and will condemn it in the future, not only because it lacks the light of God but also because it lacks humanity. This scientific practice is gravely immoral because it leads to the death of innocent human beings, and, as such, attacks the inviolable dignity of the human person.

Finally, many people think that the Catholic Church is against all human stem cell research. This is inaccurate. As we discussed above, the Catholic Church is opposed to any and all research programs that attack and undermine the dignity of the human person, especially any experiments that lead to the death of innocent human beings. However, the Church would enthusiastically support all morally acceptable research that seeks to alleviate the suffering of the sick. Indeed, though the Church is opposed to destructive human embryo research, several dioceses, including all the dioceses in South Korea and the Archdiocese of Sydney, have funded efforts to develop adult stem cell technology. Finally, on May 19, 2010, the Vatican announced a joint initiative with an international pharmaceutical company named Neostem, Inc., to raise awareness and to expand research for adult stem cell therapy.

Common Objections

The Use of "Surplus" Human Embryos for Stem Cell Research As we mentioned in chapter 3, approximately four hundred thousand human embryos are being stored in cryogenic freezers in several hundred assisted reproductive technology (ART) facilities in the United States. Of these, approximately eleven thousand embryos are available for research. Moreover, a survey of 2,210 fertility patients has revealed that 495 (49%) of the 1,020 respondents who had stored frozen embryos were somewhat or very likely to donate their embryos for research purposes. Therefore, proponents of stem

cell research have suggested that these "surplus" embryos should be made available to scientists working to obtain embryonic stem cells, especially since many of these "spare" embryos are already destined for destruction.

In response, would we be morally justified if we proposed that terminally ill children in a pediatric oncology unit should be made available to scientists who would kill them to study their diseased organs, especially since they are already destined for death? Of course not! Until he dies, the human being, whether he is an embryo or a child, has an intrinsic dignity that needs to be respected. Therefore, even if he is about to die, the human being cannot be killed, even if killing him would lead to the cure of a chronic disease. The instruction *Dignitas personae* makes this very clear: "Proposals to use these embryos for research or for the treatment of disease *are obviously unacceptable because they treat the embryos as mere 'biological material' and will result in destruction.*" As we discussed in chapter 3, abandoned human embryos could be adopted by parents who would pay to maintain the cryopreservation necessary for the survival of their child until incubators capable of bringing him to term are invented. This would preserve the life of the child without undermining his parents' marital covenant.

The Benefits of Embryonic Stem Cell Research

Proponents of human embryonic stem cell research often accuse opponents of destructive human embryo research of being anti-patient because banning this research would prevent scientists from discovering cures for a multitude of diseases. This objection often presupposes that the moral course of action is the one that alleviates the most human suffering. In response, adult stem cell research remains one morally acceptable pro-patient alternative to the destructive human embryo research associated with human embryonic stem cell research. In fact, a quick search on clinicaltrials.gov, the website that tracks all clinical trials currently being undertaken in the United States, reveals that adult stem cells are already being used to treat human disease. As one example, at the Texas Heart Institute at St. Luke's Episcopal Hospital in Houston, Texas, patient-specific adult

stem cells are already being tested on patients who have suffered heart attacks to see if they will help restore the structure and function of the damaged heart. In contrast, at the time of this writing, there are only two clinical trials for therapies based on human embryonic stem cells. Adult stem cells have also been used to restore sight to those blinded by burns. In light of this, it is reasonable to argue that pro-patient advocates should invest our limited research funds into developing adult stem cell research that is already reaping benefits at the bedside rather than in embryonic stem cell work that has yet to bear fruit. As the Congregation for the Doctrine of the Faith points out, "Therapeutic protocols in force today provide for the use of adult stem cells and many lines of research have been launched, opening new and promising possibilities." Furthermore, there are several alternatives that may allow scientists to obtain pluripotent stem cells without destroying human embryos. Here, we summarize and consider four proposals for alternative sources of human pluripotent stem cells that were described by the President's Council on Bioethics.

