7. The Plastics Crisis and Catholic Social Teaching

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A global crisis so expansive and pervasive as the ongoing plastic crisis challenges humankind and the planet on many accounts. Global awareness is urgently needed. In the preceding chapters, scientists raise concerns. As ethicists, we trust their expertise, and we examine it critically. We heard the urgent cry of scientists, calling for a strong commitment to address this planetary crisis, to care for the health and wellbeing of human beings, and to protect the planet for our generation and for future generations. We join them arguing for concrete solutions.

Hence, the beginning of the needed ethical response to the global crisis caused by plastic production, disposal, accumulation, and pollution is centered on *trust*. Together with Catholic social thought, ethicists *trust* scientists, healthcare professionals, politicians, activists, believers, and educators who critically examine the productive cycle of plastics as well as its uses and who struggle to find solutions.[1] The social and environmental responses, which address how much humankind relies on and depends on plastic, discarding it, being unable to recycle it effectively, and accumulating it in our oceans and landfills, build on this *trust*. Ethically, we neither question nor doubt the urgency of the plastic crisis.

However, trust calls on trust and depends on trust. Collectively, we need to trust our commitment and our ability to respond ethically to this crisis. As a society, and as people of good will, Catholic social thought empowers us to respond to the global plastic crisis in ways that depend on this trust and strive to strengthen our ability to be trustworthy in caring for humankind and for our planet.

[1] See James F. Keenan, "Social Trust and the Ethics of Our Institutions," *Journal of the Society of Christian Ethics* 42, no. 2 (2022): 245–263.

An appropriate ethical response should identify necessary approaches and concrete steps as part of a comprehensive *ethical strategy*. This response should recognize and appreciate practical solutions and initiatives that are already implemented, mostly locally. In what follows I highlight key elements that characterize this ethical strategy and qualify an ethical approach informed by Catholic social thought. I focus, first, on what concerns *personal and social* engagements; second, on *political and economic* dimensions; third, on *technological and critical* approaches.

1. Personal and Social

What should we do to address the ethical challenges of plastic pollution both on a local and global scale? Usually, the first response focuses on the *individual* and on one's responsibilities articulated in terms of *duties*, for example, to consume less plastic and to recycle. This emphasis on personal duties indicates that one's moral life is understood mostly as a set of norms that need to be fulfilled at the individual level. By fulfilling these norms, one acts rightly and avoids the sense of guilt that might be experienced in being unable to tackle the complexity of the global plastic crisis. Individual duties that can be fulfilled seem to protect a person from feeling overwhelmed by the extent of the plastic crisis. Moreover, one can experience self-gratification and affirm to have been able to do something, what duty called one to do.

However, we are aware that the impact of individual choices is quantitatively irrelevant compared to the extent of plastic pollution, as well as when one considers the dynamics and interests that inform plastic production, distribution, and use. What can an individual realistically do? As individuals, is there any possible way to have a larger and more significant impact in addressing the ongoing and increasing plastic pollution? Answering in the negative seems to be the only option. But dismissing what individuals can do might lead to disillusionment, disappointment, hopelessness, maybe even despair, by assuming that nothing that really matters can be done.

An ethical approach centered on the individual and on one's duties is needed, but it is insufficient. Both an individualistic focus and a deontological ethics show their limitations. An ethical approach that expands its attention to diversified moral agents—that is, by considering that individuals belong to communities, networks,[2] collectives,[3] and institutions—seems to be more promising. Such an expanded ethical approach is more capacious and accounts for the interconnectedness and interdependence that characterize moral agents. Hence, "Everything is interconnected," as Pope Francis stressed in his 2015 encyclical letter *Laudato Si': On Care for Our Common Home*.[4] We are not isolated, unencumbered beings. Moreover, just behavior could be fostered neither merely nor exclusively by a sense of duty but, more successfully, by the attraction of what is just, right, and good. Virtues seem to be more appropriate to describe how moral agents, in their multiplicity and difference, can embrace virtuous behaviors—even when facing the daunting plastic crisis. Through habituation the moral agents live virtuous lives. Moreover, virtuous moral agents contribute to a virtuous society.

