Normative Foundations of Technology Transfer and Transnational Benefit Principles in the UNESCO Universal Declaration on Bioethics and Human Rights

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The United Nations Scientific, Education, and Cultural Organization Universal Declaration on Bioethics and Human Rights (UDBHR) expresses in its title and substance a controversial linkage of two normative systems: international human rights law and bioethics. The UDBHR has the status of what is known as a “nonbinding” declaration under public international law. The UDBHR’s foundation within bioethics (and association, e.g., with virtue-based or principlist bioethical theories) is more problematic. Nonetheless, the UDBHR contains socially important principles of technology transfer and transnational benefit (articles 14, 15, and 21). This paper is one of the first to explore how the disciplines of bioethics and international human rights law may interact in the UDBHR to advance the policy relevance and health impact of such principles. It investigates their normative ancestry in the UDBHR, as well as relevant conceptual differences between bioethics and public international law in this respect, and how these may be relevant to their conceptual evolution and application.

Keywords: bioethics, cosmopolitanism, international human rights, principlism, technology transfer, transnational benefit, United Nations, virtue ethics
I. INTRODUCTION

The United Nations Scientific, Education, and Cultural Organization (UNESCO) *Universal Declaration on Bioethics and Human Rights* (UDBHR) expresses in its title and substance a controversial linkage of two normative systems. This article attempts to navigate the normative divide between international human rights law and the variety of views that constitute the discipline of bioethics in the context of UDBHR principles concerning technology transfer and transnational benefit. Our hypothesis is that the theoretical foundations of international human rights law and bioethics are not irreconcilable. Further, we argue that their synergies in the UDBHR could well promote valuable fresh approaches to the area of technology transfer and transnational benefit scholarship and practice that could have significance to global health policy initiatives.

This is a controversial thesis for several different reasons. First, as will be seen, it is difficult to determine the extent to which the UDBHR has emerged out of a solid theoretical foundation in academic bioethics and, if it has, whether that conceptual backbone should be categorized as, for example, a principlist or virtue-based theory or a tradition of philosophic liberalism that eschews such categorizations. Second, a major contemporary problem for the role of both international human rights law and bioethics in international public health governance is that many influential academic, state, and corporate stakeholders regard them as threads of a once respected enlightenment tapestry glorifying universal ideals, that is now so frayed and trampled by academic cynicism, cultural relativism, and geopolitical expediency as to be incapable of worthwhile contemporary application. Even worse, the whole UDBHR agenda could arguably represent little more than a convenient, designedly insubstantial exercise in biopolitics, distracting public gaze and appeasing international civil society activists, so as to allow unimpeded continuance of economic power by those controlling the “Market State” enterprise. If this were indeed the case, the UDBHR as well as its technology transfer and transnational benefit principles would inherently lack any firm metaphysical ground save efficient causality.

This article argues against what we call the above “cynical story” about bioethics, the international human rights movement, and the UDBHR in particular. Some of our main reasons for not accepting this “cynical” normative story relate both to the dispiriting lack of hope and inspiration it provides, as well as respect for those nongovernmental organizations (NGOs), professionals, academics, and activists in the field of global public health whose valuable actions draw strength from both the norms of international human rights law and the core texts and principles of bioethics.

This article begins with an examination of some relevant influences upon the creation of the UDBHR, particularly those indicating a melding of bioethical and human rights expertise. It thereafter explores potential normative foundations for technology transfer and transnational benefit principles, first
in public international law and then in bioethics. Finally, we examine the provisions on technology transfer actually incorporated in the UDBHR to scrutinize the extent to which they do in fact emerge out of these two normative traditions, their relevant conceptual differences, and how these may be relevant to important contemporary debates about global science and technology policy.

II. BACKGROUND TO THE UDBHR

In 2003, the UNESCO released a report it had commissioned from its international bioethics committee on the possibility of elaborating a Universal Declaration or Convention on Bioethics. (UNESCO, 2003) This was the outcome of work that had begun with a resolution of the UNESCO general conference at its thirty-first session, calling on its Director General to submit “the technical and legal studies undertaken regarding the possibility of elaborating universal norms on bioethics.” (UNESCO, 2002). UNESCO had already produced a universal declaration on the human genome and human rights (UNESCO, 1997).

To assist in the production of a draft text, a team of eminent international scholars was appointed under the chairmanship of Justice Michael Kirby of the High Court of Australia (UNESCO, 2004). To further assist Justice Kirby, on 18–19 November 2004, a meeting of both bioethics and international human rights experts was convened at Manning Clark House (MCH) in Canberra, Australia, to discuss a draft text (MCHEM, 2004). The draft text that MCH group considered did not specify any explicit derivation of its putative principles from foundational social and professional virtues.

The MCH experts meeting expressed the importance of the final UDBHR text containing principles relevant to the major population-based struggles against injustice and inequality in global public health. This would be particularly necessary, they suggested, if the UDBHR were to be promoted as an authoritative global statement on, or codification of, core bioethical principles because how its provisions intersected with international human rights law would then be a major normative issue (MCHEM, 2004). The UDBHR, they recommended, could have significant unforeseen, detrimental consequences if its principles undermined established human rights protections. In this regard, the MCH experts meeting recommended that substantial consideration be given as to whether the UDBHR was to be the precursor to a UNESCO International Convention on Bioethics and Human Rights involving binding norms under public international law for those nations who signed and ratified. If so, they argued, then there would be major ramifications for the normative frameworks of both bioethics and public international law, including their application to multinational corporate actors (MCHEM, 2004).
The MCH experts meeting in this context considered that the UDBHR could play a significant role in the evolution of bioethics, perhaps as a subset of international human rights, possibly as an independent normative system that, like international human rights, would allow a moral calibration of certain aspects of domestic health law. They considered that bioethics, having a more nuanced, relationship-based, and less formalized normative structure, may be able to provide nonbinding moral guidance in areas such as technology transfer where domestic health law and international human rights had difficulty creating enforceable standards. Consideration should be given, as they recommended, as to whether the UDBHR’s preamble should explicitly state that its principles emerged normatively from foundational virtues such as justice, fairness, and respect for human dignity. They similarly felt it was important that the UDBHR include principles protecting whistleblowers from unjust reprisals as stakeholders who should presumptively be viewed as applying UDBHR principles in the face of obstacles and so striving to develop virtue in professional practice (MCHEM, 2004).