According to the first proposal, human pluripotent stem cells could be harvested from early IVF embryos that have already died, as evidenced by the irreversible cessation of cell division. Some of these dead embryos could, however, contain individual cells that are still alive, cells that could be used to obtain pluripotent stem cells. This approach would be comparable to organ donation from adult individuals who have died. In this case, the dead embryo would donate his cells to science for the benefit of others.

This first proposal has generated much debate among ethicists and moral theologians. It is based on an attractively simple ethical idea: it should be permissible to obtain cells from embryos that have died, as long as their deaths have not been caused or hastened for that purpose. However, several ethicists have argued that it is hard to know when an early human embryo is truly dead. Others are worried that we could not know if our taking of the individual living cell from the dead embryo would allow it to become an embryo on its own right. If so, then we would have returned to our original objections to destructive human embryo research. Finally, and this

is of particular concern for the Catholic, this proposal may necessitate cooperating with the immoral practices of infertility clinics that use IVF techniques to create human embryos in the laboratory.

According to the second proposal, human pluripotent stem cells could be obtained from individual cells obtained by biopsy of an early human embryo. For this proposal to work, scientists would have to find a stage in early embryonic development where the removal of one or a few cells by biopsy would neither harm the embryo nor destroy the capacity of these collected cells to be used as a source of pluripotent stem cells. Preliminary studies have shown that pluripotent stem cells can be derived from individual cells taken from human embryos, but in these experiments, all of the cells in the embryos were used for the tests, destroying the embryo. Like the first proposal, this proposal has generated much debate among ethicists and moral theologians. In accordance with the teaching of the Catholic Church, several ethicists have argued that we could never justify exposing the human embryo to the harm intrinsic to experimen-tal manipulation, no matter how small, when the technical intervention would have no direct benefit to the embryo himself. Using human beings for purposes of no benefit to them and without their informed consent would be an act of injustice. Moreover, a similar concern exists as the one described above for the first proposal: we could never know if our taking of the individual cell from the embryo would allow it to become an embryo on its own right. Once again, this would raise the original objections to destructive human embryo research.

According to the third proposal, variants of which include either altered nuclear transfer (ANT) or altered nuclear transfer–oocyte assisted reprogramming (ANT-OAR), pluripotent human stem cells could be obtained from non-embryonic biological artifacts created by using genetic tricks to manipulate eggs and cells. Experiments with mice suggest that this approach does lead to the production of pluripotent mouse stem cells. This third proposal has generated much heated debate, especially among Catholic ethicists and moral theologians. Critics are concerned that this proposal would lead to the creation of disabled embryos that would be killed by scientists

rather than the creation of non-embryos that could be legitimate sources of pluripotent stem cells. They raise a critical question: what criteria should be used to distinguish bona fide embryos from non-embryos? Though advocates of this proposal have proposed such criteria and have argued that they can be used to provide moral guidance for ANT or for ANT-OAR, these proposals remain controversial. Furthermore, there is the added concern that procuring the large numbers of human eggs needed to accomplish this proposal could lead to the commercialization of human reproductive tissue and the exploitation of women, especially poor women, in the developing world.

Finally, according to the fourth proposal, pluripotent human stem cells could be obtained from reprogrammed differentiated cells taken from adult human beings. This proposal is the most exciting of the four proposals described by the President's Council on Bioethics, especially since a consensus exists for its moral acceptability. To date, it is also the proposal that has attained the most scientific success: on November 20, 2007, two research teams, one in Japan and the other in the United States, independently reported that they had successfully reprogrammed adult human cells into pluripotent stem cells called induced pluripotent stem (iPS) cells, which were indistinguishable from pluripotent stem cells taken from human embryos. The scientists took the differentiated human cells and were able to reprogram them into nondifferentiated stem cells simply by introducing four genes into their nucleus. Two weeks later, a team from M.I.T. used the technique to cure sickle-cell anemia in mice, providing proof-of-principle that this nuclear reprogramming, or induced pluripotent stem cell (iPS) technology, could be used for regenerative medicine. Though the iPS technique needs to be developed before it can be used to treat human patients, numerous commentators agree that it should lead to the end of the stem cell wars. It is not surprising that Dr. Ian Wilmut, the creator of Dolly the cloned sheep, has already announced that he and his laboratory have abandoned their plans to pursue cloning technology to obtain patient-specific embryonic stem cells. Instead, his team has decided to focus all their efforts into perfecting the nuclear reprogramming (iPS) approach.