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[2] For David Hollenbach, "Governance from above by sovereign governments must today be complemented by networks linking groups across borders in complex webs of mutual dependence. People who are networked together can begin to recognize that their own interests and the interests of others in the network are intertwined. They begin to pursue goals other than maximization of self-interest. . . . Through networking, different groups can work together in a participatory way—in collaboration without domination, in mutual support without hegemony. . . . Governance through collaborative, participatory networking holds real promise as a way to advance the transnational common good. . . . the promotion of local, regional and global cooperation for the common good through polycentric governance and networking. . . . Collaboration in networks requires a degree of trust among those who participate." David Hollenbach, SJ, "The Glory of God and the Global Common Good: Solidarity in a Turbulent Word," *Proceedings of the Catholic Theological Society of America* 72 (2017): 55.

[3] See James F. Keenan, "Recognizing Collectives as Moral Agents," *Theological Studies* 85, no. 1 (2024): 96–123.

[4] Francis, *Laudato Si': On Care for Our Common Home* (2015), www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html, no. 70.

Among the many personal and social virtues that can be highlighted, *prudence* and *justice* could be mentioned. Individual and collective choices are informed by a prudential approach that aims at considering benefits and advantages, as well as costs and consequences—for individuals, communities, and the whole planet. Moreover, longing for justice leads to promoting social justice by highlighting ongoing injustices and inequities and striving to promote greater just dynamics and equity.

Hence, prudence and justice could accompany citizens in their personal and social striving to act in virtuous ways in a virtuous society. As outcomes, more prudential choices would lead, for example, to limit plastic production, to promote incentives, to seek alternative solutions, to demand accountability, and to require commitments to clean up.

A virtuous approach presupposes *togetherness* and aims at fostering *solidarity*.[5] As citizens, we are experiencing the consequences of plastic polluting the water that we drink,[6] the food that we grow and eat, and the air that we breathe. Together we strive for a world less polluted by plastic. We join others who preceded us in their commitments to find alternative ways of living, producing, consuming, and discarding. We commit ourselves to work together, in solidarity with those who are already experiencing in their bodies, homes, and working places the consequences

[5] See Meghan J. Clark, *The Vision of Catholic Social Thought: The Virtue of Solidarity and the Praxis of Human Rights* (Fortress Press, 2014); Meghan J. Clark, "Health Equity, Solidarity and the Common Good: Who Lives, Who Dies, Who Tells Your Story," *Health Progress* 97, no. 6 (2016): 9–12; Meghan J. Clark, "Pope Francis and the Christological Dimensions of Solidarity in Catholic Social Teaching," *Theological Studies* 80, no. 1 (2019): 102–122; Meghan. J. Clark, "Anatomy of a Social Virtue: Solidarity and Corresponding Vices," *Political Theology* 15, no. 1 (2014): 26–39.

[6] On clean water, see Susan K. Barnett, "Water, Sanitation and Hygiene: Vatican, Catholic Health Care Take Leadership Roles in 'Wash' Work," *Health Progress* 102, no. 4 (2021): 38–44; Christiana Z. Peppard, *Just Water: Theology, Ethics, and Fresh Water Crises*, revised ed., Ecology and Justice (Orbis Books, 2018); Vatican Dicastery for Promoting Integral Human Development, "Aqua Fons Vitae: Orientations on Water, Symbol of the Cry of the Poor and the Cry of the Earth" (2020), www.humandevelopment.va/en/risorse/documenti/aqua-fons-vitae-the-new-document-of-the-dicastery-now-available.html.

of plastic pollution, aiming at reducing and, if possible, eliminating what can affect the health of people and of the planet.