The resultant UDBHR is what is known as a “nonbinding” declaration under public international law, insofar as that discipline is defined by article 38 of the Statute of the International Court of Justice (Simma and Alston, 1992). Another way of describing the UDBHR is to call it “soft law,” a controversial term generally referring to a loosely defined category of putative norms for which states commit to merely having a legitimate interest in mutual compliance, rather than any formal undertaking of enforceable obligations (Klabbers, 1996). Thus, soft law could apply to a range of quasi-legal international norms from constructive ambiguities (such as reward of innovation or encouragement to regulatory transparency in multilateral and bilateral trade agreements) to guidelines and standards of measurement by expert panels or committees of intergovernmental organizations or peak NGOs. The decision to create an ostensibly hybrid bioethics-human rights text such as the UDBHR may be better viewed, however, as representing a distinct choice by states toward law-avoiding pledge over legally binding contract, in textual design features such as performance monitoring structure (enforcement mechanisms) and substantive commitments (rule precision). Such a choice involves complex geopolitical trade-offs among nations in the decentralized, nonhierarchical international legal system (Raustiala, 2005).

Article 1 of the UDBHR indicates that the principles of that text are just addressed not only to states (as would be expected of a public international law document) but also to individuals, communities, and corporations. It reads:

**Article 1—Scope**

1. This Declaration addresses ethical issues related to medicine, life sciences and associated technologies as applied to human beings, taking into account their social, legal and environmental dimensions.
2. This Declaration is addressed to States. As appropriate and relevant, it also provides guidance to decisions or practices of individuals, groups, communities, institutions and corporations, public and private.

Article 2 indicates that the UDBHR has a variety of aims, which include legal, ethical and political objectives. Articles 2 (c) and (d) also refer to promotion of respect for human dignity distinctly from protection of human rights.

Article 2—Aims
The aims of this Declaration are:
(a) to provide a universal framework of principles and procedures to guide States in the formulation of their legislation, policies or other instruments in the field of bioethics;
(b) to guide the actions of individuals, groups, communities, institutions and corporations, public and private;
(c) to promote respect for human dignity and protect human rights, by ensuring respect for the life of human beings, and fundamental freedoms, consistent with international human rights law;
(d) to recognize the importance of freedom of scientific research and the benefits derived from scientific and technological developments, while stressing the need for such research and developments to occur within the framework of ethical principles set out in this Declaration and to respect human dignity, human rights and fundamental freedoms;
(e) to foster multidisciplinary and pluralistic dialogue about bioethical issues between all stakeholders and within society as a whole;
(f) to promote equitable access to medical, scientific and technological developments as well as the greatest possible flow and the rapid sharing of knowledge concerning those developments and the sharing of benefits, with particular attention to the needs of developing countries;
(g) to safeguard and promote the interests of the present and future generations;
(h) to underline the importance of biodiversity and its conservation as a common concern of humankind. [emphasis added]

The UDBHR contains socially important principles of technology transfer and transnational benefit, particularly in articles 14, 15, and 21 that will be examined in detail later in Section V of this article. The normative foundations of such principles or norms and whether they can legitimately be called such under public international law or bioethics are controversial topics that will be dealt with in sections III and IV respectively. Some theoretical bioethical justifications for UDBHR technology transfer statements could be consequentialist, based on potential adverse outcomes for national security of an inadequate response. Others could be deontological—linked to the foundational need in a nominally liberal society for institutions to respect basic elements of human capacity and functioning and to inspire efforts for the public good. Some justifications could be virtue oriented: supporting justice, fairness, and respect for human dignity as character
traits that should manifest in a well-ordered society as they do in people who apply culturally valued principles consistently in the face of obstacles. Other bioethicists might locate the normative foundations of the UDBHR in a principlist tradition that disavows, often in the interests of certainty and consistency, any necessary conceptual linkage between principles and virtues.

III. NORMATIVE FOUNDATIONS OF TECHNOLOGY TRANSFER IN PUBLIC INTERNATIONAL LAW

Developing countries over the last few decades have implemented a variety of domestic policies to facilitate technology transfer from developed nations and multinational corporations and to encourage transnational benefit from new health technologies. These range from policies promoting science education to funding for the creation and acquisition of innovative technology, tax incentives for purchase of capital equipment, and increased and enforced intellectual monopoly privileges (IMPs) (generally termed intellectual property rights [IPRs]) (Martin, Sorenson, and Faunce, 2007). In the late 1970s, many developing countries sought in vain a Code of Conduct to regulate technology transfer under United Nations (UN) auspices (Correa, 2005).

The International Covenant on Civil and Political Rights (ICCPR) and International Covenant on Economic, Social, and Cultural Rights (ICESCR), in articles 2 and 2(1) and 3 respectively, require states to take steps “individually and through international assistance and cooperation, especially economic and technical” to fulfill their human rights obligations in a manner that is nondiscriminatory and responsive to the needs of the most vulnerable and marginalized groups (United Nations, 1966a and United Nations, 1966b). Also relevant could be the right to seek, receive, and impart information that is part of the right to freedom of expression and the right to the enjoyment of the benefits of scientific progress, article 19 ICCPR and article 15(1) (b) ICESCR. Progressive realization of the international human right to health, in this context, remains an important normative component of the Universal Declaration of Human Rights (UDHR) and ICESCR (article 25 UDHR, article 12 ICESCR) (United Nations, 1948; United Nations, 1966b). In the same category is the human right to share in scientific advancement and its benefits (article 27 UDHR) (Toebes, 1999, 671). Presently, nearly a hundred multilateral agreements refer to technology transfer, mostly as a “transfer in” process by which developing countries seek to gain access to technical goods and know how imported from the developed world (Maskus and Reichman, 2005).

In the late 1990’s, technology transfer was strategically incorporated into agendas in the World Trade Organization (WTO) that regulated technology as “tradable commodity.” The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in article 7 noted that IPRs (IMPs) should
contribute to the promotion of technological innovation and the transfer and dissemination of technology. Article 8.2 permitted countries to adopt “appropriate measures” to prevent the abuse of IPRs (IMPs) or “resort to practices” that “adversely affect the international transfer of technology.” Furthermore, article 66.2 of TRIPS addresses the issue of development, providing that:

Developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base.

