philosophies

MDPI

Article

Philosophy of the Body: Medieval Islamic Philosophy as a Resource for the Bioethics of Biotechnological Enhancement

Abduljaleel Kadhim Alwali

Department of Cognitive Science, College of Humanities and Social Sciences (CHSS), United Arab Emirates University, Al Ain 15551, United Arab Emirates; abdeljelil.kazem@uaeu.ac.ae or jalilwali@hotmail.com

Abstract

Contemporary bioethical debate over biotechnological enhancement, genetic engineering, prosthetics, and neuroenhancement largely takes place within a metaphysical framework inherited from post-Cartesian European philosophy. In this framework, humanity is essentially something received or given, and biotechnological intervention is a transgression against that givenness. This paper argues that medieval Islamic philosophy, particularly Ibn Tufail's account of human environmental agency in Hayy Ibn Yaqzan and Maimonides' integration of body and soul into a single moral–physical economy, offers conceptual resources that reframe this debate. According to the viewpoint developed here, the human is constitutively a self-shaping being whose formation is mediated through bodily and environmental conditions that the human reciprocally shapes. Biotechnology is therefore not a rupture in the human story but the latest expression of a perennial human practice. This reframing does not dissolve bioethical concern but relocates it: the question is not whether to engage in self-shaping (as we always have), but what forms of self-shaping conduce to the integrated flourishing of an embodied person.

Keywords: bioethics; biotechnological enhancement; Ibn Tufail; Maimonides; Islamic philosophy; embodiment; posthumanism

1. Introduction

The body has, in the present moment, become technologically interrogable in ways that could not have been anticipated in earlier centuries. Brain–machine interfaces allow neural signals to operate prosthetic limbs, and recent demonstrations have shown the reverse: sensory feedback restored through cortical stimulation. Pharmacological and neurotechnological cognitive enhancement blurs the line between therapy and improvement. Each of these developments has generated a substantial body of bioethical literature, and a recurring structure animates much of that literature: there is something the human essentially *is*, and biotechnological intervention threatens it.

Francis Fukuyama's *Our Posthuman Future* gives this thought its most direct expression in his postulation of a "Factor X," some essential human property that grounds dignity and that biotechnology may erode [1]. Michael Sandel's *The Case Against Perfection* argues that genetic enhancement violates a disposition Sandel calls "openness to the unbidden," a stance that perceives the human as a gift rather than refashioning it as a project [2]. Jürgen Habermas worries that the engineered person, constituted by another's design rather than by the contingencies of conception, is denied a kind of moral autonomy that flows only from the unchosen origin of one's traits [3]. The frames differ in detail, but they share

Check for updates

Academic Editor: Soraj Hongladarom

Received: 19 April 2026
Revised: 15 May 2026
Accepted: 29 May 2026
Published: 2 June 2026

Copyright: © 2026 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

a structural commitment: the human, *as it is*, occupies a normatively privileged position that biotechnological intervention threatens.

I will argue that this commitment depends on a metaphysics that is broadly Cartesian in its inheritance, even where the contemporary bioethicist would not accept the label that treats the human self as something prior to and separate from its bodily and circumstantial conditions. In this form of metaphysics, biotechnological intervention reaches in *from outside the self* and modifies what was given to the self. Where the worry takes hold, this is the picture doing the work.

The argument here is that medieval Islamic philosophy, particularly the strands developed by Ibn Tufail and Maimonides, operates with a different kind of metaphysics, one in which body, environment, and agency are mutually constitutive, and in which the human is constitutively a self-shaping being. Brought to bear on the contemporary debate, this tradition does not eliminate bioethical concern but reshapes it. The metaphysical worry that biotechnology transgresses some prior given essence dissolves because there is no such pure given essence to dissolve. What remain are substantive ethical questions about justice, consent, integration, and wisdom that the Islamic tradition is well placed to engage.

The paper proceeds in four substantive sections. Section 2 traces the Cartesian background of contemporary bioethical worry. Section 3, drawing on Greek environmental thought from Hippocrates to Aristotle, locates the philosophical inheritance the medieval Islamic thinkers received and transformed. Section 4 develops the Islamic synthesis through the work of four philosophers—through Al-Kindi and Ibn Sina's work on the responsive body, Al-Farabi's work on language and culture as shaping media, Ibn Tufail's work on environmental agency, and Maimonides' work on body–soul integration. Section 5 applies these resources to the contemporary debate, taking germline genetic editing as the test case and engaging Fukuyama, Sandel, and Habermas directly. The conclusion considers what self-shaping beings owe one another.