One example is needed. In March 2024 the prestigious *New England Journal of Medicine* published the results of a study aimed at verifying the assumption that, as the authors indicate, "Microplastics and nanoplastics (MNPs) are emerging as a potential risk factor for cardiovascular disease in preclinical studies."[7] In particular, they wrote that

> Several studies have shown that microplastics and nanoplastics (MNPs) enter the human body through ingestion, inhalation, and skin exposure, where they interact with tissues and organs. MNPs have been found in selected human tissues, such as the placenta, lungs, and liver, as well as in breast milk, urine, and blood. Recent studies performed in preclinical models have led to the suggestion of MNPs as a new risk factor for cardiovascular diseases.[8]

To verify this suggestion, "A total of 304 patients were enrolled in the study. . . . Polyethylene was detected in carotid artery plaque of 150 patients (58.4%)."[9] Moreover, the authors continue, "In this study, patients with carotid artery plaque in which MNPs were detected had a higher risk of a composite of myocardial infarction, stroke, or death from any cause at thirty-four months of follow-up than those in whom MNPs were not detected."[10] It is sobering to discover that one can find MNPs everywhere, including within human bodies, inside artery plaques.

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[7] Raffaele Marfella, Francesco Prattichizzo, Celestino Sardu, Gianluca Fulgenzi, Laura Graciotti, Tatiana Spadoni, et al., "Microplastics and Nanoplastics in Atheromas and Cardiovascular Events," *New England Journal of Medicine* 390, no. 10 (2024): 900.

[8] Marfella, et al., "Microplastics and Nanoplastics in Atheromas and Cardiovascular Events," 901.

[9] Marfella, et al., "Microplastics and Nanoplastics in Atheromas and Cardiovascular Events," 900.

[10] Marfella, et al., "Microplastics and Nanoplastics in Atheromas and Cardiovascular Events," 900.

Caution is needed when one focuses on statistical risk, as the moral theologian Paul Scherz strongly stresses in his volume recently published on *The Ethics of Precision Medicine*.[11] As moral agents and as a society striving to be virtuous, ethical choices in healthcare are not solely determined by calculating percentages of risk, with a false understanding of what predictive medicine could offer to society. When one considers the relationship between patients and healthcare professionals in healthcare settings, or when one looks at the health of populations and their living environments, or focuses on global health, ethical decision-making aimed at promoting health requires a careful *discernment* of the many factors that intervene in influencing health and its pursuit, particularly when one considers how human and planetary health are threatened by plastic pollution.

The virtue of solidarity helps to address this demanding discernment because, as Pope John Paul II stressed, solidarity "is not a feeling of vague compassion or shallow distress at the misfortunes of so many people, both near and far. On the contrary, it is a firm and persevering determination to commit oneself to the common good; that is to say to the good of all and of each individual, because we are all really responsible for all."[12]

Catholic social thought embodies this vision of the person interconnected, interdependent, in solidarity with others, striving to join those who are less well off, in greater need, marginalized, and excluded, working together with them to foster social ways of living that are more virtuous, and that contribute to promote what is good in inclusive ways, for individuals, societies, and the whole planet. When one considers the environment and health, this comprehensive ethical approach aims to promote agency and empowerment, by assuming that personal and

[11] Paul Joseph Scherz, *The Ethics of Precision Medicine: The Problems of Prevention in Healthcare* (University of Notre Dame Press, 2024).

[12] John Paul II, "*Sollicitudo Rei Socialis*: For the Twentieth Anniversary of *Populorum Progressio*" (1987), http://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_30121987_sollicitudo-rei-socialis.html, no. 38.

collective agency and empowerment can help civil society to address the urgent challenges raised by plastic pollution.

2. Political and Economic

To promote the common good, Catholic social thought focuses both on individuals and society. This double emphasis implies that needed attention is given to political choices and economic strategies as well as structures and systems. For example, the industrial complex is the result of multiple structures and could be considered a system that, across continents, is responsible for the production of plastic in ways that should be the object of critical scrutiny. Is the industrial system more attentive to its self-preservation and expansion than to ways of producing, distributing, and then discarding that should be challenged by society as a whole? Should the industrial compact build-in, together with the cost of plastic production, also the cost of preventing plastics from ending up in our bodies, in our food, on our beaches—mostly in countries in the Global South of the world—and become a troubling burden of our collective inheritance, which we leave to the current generation and to those who will follow us?