In 2001, WTO members established a Working Group on Trade and Technology Transfer to examine the relationship between trade and the transfer of technology to developing countries. In the same year, the TRIPS Council required developed-country members to submit detailed reports on the functioning in practice of the incentives provided to their enterprises for the transfer of technology in pursuance of their commitments under Article 66.2. This reflected a long history of efforts by developing countries to enhance the relevance of the WTO for development, including the earlier, stalled proposal for a Code of Conduct on Technology Transfer (Ullrich, 2005, 739).

Licensing has become one of the major legal methods of technology transfer. It involves a permission granted by the patent owner to another to use the patented invention on agreed terms and conditions, while the patent owner continues to retain ownership of the patent. Licensing not only creates an income source for the patentee but also establishes the legal framework for the transfer of the technology to developing nation researchers and engineers. A nation’s power to regulate licensing practices that are abusive of technology transfer is contained in article 40 of TRIPS. Technology transfer as a process often commences with innovations in academic institutions created with public funds. Successful technology transfer generally requires adaptive investments by local firms in technologies made available and affordable (Maskus and Reichman, 2005).

Yet, a major stumbling block to the populations of developing countries gaining benefit from such initiatives remains that patent holders (often multinational corporations) view norms of technology transfer and transnational benefit as disproportionately cutting into their profits while adding to their costs (Holmer et al., 2000). This has resulted in peak NGOs and developing nation stakeholders suggesting that norms of technology transfer under public international law have been deliberately shaped as soft law best endeavors principles lacking the type of enforcement mechanism that IPRs (IMPs) gained under TRIPS (for instance, trade sanctions upon breach of obligations). In practice, such stakeholders often claim, technology transfer norms under public international law tend to merely facilitate multinational corporations locating their production facilities within developing countries, to
take advantage of the cheap labor or low-cost natural resources (Sell, 2003, 83).

This controversy provided part of the background to the adoption of the *Doha Declaration on TRIPS and Public Health* in 2003. Paragraph 7 of the Declaration provides:

We reaffirm the commitment of developed-country members to provide incentives to their enterprises and institutions to promote and encourage technology transfer to least-developed country members pursuant to Article 66.2.

Yet, developing nations continue to raise concerns at the Council for TRIPS about the lack of effective action by developed countries to comply with Article 66.2 of the TRIPS Agreement (Correa, 2005). The World Intellectual Property Organization Development Agenda in its efforts to promote technology transfer refers chiefly to public international law instruments such as the ICCPR, ICESCR, and TRIPS and makes little obvious reference to bioethics (Maskus and Reichman, 2005).

The above discussion has highlighted tensions between developing and developed nations in this area. It has nonetheless demonstrated the norms of technology transfer and transnational benefit do have a legitimate and explicit place in core texts of public international law. Those texts can be viewed as providing their own legitimacy for such norms in a positivist manner within the traditional framework of international law set out, as mentioned, in article 38 of the *Statute of the International Court of Justice* (Bassiouni, 1990; United Nations, 1945). That becomes an important part of the conceptual background for technology transfer and transnational benefit norms in the UDBHR.

A comparison can be made here to the *Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with regard to Human Rights*, which was adopted by the UN Subcommission on the Promotion and Protection of Human Rights in August 2003, after years of efforts and deliberations. The legal status of the latter instrument is similar to the UDBHR in the sense that it is likely to influence but has not acquired any formal status under public international law (Weissbrodt and Kruger, 2005, 338–40). Although the *Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with regard to Human Rights* is arguably a restatement of international legal principles about corporate social obligations, it remains controversial whether these types of norms targeting individual human beings and corporations (artificial entities, recognized as persons for some legal purposes) can be adequately explained within the traditional framework of public international law (Kinley and Chambers, 2006). Public international law has established itself as a valuable but by no means sufficient system in which obligations between states related to international public health (Fidler, 1997) and technology transfer (Correa, 2005) may be developed and debated.
It could also be argued that there is no need to locate a definitive normative foundation in public international law now for the UDBHR or its technology transfer and transnational benefit provisions. Given its existing inchoate formal status under public international law, the UDBHR, like the *Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with regard to Human Rights* could be viewed as a transition phase toward norms under international ‘hard’ law such as those in the regional *European Convention on Human Rights and Biomedicine* (Council of Europe, 1997). In force since 1997 (having acquired the requisite number of ratifications), this latter regional convention has a firm normative status under international law. Its status under customary international law is also strong, the European Court of Human Rights having taken it into account in dealing with cases where the relevant countries had not even ratified or signed the document (Nys, 2005). It covers comparable matters relevant to technology transfer, such as equitable access to health care (article 3) and scientific research (chapter V). Thus principles of technology transfer and transnational benefit in the UDBHR, like those in the UDHR, may not only eventually be accepted as a part of customary international law, but as part of a similarly binding international convention or conventions. This *International Convention on Bioethics and Human Rights* may have its own monitoring committee receiving states’ reports, issuing general comments, and receiving communications from individuals concerning breaches of such obligations.

Care also must be taken of the fact that international human rights as a normative system within public international law itself remains highly suspect, particularly in Islamic societies, for its lack of connection with religious law as expressed in the *Quaran or Sunna* (Abdullahi Ahmed, 1990). In such societies, norms of international human rights are consistently qualified by *shari‘a*-based Islamic criteria and by suspicions that the primary norm-creating bodies in international human rights law are dominated by the representatives of developed, northern countries or large corporations with alien, materialistic social values. A further problem is that human rights treaties for some nations can be negotiated and entered by executive fiat, without legitimizing parliamentary debate.

Importantly for the UDBHR, the whole international human rights law agenda, of which norms of technology transfer and transnational benefit are a part, can also be seen as flowing from the reference to dignity in the revolutionary first article of the UDHR:

> All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act toward one another in a spirit of brotherhood.

As Mann points out: “Given the care lavished upon each word and phrase of the UDHR in the course of its elaboration, the syntax which places dignity before rights in this first article merits consideration” (Mann, 1998). What is
the normative significance of the apparent virtue of “dignity” preceding the term “rights” in this seminal provision of international human rights law? Dignity in this context could refer to an intrinsic quality of human beings and their societies, rather than a more jurisprudentially established virtue like justice or equality. If, however, respect for human dignity in this instrument can be regarded as an individual and social virtue, then this may provide, we argue, a mechanism for bridging the normative foundations of bioethics and public international law and developing a theoretical position that reconciles their conjoined roles in the UDBHR with respect to principles concerning technology transfer and transnational benefit.