2. The Cartesian Background of Contemporary Bioethical Worry

Bioethics in its dominant Anglophone idiom would not, on the surface, claim a Cartesian inheritance. The field's vocabulary is broadly Aristotelian (virtue, flourishing, the goods of practice), broadly Kantian (autonomy, dignity, the categorical demand to treat persons as ends), and broadly utilitarian (welfare, harm, consent as a proxy for the protection of interests). Descartes is rarely cited, and the dualism that bears his name is, in formal terms, almost universally rejected.

Yet in the specific case of biotechnological enhancement, a distinctively Cartesian picture re-enters through the back door of the worry itself. Consider the structure of Fukuyama's appeal to Factor X. The argument requires that there be some property, X, that all and only humans possess; that X grounds the equal dignity of all humans; and that biotechnological intervention could eliminate or unevenly distribute X. The argument therefore presupposes that X is the kind of thing that could be present prior to intervention and absent (or differently distributed) afterward. X is, in this sense, a property of the unmodified human as such. The intervention reaches in from outside the unmodified human and may eliminate the property whose presence guaranteed the human's standing.

Sandel's argument has the same structure, even though it appeals to no specific property. The "given" against which we should be open contrasts with the "made" through human design; the appropriate stance toward our nature is acceptance rather than reshaping. To put the contrast to work, Sandel needs the given to be available as a stable referent. Otherwise, the prescribed openness has nothing to take as its object. Habermas's argument is the most explicit: the engineered person's moral standing is compromised because the engineered person stands alongside their traits in a different way than the naturally con-

ceived person. The engineered person's traits originated in another's intentional act; the unengineered person's traits originated in the impersonal play of biological contingency. The asymmetry only does ethical work if there is a difference in kind between the two origins, and that difference in kind, in turn, requires that the unengineered person be properly described as receiving their traits from outside their agency, in a way the engineered person does not.

In each case, the worry depends on a separation between the modifying agent and the self whose traits are being modified, and on the normative privileging of the unmodified state. The body, in this picture, is the proximate object of modification, and the self stands in some relation to that body as inhabitant, as owner, as the one whose traits the body's traits are. The self does not thereby stand in the same relation to deliberate modification of the body as it stands to undeliberate modification of the body. Genes inherited and genes edited are not, in this picture, on a par.

The trouble is that this picture, when made explicit, bears a stronger resemblance to the work of Descartes than the broadly hylomorphic, broadly naturalistic, broadly integrationist commitments that contemporary bioethicists would otherwise endorse. The bioethics of enhancement has, I wish to suggest, a metaphysical hangover. It worries on behalf of a self whose existence its other commitments would deny.

This is not a knock-down objection to the worries themselves. Some of them survive translation into a more integrated metaphysics; some do not. The point of the present argument is that translation is possible; that there is a tradition in which human formation is, from the start, understood as integrated, mediated by body and environment, partly received and partly active; and that taking that tradition seriously yields a different and clearer set of bioethical questions.

3. Body and Environment in the Greek Inheritance

The medieval Islamic philosophers I will be drawing on inherited a substantial Greek discussion of the body's relation to its environment, and any account of what they did with that inheritance must begin with what they received. I will be brief: the historical material that the previous version of this paper developed at length is rehearsed here only to the extent that it sets up the philosophical move the Islamic tradition makes.

The Hippocratic treatise *Airs*, *Waters*, *Places* (AWPs) provides the paradigm of the externally shaped body. Climate, water, terrain, prevailing winds these conditions determine, in the Hippocratic account, both the gross morphology of the populations that inhabit a place and the temperaments characteristic of those populations. The famous comparison of Egyptian and Persian skulls, reported by Herodotus, encodes the same picture: hard skulls in the Egyptians because they shaved their heads and exposed them to the sun; soft skulls in the Persians because they wore felt caps that protected them. The body bears the marks of its conditions. Different conditions, different bodies, different peoples [4,5].

The Hippocratic frame is consequential beyond ethnography. It naturalizes disease, stating that illness has environmental and dietary causes rather than divine ones, and licenses a properly medical (rather than ritual) response [6]. It also installs a particular relation between human and environment: the human is the patient of the environment's action. The body is responsive in the technical sense (it changes in response to conditions) but it is not, in the Hippocratic framework, an agent over those conditions. To live in a particular climate is to be made a particular kind of person.

Plato extends the Hippocratic idea to the soul. In the *Laws*, he is explicit that climate, water, and food affect not only bodies but the souls those bodies house. The point is significant for what follows: Plato's extension presupposes the integrated person who acts on body, acts on soul through body, but its directionality is unidirectional. The en-

vironment acts on the integrated person; the integrated person, on this telling, is acted upon Plato, *Laws* [7].