Experimentation with Novel Life: The Creation of Human/Animal Chimeras and Hybrids

According to ancient Greek mythology, a chimera was a creature with a lion's head, a goat's body, and a serpent's tail. In biology, a chimera is an organism whose body is composed of tissues or of cells from distinct species. For example, goat-sheep chimeras, known as geeps, have been generated by combining embryonic cells from sheep and from goats. Each cell of the chimera contains the genetic material from either one of the parental species but not both. Chimeras have to be distinguished from hybrids, which are organisms produced when two different species interbreed, either via normal copulation or by in vitro fertilization. Mules, for instance, are hybrids produced when a female horse mates with a male donkey. Each cell of the hybrid contains a mixture of genetic material inherited from both parental species. In principle, the creation of nonhuman interspecies chimeras or hybrids is morally permissible for a reasonable purpose. Most persons would not condemn the actions of a man who bred horses and donkeys to generate the mules that regularly travel up and down the Kaibab Trail of the Grand Canyon carrying supplies. Even sacred Scripture refers approvingly to the practice of grafting one plant onto another to create a plant chimera (cf. Rom 11:17–24). Nonetheless, care has to be taken to avoid any unnecessary animal suffering.

In recent years, however, technical advances that would also allow scientists to make human/animal chimeras and hybrids have generated controversy. First, as we discussed in chapter 6, it is now possible for human beings to receive transplanted animal parts. Recall that, in principle, this technology should be morally permissible, as long as surgeons ensure the safety of and preserve the identity of the human recipient while preventing all unnecessary animal suffering. Next, it is now also possible for scientists to create both chimeric animals that contain human tissues or cells, and hybrid animals whose cells contain one or more human genes. An example of the latter is the patented Harvard OncoMouse mentioned earlier in this chapter, which is a transgenic mouse whose cells contain a human cancer gene. The OncoMouse and other genetically engineered mice like it

are routinely used as animal models for human disease. In principle, the use of this technology should also be morally legitimate, especially if research with the chimeric or hybrid animal promotes human health. Finally, it is now possible to create animal/human hybrids, either by using in vitro technology to fertilize an animal egg with a human sperm, or by using cloning technology to replace the nucleus of an animal egg with a nucleus taken from a human cell. Stem cell advocates have promoted the latter method to create human embryonic stem cells. This last technological advance is morally problematic because it risks creating a disabled human being who is treated and manipulated as an experimental subject, undermining his dignity. As the Congregation for the Doctrine of the Faith explained in *Dignitas personae:* "From the ethical standpoint, such procedures [to create human/animal hybrids] represent an offense against the dignity of human beings on account of *the admixture of human and animal genetic elements capable of disrupting the specific identity of man.*" To be faithful to his vocation, the virtuous scientist has to respect the moral law, especially the moral imperative to respect and to protect the dignity of the human person. Highlighting the Role of Virtue in Bioethics As we acknowledged at the beginning of this chapter, the search for truth is the basic task of the scientist as he strives to understand the natural order in creation. For this, he needs the intellectual virtues, especially the three virtues of understanding, *intellectus* in Latin; of sure-knowledge, *scientia* in Latin; and of wisdom, *sapientia* in Latin, that shape the speculative intellect. From my experience, bench scientists and physician-scientists acquire the virtues of understanding and of sure-knowledge during their professional training. With the virtue of understanding, they are able to grasp well the self-evident first principles of knowledge, for example, that the whole is greater than its parts. Then with the virtue of sure-knowledge, they are able to reason from these basic truths and the data of their experiments to the conclusions of their particular field of expertise, whether it be biology, chemistry, or physics. However, scientists, often through no fault of their own, are not trained to acquire—or even to desire—the virtue of wisdom. And yet, it is this virtue that would dispose them to grasp the moral dimensions of their work. Where the virtue of science would dispose