IV. NORMATIVE FOUNDATIONS OF TECHNOLOGY TRANSFER IN BIOETHICS

Bioethics, overlapping with medical ethics, with a useful measure of consensus may be described as field of study involving the application of moral philosophy to ethical problems in the life sciences. Undoubtedly, institutional guidelines could cynically be viewed as among the least important and most divisive outputs of collaborations by eminent bioethicists. Yet, bioethical guidelines are considered by most health professionals to have important non-legal regulatory and quasi-normative roles in areas such as reproductive and end-of-life decision making, issues of confidentiality and privacy and compliance with informed consent standards. Bioethical principles expressed in position statements and reports by government funding agencies and intergovernmental organizations, and supervised in application by Institutional Review Boards (IRBs) or Human Research Ethics Committees, also attempt to regulate the conduct of scientific research, as well as the quality and safety of health technology, genetic testing, manipulation, data storage and bio-banking, provision of medical services, and access to essential medicines. All these purposes are consistent with the aims of the UDBHR as set out in article 2.

The conviction of doctors at the Nuremberg Trials after the Second World War spurred creation of a tripartite collection of documents that remain central to bioethics: the Geneva Declaration, the Nuremberg Declaration on Human Experimentation, and the International Code of Medical Ethics. To these core bioethical texts may now be added the Helsinki Declaration and guidelines on human research produced by the Council for International Organizations of Medical Sciences. These texts, the glosses, and official interpretations of them constitute well-respected bioethical literature that has practical implications for whether clinical trials, for example, are approved by IRBs, or their published literature permitted to be taken into account by new health technology quality, efficacy and safety as well as cost-effectiveness regulatory evaluation systems. (Emanuel, Wendler, and Grady, 2008) This type of technical and professional bioethics has a much clearer normative
link with the principles expressed in the UDBHR. Indeed, most of these bioethical documents are set out in the preamble to the UDBHR.¹

Bioethics as an academic discipline is considered by some to have directly emerged from the cultural and professional respect accorded to principles embodied in the Hippocratic Oath and its contemporary reformulation as the Geneva Declaration (Baker, 1993; Taylor, 1999). Yet the Hippocratic bioethical tradition would appear to have a limited capacity to provide a normative foundation for the UDBHR or technology transfer and transnational benefit principles therein. First, similar foundational statements of professional bioethics have been ascribed to Buddhist, Hindu, Confucian, and Islamic medical traditions but have not received equivalent attention in the relevant academic and professional literature (Abdullahi Ahmed, 1990; Faunce, 2007, 10–16). Second, neither the Hippocratic Oath nor the Geneva Declaration is endorsed by all medical schools or medical professional associations globally. Third, the Hippocratic Oath and Geneva Declaration contain principles that cover only a small, directly medically related proportion of what is now generally regarded as the field of bioethics. Fourth and perhaps most significantly, neither of these documents is actually mentioned in the preamble to the UDBHR.

To the extent that a significant portion of bioethics is viewed as approximating a loose confederation of ideas, debates, and reasoning processes clustered around particular academic scholarship, it is contestable whether, as a discipline, bioethics contains any norms or bears any necessary association with the UDBHR except a semantic one. Bioethics scholarship, for example, is characterized by strong divisions between those ascribing to principlist and virtue-based theory, between those with Christian and those with secular perspectives, between those enmeshed in securing the embellishments of institutional power, and those critiquing the desuetude of that power in the face of moral crises. Virtue ethics theories are commonly subjected to objections concerning their circularity and failure to provide determinate guides to action (Nussbaum, 1999). This could be a major problem with using virtue ethics to provide a normative foundation in the UDBHR for technology transfer or transnational benefit norms.

Such diversity of academic opinion is by no means restricted to the discipline of bioethics, but it does make determining its particular normative background to the UDBHR a far from easy task. Further, as MacIntyre influentially pointed out, attempts to solve ethical arguments through rational reasoning linked to the development of virtue have become a problematic task for contemporary societies lacking a commonly agreed telos or end point for moral action. Conceptually founded on increasingly vestigial moral theories, moral language simply becomes another strategy used by different interest groups to persuade each other that marginalization from societal governance is not their permanent or necessary condition (MacIntyre, 1981).

One way forward is Nussbaum’s argument against perpetuation of the dichotomy between bioethical principlists and virtue ethics scholars.
Nussbaum states that the claim society is shifting from an ethics based on systematic enlightenment ideals and universally applicable principles to an ethics based on tradition, local practices, and suspicion of theory represents a “confused story” (Nussbaum, 1999). It is confused, Nussbaum maintains, because it is now widely regarded as an error not only to claim that Kant, as a core principlist scholar, is “obsessed with duty and principle to the exclusion of character-formation and the training of the passions,” but to assert that the scholarship of seminal utilitarians such as Sidgwick, Bentham, and Mill took little account of the virtues (Nussbaum, 1999, 165). Nussbaum likewise maintains there is no such unitary approach as “virtue ethics” (Nussbaum 1999, 200). This confused story and the normative schism it promotes, arguably also supports what we term a “cynical” supplementary academic story that dismisses both bioethics and international human rights law in part because they are enlightenment ideals that have little bearing on practical law.

The preamble to the UDBHR uses language that suggests virtues do have a place alongside principles and human rights in the text’s normative foundations:

*The General Conference,*

Conscious of the **unique capacity of human beings** to reflect upon their own existence and on their environment, to **perceive injustice,** to avoid danger, to **assume responsibility,** to **seek cooperation** and to **exhibit the moral sense that gives expression to ethical principles,**

Reflecting on the rapid developments in science and technology, which increasingly affect our understanding of life and life itself, resulting in a strong demand for a global response to the ethical implications of such developments,

Recognizing that ethical issues raised by the rapid advances in science and their technological applications should be examined with **due respect to the dignity** of the human person and universal respect for, and observance of, **human rights and fundamental freedoms,**

Resolving that it is necessary and timely for the international community to state universal principles that will provide a foundation for humanity’s response to the ever-increasing dilemmas and controversies that science and technology present for humankind and for the environment. [emphasis added]

The “capacities” to “perceive injustice,” “assume responsibility,” and “seek cooperation,” for example, as mentioned in the first paragraph of the UDBHR preamble, are not presented there as bioethical principles, but in a manner suggesting they can be viewed as positive character traits. The same can plausibly be said of the capacity to “exhibit moral sense,” also mentioned in the UDBHR first paragraph, that “gives expression” to ethical principles. It could be argued that a “capacity” as used here merely refers a power to experience and does not necessarily connote the deliberated training, the
consistent application of principles in the face of obstacles required to develop virtues. This might be true of some capacities, but surely not of the complex reasoning processes required to “perceive injustice,” “assume responsibility,” or “seek cooperation” in contemporary globalized society.