Aristotle in the *Politics* gives the Greek discussion its most influential ethnographic-political form. Northern Europeans are spirited but unintelligent; Asian peoples are intelligent but lacking in spirit; the Greeks, situated between, partake of both qualities and are, accordingly, the only people fit to govern [8]. The argument is, by contemporary lights, embarrassing. But its philosophical structure is what concerns us. Aristotle's hylomorphism soul as the form of a living body, body as the matter that the soul informs, is in principle a deeply integrationist metaphysics; it is what made the rejection of Cartesian dualism plausible to so many later thinkers. Yet Aristotle's environmental ethnography presents the integrated human as fundamentally a recipient of environmental shaping. The human comes from actualized matter under certain conditions, and the conditions do their work upon the integrated person. Metaphysics is integrated; the action is one-directional [9].

This is the inheritance the medieval Islamic philosophers received: a body integrated with soul but shaped from the outside; an integrated person who is essentially receptive to formation by climate, place, and material condition. The interesting part is what Islamic thought does with this inheritance, not by abandoning the integration, but by relocating the agency.

4. The Islamic Synthesis

4.1. Al-Kindi and Ibn Sina: The Responsive Body

Al-Kindi, writing in ninth-century Baghdad, takes up the Hippocratic–Galenic medical tradition and the Greek philosophical inheritance more broadly with a distinctive practical orientation. He is a philosopher who is also a physician, and his medical writings include a mathematical scale for measuring the relative strength of compound medicines and a system, derived from his astronomical work, for predicting critical days during a patient's illness are inseparable from his philosophical positions [10]. He accepts, broadly, the environmental account of human variation: dark skin and curled hair in hot climates; pale skin and small features in cold ones; and moderate temperaments in temperate places [11]. What he refuses, importantly, is Aristotle's specifically political conclusion. The intellectual capacities of nations, in Al-Kindi's view, are not stratified by environment in the way Aristotle's *Politics* suggests. The body is shaped by climate; the rational soul, in its essential operations, is not.

This is already a small loosening of the Greek framework. The integrated person is environmentally responsive with respect to the body and certain temperaments, but not with respect to the rational soul's distinctive operations. Reason crosses climates. The implications are not pursued by Al-Kindi in the direction I will eventually take them, but they prepare the groundwork [12].

Ibn Sina (Avicenna) carries the medical project to its most systematic Islamic expression. The *Canon of Medicine* and the medical sections of the *Book of Healing* present the body as a dynamic equilibrium constituted by the interaction of innate constitution and external conditions: the four humors, modulated by air, water, food, exercise, sleep, the passions of the soul, and excretion [13,14]. Health is the maintained equilibrium. Disease is its disturbance. Treatment is the restoration of equilibrium through whatever combination of dietary, environmental, pharmacological, or behavioral means is appropriate to the patient and the disturbance [15].

The picture is responsive but not yet active. The body is dynamic; it is constantly being modulated by conditions, constantly seeking equilibrium, and this is a meaningful advance on a static body. But modulation is something that happens to the body. The physician acts on behalf of the body, restoring what the body, left to itself in the wrong

conditions, cannot maintain. The body is, in a strong sense, the object of medical action, even when the action is the body's own internal restorative work. To use the language I will develop, Ibn Sina's body is the *medium* of formation rather than its *agent*.

What Ibn Sina contributes to the synthesis I am building is the picture of the body as integrated, dynamic, and continuously responsive; as something that is constituted in and through its ongoing relations with its conditions, rather than as a fixed substrate to which conditions are external [16]. A body of this sort is not the kind of thing that biotechnological intervention could reach from some pristine outside. It has always been reached into. The question is not whether modulation occurs, but what its sources are, what its character is, and to whom its agency is attributed.

4.2. Al-Farabi: Language and Culture as Shaping Media

Al-Farabi's contribution to this trajectory is, in my reading, decisive in a way that has not been sufficiently appreciated in contemporary literature. Where Hippocrates, Aristotle, and Ibn Sina locate the shaping action in nature's climate, terrain, the elemental qualities of place Al-Farabi add a third category that is neither natural (as climate is) nor individual (as a particular medical intervention is) but properly cultural: language.

In his *Enumeration of the Sciences (Iḥṣāʾ al-ʿUlūm)* and in the political works *On the Perfect State* and *Aphorisms of the Statesman*, Al-Farabi argues that nations possess three distinguishing features: natural creativity (manifest in physical traits like skin color, which Al-Farabi, like his predecessors, attributes to environmental conditions), natural behavior or ethics, and third humanity expressed through language [17–19]. Language is, for Al-Farabi, a shaping force in the strong sense: the linguistic environment forms the speaker, and a community's language shapes the dispositions and capacities of those who inhabit it. Speech in the desert, where space carries voice across distance and gestures must be visible from afar, develops differently from speech in cities, where the conditions of audibility and visibility are different. The pattern of language a people speak both records and produces the kind of people they are.