When one considers structures, political and economic forces contribute to articulating social dynamics in terms of power. As citizens, we stress the responsibilities that we assign to structures, with their dynamics and social institutions, to serve the common good in ways that foster social justice and make a preferential option for the poor, while caring for our planet.

3. Technological and Critical

Within the social context, whether in the fields of scientific research or in the industrial complex, technology demands a particular ethical attention.

For many, technology is the exclusive and unique answer to the challenges that humankind faces, including plastic pollution.

In more nuanced ways, ethically we stress that while we ask technology to provide and make available technological developments that can contain and limit the production, use, accumulation, and disposal of plastics, we are aware that exclusive technological answers are incomplete. To presume that technology is *the* only solution and that technological fixes alone can respond to what affects human beings and the planet betrays what Pope Francis has called the "technocratic paradigm."[13] We assume that the ethical and social problems that technology has created can only be addressed and solved by more technology, and in ways which we presume we are able to control. In doing so we lack a critical assessment of technology and of its achievements, failures, and applications. We implement an extractive approach, "attempting to extract everything possible"[14] from who and what surround us. We also miss learning from the history of science and, in particular, of technology, where we can trace reductionist and deterministic approaches, informed by biased vision of the self, society, race, gender, and development. We also perpetuate the extractivism that has shaped the global colonial history and continue to inform neocolonial dynamics across continents.

If we assume that technology has all the answers to social challenges, we avoid situating technology within the social, political, historical, and economic contexts in which technology has developed and continues to grow. As in the case of science, technology is not neutral. Hence, personal, communal, and social trust in technological solutions should be informed by a critical hermeneutic able to unmask how technological developments might demand more and more technology to deal with some of the consequences that the technology caused in the first place. The technological production of plastics demands more technologies able to

[13] Francis, *Laudato Si'*, nos. 106–109.
[14] Francis, *Laudato Si'*, no. 106.

contain the negative effects of plastics. We should strive for ways to slow down, contain, and break this entrapping technological spiral.

Moreover, the technocratic paradigm allows us to recognize ways in which technologies manifest *social control*. Within society, we presume our ability to control the technologies that we developed, but these technologies also control us by imposing themselves on us.

Of course, technologies do not have moral agency. They express the control of specific moral agents, who promote their use and, in doing so, increase our dependence. We are aware of how much we depend on plastics, in all sectors of social life. By examining our dependence, we can identify and name specific moral agents and the structures that they foster, for example, in the case of national and multinational companies producing plastics. But there are ways in which the individual and collective moral agency is constrained, controlled, and limited, for example, when we think of social pressures to depend on plastics and its convenience. Hence, the technocratic paradigm invites us to articulate a critical assessment of technological developments and to strengthen our social awareness and critical engagements, which might imply promoting environmentally sustainable alternatives and embracing forms of resistance to unquestioned uses of plastic products.

Conclusion

Catholic social thought focuses on moral agents and on their agency, fostering their commitment to promote the common good, as well as on structures and institutions. To have a concrete impact, and address the challenges of plastic pollution, at the local level the actions and initiatives of grassroots organizations, towns, and neighborhoods are essential. Globally, networks play important roles by expanding moral agency. This commitment to social justice relies on pragmatic solutions embraced by individuals, collectives, and institutions. At the same time, even focused initiatives—like the ban of plastic bags or using cutlery and single-serving food containers that are compostable—are part of needed more

challenging structural transformations and modified productive engagements on a national and global scale. Moreover, international agreements, treaties, and regulations aim at promoting national and global commitments. Finally, education and formation are integral to the ongoing task of empowering moral agents and fostering needed structural transformations and changes. Catholic social thought joins these efforts that express human ingenuity and strive to promote better living conditions for humankind and the planet.

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