Where does this lead us in terms of normative foundations for the technology transfer and transnational benefit principles in the UDBHR? If we accept Nussbaum’s argument that it is misleading to perpetuate a rigid division between virtue ethics and principlist-oriented bioethics scholars, then there may be a middle ground where virtue, ethical principle, and norms of international human rights law can be rationally said, if not to synergistically emerge from each other, then to share some common point of normatively origin. Those who view bioethics as a global academic discipline will undoubtedly be encouraged by the UDBHR to seek greater coherence between it and the language and norms of international human rights. “Tipping points” in this progression that may be worth watching here include the increasing use of concepts such as “human dignity,” “inalienable rights,” “progressive development,” “proportionality,” and the “margin of appreciation” in bioethics academic literature and core institutional and professional documents.

Nussbaum states that to the extent that there is any common ground among defenders of “virtue ethics” and highly regarded principlists such as Kant, Sidgwick, and Mill it lies in three basic claims. These could arguably also apply as a normative base for the UDBHR and its technology transfer and transnational benefit principles:

A. Moral philosophy [and UDBHR] should be concerned with the agent, as well as with choice and action.

B. Moral philosophy [and UDBHR] should therefore be concerned with motive and intention, emotion and desire: in general, with the character of the inner moral life, and with settled patterns of motive, emotion and reasoning that lead us to call someone a person of a certain sort (courageous, generous, moderate, just etc).

C. Moral philosophy [and the UDBHR] should focus not only on isolated acts of choice, but also and more importantly on the whole course of the agent’s moral life, its patterns of commitment, conduct, and also passion. (Nussbaum, 1999, 170)

In this process of normative reconciliation, Nussbaum importantly also argues that John Rawl’s “remarkable account” of moral development in Part III of *A Theory of Justice* “has never received the emphasis in critical discussion that it deserved” (Nussbaum, 1999, 170). Rawls, as we’ll argue, is particularly valuable in this context because his theory of justice attempts to create a normative bridge between the conceptual foundations of ethical and legal systems.

Some theorists would claim that providing any virtue component of a normative foundation for technology transfer and transnational benefit principles in the UDBHR requires location of an appropriate *telos* (end point of
moral action). They would consider that an appropriate telos is a necessary precondition to establishing a “capability” (such as those mentioned in the UDBHR preamble) as a “virtue” under most forms of virtue theory. A telos such as ensuring public safety with new health technology, for example, may assist in ensuring that courage in whistleblowing is not in reality foolhardiness. Motivation, the generation of emotion to encourage performance of an ethical act (for those who work in areas such as technology transfer) admittedly also requires convictions, or a sense of conscience, derived from previously established virtue associated with belief in the value of the telos. Yet, if we take putative statements of virtue in the UDBHR such as the capacities to “perceive injustice,” “assume responsibility,” “seek cooperation,” “exhibit moral sense,” or indeed to “respect human dignity,” what is their telos? None is explicitly mentioned in the UDBHR.

Finding a conceptually acceptable virtue-based telos for scientific research generally is difficult. It is likely to be formulated as the principled search for abstract truth (Pellegrino, 1995). The primary telos applicable to systems for regulating clinical medicine that promote consistent application of ethical principles in the face of obstacles may be conceptualized as the relief of individual patient suffering (Faunce, 2007). This emphasis on the individual in the primary regulatory telos for clinical medicine arguably provides a telos that is capable of shaping firm guides for action without necessarily subverting the interests of individual patients to a collective good (Faunce, 2007). The UDBHR, however, although it contains some provisions relevant to clinical medicine (e.g., concerning informed consent) has a much wider scope than this (e.g., provisions concerning technology transfer).

Yet, as Nussbaum suggested, John Rawls’ Theory of Justice (Rawls, 1976, 20, 41) may provide a way forward here. One of Rawls’ major concerns was that though he wished to argue that the basic principles and laws of a society should emerge from a foundational virtue of justice, he was concerned about teleological theories where the good or goods aimed for by a society (peace, prosperity, and living room for example) were defined independently of the rights necessary to be preserved while such ends were achieved (e.g., freedom of speech and association) (Rawls, 1976, 25):

The structure of teleological doctrines is radically misconceived: from the start they relate the right and the good in the wrong way. We should not attempt to give form to our life by first looking to the good independently defined. It is not our aims that primarily reveal our nature but rather the principles that we would acknowledge to govern the background conditions under which these aims are to be formed and the manner in which they are to be pursued. For the self is prior to the ends, which are affirmed by it; even a dominant end must be chosen among numerous possibilities. There is no way to get beyond deliberative rationality. We should therefore reverse the relation between the right and the good proposed by teleological doctrines and view the right as prior. The moral theory is then developed by working in the opposite direction (Rawls, 1976, 560).
Ronald Dworkin is another influential jurisprudential theorist who emphasizes a normative link between a society’s respect for foundational virtues focused on individual rights and the development of specific laws out of more general principles:

Ordinary politics shares with utopian political theory certain political ideals, the ideals of a fair political structure, a just distribution of resources and opportunities, and an equitable process of enforcing the rules and regulations that establish these. I shall call these, for brevity, the virtues of fairness, justice and procedural due process...Law as integrity not only permits but fosters different forms of substantive conflict or tension within the overall best interpretation of law. We are now in a position to explain why. We accept integrity as a distinct political ideal, and we accept the adjudicative principle of integrity as an association of principle, as a community governed by a single and coherent vision of justice and fairness and procedural due process in the right relation (Dworkin, 1998, 164, 404).