the researcher working at the Whitehead Institute at M.I.T. to discover the genetic basis for the pluripotency of human embryonic stem cells, the virtue of wisdom would dispose him to properly understand his findings within the moral, historical, philosophical, and theological context not only of human history and civilization, but also, for the scientist of faith, of Divine Providence.

Wisdom is the virtue that perfects the intellect, so that the human agent can consider the particular conclusions he has made with his reason in light of an ultimate explanation for reality. St. Thomas Aquinas distinguished three kinds of wisdom. The first is a purely natural wisdom, an acquired virtue usually associated with metaphysics, the study of being, which allows the human person to comprehend the cause for and the overall structure of reality. The human intellect formed by natural wisdom finds itself at the threshold of the supernatural. With natural wisdom, the philosopher is able to reason from the structure of reality to its ultimate cause, who is God, but is then unable to go further. For this next step, he needs a second kind of wisdom, supernatural wisdom, an infused virtue that is associated with theology, the study not only of God as He has revealed Himself to us, but also of all things as they relate to Him, which allows the human person to comprehend the mystery of God's inner life and His providence in history. Finally, there is the gift of wisdom, an infused wisdom given by the Holy Spirit that produces a connatural knowledge of God and of His creation in the believer. This gift of wisdom disposes the human agent to know God intimately as a lover knows his beloved. It allows him to make judgments about divine and created things all in light of God as the highest cause. To different degrees, natural, supernatural, and infused wisdom would dispose the scientist to make practical and moral judgments about his experiments and his research plan, in light of his overall vocation to serve God and his society.Of course, the vocation of the scientist spelled out at the beginning of this chapter, and presupposed here in this discussion of the role of wisdom in research bioethics, is at odds with the secular worldview that permeates and saturates most of the laboratories and hospitals in the West. Nonetheless, all scientists, believers and nonbelievers alike, should

seek to cultivate some form of wisdom so that they can appreciate the personal, social, and moral implications of their research. As a priest-scientist myself, I have discovered that a significant number of bench researchers and physician scientists are not familiar with even the major fault lines of the bioethical debates that are consuming our society. Busy with their personal and professional responsibilities, many have not considered the moral implications of their work. This is unfortunate, since they are at the front lines of many of the technological research programs that have generated these disagreements. Therefore, scientists, even those who do not profess any religious faith, should be encouraged to grow in the virtue of wisdom. They can do this by contemplating the big questions of life.

The primary act of wisdom, contemplation, challenges the individual to seek an ultimate explanation for all that is. First and foremost, it demands an answer to the question: why is there anything rather than nothing? Though grappling with this question may not lead the nonbelieving scientist to the First Cause who is God—the road to belief is often blocked not by intellectual but by moral obstacles—the very act of contemplation may challenge him to pause in wonder, even for a moment, allowing him to properly consider the moral dimensions of his work. Professor Shinya Yamanaka, the Japanese scientist who discovered the nu clear reprogramming protocol that generates human induced pluripotent (iPS) stem cells without destroying human embryos, has admitted that his groundbreaking research was motivated by a moment of wonder when he realized that the human embryos in his laboratory reminded him of his daughters. His insight—a moment of wisdom—has changed the course of bioethical discourse in our society for the better.

This study matarial is prepared mainly for the study purpose and is compiled largely from: Austriaco Nicanor Pier Giorgio. *Biomedicine and Beatitude*: *An Introduction to Catholic Bioethics,* Whashington: *Catholic University of America Press, 2011.*