The normative foundations of human rights as expressed by Rawls and Dworkin are considerably enmeshed in the U.S. constitutional tradition and involve little, if any, express acknowledgement of public international law or the cultural, social, and moral diversity that constitutes contemporary international civil society. This creates numerous jurisprudential challenges for applying such theories not only to international human rights law but also to legal systems beyond the western liberal tradition and indeed the UDBHR. The numerous historical and conceptual reasons for the “confused” story of divorce between virtue ethics, principlism and rights, as relevant to expressions of philosophical liberalism and enlightenment project ideals must be acknowledged. So must the “cynical” normative story that the UDBHR simply lacks any legitimate normative ground (whether in metaphysics or not) save efficient causality and biopolitical expediency. But acknowledgement that such ideas are important in contemporary scholarship is not equivalent, we argue, to claiming they should remain so.

What advantages do virtue-based norms of bioethics have over international human rights in relation to a practical public health issues such as technology transfer and transnational benefit from scientific research and universal access to new health technologies? Bioethics is certainly a decentralized normative system (even taking into account the UDBHR). Perhaps, this makes it less capable of being “captured” by corporate interests and more readily able to rapidly engage in debate with nuanced and more relationship-focused perspectives. Bioethics also has a definite traditional appeal to many of the health professionals involved in such decisions. It may additionally have a broader cultural appeal (especially to Islamic communities) than international human rights.

In later editions of their seminal work, the influential principlist bioethicists Beauchamp and Childress came to accept that the basic ethical principles they assisted to promote in connection with the Belmont Report had an
important association with virtue (Beauchamp and Childress, 1994, 462–508). Those authors, however, did not agree with Pellegrino’s call “to derive the four principles from a single, coherent, virtue-based theory of the doctor/patient relationship” (Pellegrino, 1995). Beauchamp and Childress asserted, for instance, that their four principles could be “balanced” through a process of “coherence” reasoning which they explicitly modeled upon Rawls’s process of “reflective equilibrium” (Beauchamp, 1985, 1995). The fact that the latter notion is explicitly based upon intuitive convictions about a foundational social virtue—justice—is further confirmation of Nussbaum’s “confused story” critique of the supposed virtue ethics-principlist division.

If the “coherence” or “reflective equilibrium” deliberative process described by Rawls and Dworkin can be interpreted, for example, to involve calibration of health laws against principles of bioethics and international human rights, under a common rubric of respect for human dignity, then it could allow a way out of both the confused and cynical normative stories for UDBHR principles about technology transfer and transnational benefit. Widespread bureaucratic use of such a deliberative process would allow calibration of UDBHR principle against existing ethical, domestic legal, and international human rights systems to determine how well they support, for example, short- or long-term prospective beneficiaries, the relevant potential value for such beneficiaries and mechanisms for enhancing it, as well as the impact of the research on existing and proposed health infrastructure (Emanuel et al., 2008, 127).

V. TECHNOLOGY TRANSFER AND TRANSNATIONAL BENEFIT IN THE UDBHR

The MCH experts meeting had expressed concerns that the draft UDBHR text seemed excessively focused on issues related to the downstream applications and impacts of science and technology rather than assisting the goals or aims of scientific research to reflect bioethical principles and human rights norms. They recommended that the UDBHR should encourage university, government, and corporate policies emphasizing that the earliest stages of health technology research should take into consideration, among other principles, the welfare of underprivileged populations and of future generations as well as the continuing integrity of the biosphere. The technology transfer process should thus be encouraged to start much earlier than product development and marketing.

The final text of the UDBHR included three substantial provisions on technology transfer and transnational benefit. These are found in articles 14, 15, and 21.

Article 14 of the UDBHR relevantly provides:

2. Taking into account that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction
of race, religion, political belief and economic, or social condition, progress in science and technology should advance:
(a) access to quality health care and essential medicines, especially for the health of women and children, because health is essential to life itself and must be considered to be a social and human good.
(b) access to adequate nutrition and water;
(c) improvement of living conditions and the environment;
(d) elimination of the marginalization and the exclusion of persons on the basis of any grounds
(e) reduction of poverty and illiteracy

Article 14 of the UDBHR goes beyond article 66.2 of TRIPS by linking technology transfer explicitly to a list of five global public goods. In this sense, article 14 of the UDBHR may represent a potentially revolutionary step in the task of evolving international technology transfer norms. The provision links to international human rights law through the language of “fundamental rights.” More particularly, it expressly links progress in science and technology to the conceptual penumbra of the international right to health as well as economic, social, and cultural rights. At the same time, the reference in 14.2 (a) to health being “a social and human good” emerges more from the language of bioethical discourse.

Article 14’s reference to “progress” in science and technology supports the view that the focus in the UDBHR is on not just transfer of fully mature technology, but of knowledge transfer at the earliest stages of the research process. The reference in article 14.2 (a) to progress in science and technology advancing access to essential medicines necessarily is likely to promote debate about the difference between “innovative” and “essential” medicines and whether each term should be defined by, for example, the operation of competitive markets or by scientific evidence of objectively demonstrated therapeutic benefit.

Article 15—Sharing of benefits:
1. Benefits resulting from any scientific research and its applications should be shared with society as a whole and within the international community, in particular with developing countries. In giving effect to this principle, benefits may take any of the following forms:
   (a) special and sustainable assistance to, and acknowledgement of, the persons and groups that have taken part in the research;
   (b) access to quality health care;
   (c) provision of new diagnostic and therapeutic modalities or products stemming from research;
   (d) support for health services;
   (e) access to scientific and technological knowledge;
   (f) capacity-building facilities for research purposes;
   (g) other forms of benefit consistent with the principles set out in this Declaration.
2. Benefits should not constitute improper inducements to participate in research.
This provision appears considerably broader than the articulations of technology transfer norms in public international law. First of all, the concept of sharing benefits here expressed may permit, for example, evidence-based expert assessment of whether the technology being transferred is actually of cost-effective benefit to the developing nation, that is, a science-based evaluation of whether it represents true “health innovation.” Second, the sharing of diagnostic and therapeutic modalities or products stemming from research (core aspects of technology transfer norms under public international law) is linked here with provision of and access to health services and care (Barton, 2007). Third, technology transfer is here associated with principles requiring access to scientific and technological knowledge and capacity-building facilities for research purposes.

Article 21—transnational practices of the UDBHR provides:

1. States, public and private institutions, and professionals associated with transnational activities should endeavour to ensure that any activity within the scope of this Declaration, undertaken, funded or otherwise pursued in whole or in part in different States, is consistent with the principles set out in this Declaration.
2. When research is undertaken or otherwise pursued in one or more States (the host State(s)) and funded by a source in another State, such research should be the object of an appropriate level of ethical review in the host State(s) and the State in which the funder is located. This review should be based on ethical and legal standards that are consistent with the principles set out in this Declaration.
3. Transnational health research should be responsive to the needs of host countries, and the importance of research contributing to the alleviation of urgent global health problems should be recognized.
4. When negotiating a research agreement, terms for collaboration and agreement on the benefits of research should be established with equal participation by those party to the negotiation.
5. States should take appropriate measures, both at the national and international levels, to combat bioterrorism and illicit traffic in organs, tissues, samples, genetic resources and genetic-related materials.

This provision takes up the unique challenge to the global normative architecture surrounding the activities of multinational corporate actors provided by article 1 of the UDBHR. Article 1 as already mentioned provides:

2. This Declaration is addressed to States. As appropriate and relevant, it also provides guidance to decisions or practices of individuals, groups, communities, institutions and corporations, public and private.

Article 21.1 of the UDBHR, in this context, may be viewed as creating non-binding, best endeavors encouragement for legislation or domestic policies requiring multinational corporations to ensure that their health technology research, for example, conforms to principles such as those set out in articles 14 and 15 of the UDBHR. Articles 21.2 and 21.3 taken together appear to define “transnational research” as research undertaken or otherwise pursued...
in one or more state(s) but funded by a source in another state. This careful wording makes clear that the funding need not be provided by the state itself, but may derive, for instance, from private corporate sources, national, or multinational in origin. This article could well be supposed simply to address the problem of outsourcing risky phase III and IV clinical trials of new pharmaceuticals to less privileged populations (Shah, 2006). Domestic policies applying the precautionary principle in relation to new developments in biotechnology and endorsing the duty of humans to protect the environment for its own sake would be supported by this provision. Yet arguably, the second half of article 21.3 goes beyond this toward the evolution of a broader norm relating to transnational benefit in global health technology research in particular.

The principle stated in the second half of UDBHR article 21.3, that states and public and private corporate actors should recognize the “importance of research contributing to the alleviation of urgent global health problems,” has similarly important policy implications for global health. It has ramifications, for example, for university research policies, which could encourage a shift in academic decision making about research directions at the commencement of public-funded basic science projects. It likewise has implications for licensing conditions and governance oversight of multinational corporations and the extent to which nations begin to move toward a science-based rather than market assessment (distorted by advertising and anticompetitive practices) approach to regulating health technology innovation, for example, through an international treaty on the safety and cost-effectiveness assessment of new health technologies (Faunce, 2006; Laing et al., 2003).

To summarise our argument to this point, if we remain at least skeptical about the “confused story” as Nussbaum advocates, then a proper understanding of the connection between “virtues,” “principles,” and “rights” could become central to understanding the normative foundations of technology transfer and transnational benefit provisions in the UDBHR. “Rights,” frequently mentioned in the UDBHR, represent an abstract attribution that contemporary social governance systems accord to citizens’ existence. We cannot sense them within a personality the way we do virtues. Claiming a “right” has become a widely accepted philosophical and jurisprudential means of justifying one’s action or inaction either morally or legally in the face of potential opposition (Raz, 1984). A large part of the popular attraction of such rights is that they can readily be asserted to act as “trumps” over state policies and legislation (Dworkin, 1977). Rights generally speaking are chiefly effective insofar as they create specific enforceable duties in other persons (Raz, 1984). Rights claims inevitably exist in the context of those made by others and involve networks of mutual recognition (Brugger, 1996). Yet the UDBHR technology transfer and transnational benefit provisions do not use the term “rights,” limiting that construction of a normative bridge with other public international law statements supporting an economic, social, or cultural right of technology transfer.
Normative thinking that conceives the derivation of general principles and then specific rights from foundational social virtues is not customarily applied to public international law. Judges on international courts and tribunals or domestic courts applying international human rights as a result of statutory or constitutional requirements generally look, as mentioned, to article 38 of the Statute of the International Court of Justice to discover the legitimacy of proposed norms, not to social virtues such as justice, fairness, and respect for human dignity. The alternative of attempting to lay the foundations for UDBHR technology transfer norms by placing principles or rights unrelated to either the virtues or the traditional legal rule of recognition down at their regulatory foundations may only create an infinite regress of philosophical or legalistic justification.

Let us run, however, a little further with Nussbaum’s argument that it may be unnecessary to support the confused normative story and require a rigid normative division between rights, principlism, and virtue ethics. We then could start with the UDHR proposition (generally supported by bioethical and human rights scholars and accepted as a principle of customary international law amongst states) that “all human beings are born free and equal in dignity and rights” (United Nations, 1948). The UDHR is mentioned in the UDBHR preamble and emphasis on such a principle could provide not only a normative linkage to fundamental values or virtues such as justice and fairness but principles and human rights related to technology transfer and transnational benefit from other bioethical and human rights documents. One relevant practical manifestation could be consideration of whether technology transfer and transnational benefit provisions in the UDBHR are capable of assisting related issues such as the development of norms that address brain drain issues from the health and research sectors of underdeveloped countries, as well as nurturing scientific research in areas that are important to underdeveloped countries but neglected by developed technological research. The UDBHR technology transfer and transnational benefit provisions either because of, or assisted by, their hybrid normative status, may address with much more nuanced complexity some of the issues arising from the state-centric structure of international human rights obligations, encompassing different needs and situations that may exist in nonliberal or underdeveloped countries.

VI. CONCLUSION: NORMATIVE FOUNDATIONS IN AN EMERGENT COSMOPOLITANISM?

Whether or not bioethicists feel comfortable with their area of study being formally linked in a quasi-legal text to public international law, this is what the UDBHR on its face and in its substance has attempted to do. Our contention has been that important principles of technology transfer and transnational benefit in the UDBHR are more likely to effectively play an important
agenda-setting role in global and domestic science policy, if the potential normative intersections between bioethics and public international law underlying this text are much more thoroughly and explicitly worked out.

We have shown that the UDBHR’s drafting history suggests that that text cannot readily be conceived as a codification on the public international law plane of extant bioethical principles. Similarly, only with some stretching of significance from the initial UDBHR preamble and unjustifiable polarization of bioethics scholarship can it be considered a summary of principles emerging from a purely virtue-based bioethics normative tradition distinct from public international law.

One way, we considered, of locating a solid normative foundation for technology transfer and transnational benefit norms in the UDBHR could be to focus on their link to well-established human rights and bioethical documents such as those mentioned in the preamble. Instruments mentioned in the UDBHR preamble such as the UDHR, the ICCPR and the ICESCR, are unambiguously part of the corpus of international public law through various components of the rule of recognition in article 38 of the Statute of the International Court of Justice. The UDBHR itself, however, and bioethical texts such as the Helsinki Declaration are not generally accepted as part of customary international law under this positivist normative mechanism.

We have argued that another approach to locating the UDBHR’s normative foundations could involve extending Nussbaum’s skepticism about the confused normative story concerning an irreconcilable rift between virtue ethics and principlism in bioethics to concepts of human rights. One advantage of seeking to locate the normative foundation for the UDBHR and its technology transfer and transnational benefit provisions in such a reconciled bioethics outside the traditional framework of public international law is that, as we mentioned, international human rights as a normative system within public international law itself remains fragmented, struggling with overcoming the world’s divide between cultural, religious, and secular humanistic philosophies competing for credibility and scarce resources against the global institutions of uni-dimensional-profit-driven corporate imperialism.

Another approach might seek to normatively found the UDBHR and its technology transfer and transnational benefit principles on the type of cosmopolitan normative thinking adopted by activists professing a strong sense of conscience (e.g., those in NGOs such as Medecins Sans Frontieres, Medact, or Oxfam). Such stakeholders in international civil society begin increasingly to strive for constant application of principles not derived from often-dubious institutionalized methods of rule making by which states acquire and maintain power but from an emerging normative cosmopolitanism. (Faunce, 2005b) Such a cosmopolitan normative foundation apparently need not involve a renunciation of local associations and communities as part of
normative foundations but does involve a greater recognition of a normative allegiance to humanity as a whole:

By conceding that a morally arbitrary boundary such as the boundary of the nation has a deep and formative role in our deliberations, we seem to be depriving ourselves of any principled way of arguing to citizens that they should in fact join hands across these other barriers (Nussbaum, 1996).

Such normative cosmopolitanism must nonetheless confront difficulties associated with the power of corporate globalization, the absence of formal citizenship status in a world government, and claims that cosmopolitan normative foundations promote an abstract, utopian sense of humanity that obscures family, cultural, and community bonds and dangerously contradicts mass media influences and obligations to obey domestic laws (often despite how undemocratically they are manipulated by ruling elites). There are influential stakeholders set to lose fortunes if large numbers of people decide to diminish national allegiances in favor of international associations and support for universal ideals such as respecting human dignity in all circumstances.

Modern cosmopolitanism in many ways can claim the mantle of being a just and rational inheritor of enlightenment ideals. Its scholarship is not wedded to the notion that there is immutably little higher legitimate legal or even moral authority over states. It questions the capacity of nation states and the normative systems that create and support them to effectively address transnational legal issues such as technology transfer and transnational benefits therefrom (Fine, 2003). Interestingly, for present purposes, one common start point for modern cosmopolitanism coincides with a moment that is also often regarded as the commencement of bioethics: the Nuremberg Trials after World War II (Fine, 2003, 455). Another milestone was the development in international law of the common heritage of humanity concept (United Nations, 1967; UNSECO, 1997).

Positing the universal interests of humanity, considered directly and not through the prism of state sovereignty, as the fundamental cosmopolitan normative ground of the UDBHR, would avoid the problem that a virtue-based bioethical normative foundation might seek to locate the UDBHR’s teleological good in the interests of the signatory nations or their dominant cultural, religious, or economic classes. It provides a way of cutting through both Nussbaum’s presentation of the confused normative story about virtue ethics and principlism and the cynical normative story about how the UDBHR’s attempt to generate universal ideals and principles interferes with the agendas of vested interest groups.

Positing that the UDBHR and its technology transfer and transnational benefit principles actually have their firmest normative foundational in emerging cosmopolitanism may provide a neat way of reconciling how to accord equal respect to their bioethical and international human rights influences. Such principles encourage support for individually and socially applicable virtues
and universal principles stemming from practice at the local level (Barton, 2007). They require state concerns about potential loss of sovereign interests have to mesh with the increasingly important preference among the global charitable funding networks and community structures in international civil society, for a system that fairly disseminates knowledge and its beneficial products to foster the sustainability of human civilization (Forster, 2006, 29–30). The UDBHR’s great contribution to evolution of technology transfer and transnational benefit norms may be related to the fact that it not only targets different actors to public international law (individual corporations and professionals, e.g., as well as states) but also involves norms with a potentially more cosmopolitan theoretical background and with a substantially more inclusive conceptual foundation for international governance and regulation.

NOTES

1. Article 38 of the Statute of the International Court of Justice.

2. The MCH group comprised: Dr Thomas Faunce, Convenor, Bioethics, Health Law and Human Rights, Medical School and Law Faculty, Australian National University Professor Hilary Charlesworth, Centre for International and Public Law, Australian National University Professor Andrew Byrnes, Centre for International and Public Law, Australian National University Professor Don Chalmers, Law Faculty, University of Tasmania Professor Margaret Otlowski, Law Faculty, University of Tasmania Dr Steven Clarke, Centre for Applied Philosophy and Ethics, Charles Sturt University Associate Professor Belinda Bennett, Law Faculty, University of Sydney Professor Tom Campbell, Centre for Applied Philosophy and Ethics, Charles Sturt University Dr Cameron Stewart, Law Faculty Macquarie University Associate Professor Stephen Bolsin, Geelong Hospital and Monash University Dr Deborah Zion, Monash Bioethics Centre, Monash University Dr Mark Stranger, Law Faculty, University of Tasmania Bebe Loff, Head, Human Rights and Bioethics Unit, Monash University.

3. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

   a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
   b. international custom, as evidence of a general practice accepted as law;
   c. the general principles of law recognized by civilized nations;
   d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.

4. Preamble to UDBHR: Considering UNESCO’s role in identifying universal principles based on shared ethical values to guide scientific and technological development and social transformation in order to identify emerging challenges in science and technology taking into account the responsibility of the present generations toward future generations and that questions of bioethics, which necessarily have an international dimension, should be treated as a whole, drawing on the principles already stated in the Universal Declaration on the Human Genome and Human Rights and the International Declaration on Human Genetic Data and taking account not only of the current scientific context but also of future developments.

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