Two features of this addition matter for the present argument. First, the shaping force is no longer purely natural. Language is something humans do; it is constituted by human practice. To say that language shapes the human is therefore to say that the human is shaped by something the human (collectively) makes. The clean distinction between the shaping environment and the shaped human begins, here, to lose its grip. The shaping medium is itself a human artifact.

Second, the shaping is not unidirectional. Climate acts on the body in a way that the body cannot reciprocate; one cannot edit a coastline. But language is reshaped by its speakers even as it shapes them. Each generation of users modifies the medium that modifies them. The picture is, in the technical sense, dialectical: there is a continuous mutual constitution of medium and user [20].

Al-Farabi does not himself draw the conclusion I am about to draw, but the conceptual machinery is in place. If linguistic and cultural conditions shape the human in much the way climatic conditions do, and if those linguistic and cultural conditions are themselves the products of human practice, then the human is already, according to Al-Farabi, partly self-shaping. We compose our shaping environment as we are composed by it. The traditional dichotomy between nature shaping us and us shaping ourselves cannot survive close inspection.

4.3. Ibn Tufail: The Human as Environmental Agent

The decisive move in the trajectory I am tracing belongs to Ibn Tufail (1105–1185). The philosophical novel *Hayy Ibn Yaqzan* presents a child who, by one of two origin stories

the text offers, is either spontaneously generated from the elements of an Indian island or set adrift on it as an infant; raised by a doe; and develops, alone, through observation, dissection, inference, and craft, from infancy through full philosophical and metaphysical maturity [21,22].

The narrative is sometimes read as a thought experiment about the sufficiency of unaided reason for the autodidact's progress to truths that revealed religion claims to deliver, and that reading is correct as far as it goes. What concerns the present argument is something different: the picture of the human's relation to its environment that the story presupposes and dramatizes. Hayy is not Hippocrates's environmentally formed body, nor Ibn Sina's responsive equilibrium under the physician's care. Hayy *acts on his environment*. He masters fire; he domesticates animals; he constructs shelter; he makes clothes from skins; he develops, in effect, a one-person material culture. The island is not the agent of his formation. He is the agent of his formation, and the island is the medium in which he carries out that formation.

The conceptual move is striking enough to deserve to be stated plainly. Ibn Tufail, writing in twelfth-century al-Andalus, articulates a picture of the human as essentially a self-shaping being whose self-shaping is mediated through a malleable environment over which the human has agency. Pico della Mirandola's *Oration on the Dignity of Man*, often cited as the foundational text of European philosophical anthropology of self-creation, postdates *Hayy Ibn Yaqzan* by three centuries. The Latin translation of *Hayy* by Edward Pococke the Younger (1671) was widely read in early modern Europe and plausibly influenced, among others, Locke. The historical priority of the Islamic articulation deserves to be recorded.

But priority is not the philosophical point. The philosophical point is that Ibn Tufail gives us, fully developed, the picture that contemporary bioethics of enhancement implicitly denies it has access to. *Hayy Ibn Yaqzan* makes self-shaping constitutive of the human rather than transgressive against the human. Hayy is fully and recognizably human; indeed, Hayy is presented as exemplifying the highest human capacities precisely in virtue of the activity through which he reshapes his conditions and, in reshaping them, develops his own faculties. Self-shaping is not a violation of what Hayy is. It is what Hayy is.

This is not to claim that anything goes. Ibn Tufail's narrative is heavily structured by the distinction between practices and uses of materials that develop Hayy's capacities and those that would not. Hayy refuses, eventually, certain forms of meat consumption that would coarsen his constitution; he calibrates his interventions with his environment carefully; he subordinates technical mastery to philosophical contemplation. The point is not that any self-shaping is acceptable [23].

The point is that the right ethical question to ask of any particular self-shaping is whether it leads to the integrated flourishing of the person undertaking it. The metaphysical question of whether self-shaping as such is acceptable is settled by Hayy's life.

4.4. Maimonides: Body–Soul Integration

Where Ibn Tufail relocates agency, Maimonides (1135–1204), Andalusian Jewish philosopher, physician at the Ayyubid court, friend and associate of figures in Ibn Rushd's intellectual milieu, completes the integration of the picture by securing the unity of body and soul against the dualisms that threaten it from both Platonic and (later) Cartesian directions [24].

Maimonides is at once heir to the Aristotelian–Galenic medical tradition mediated through Ibn Sina and a careful student of biblical and rabbinic sources that themselves resist any simple body–soul opposition. The picture that emerges in the *Guide of the Perplexed* and the medical treatises (*The Regimen of Health*, *Treatise on Asthma*, the *Aphorisms*

of Moses) is integrationist in a strong sense: care of the body and care of the soul are not two activities, but one. Bodily disposition affects ethical disposition; ethical practice affects bodily condition; the physician's work and the moral teacher's work are not, at their core, separable enterprises [25].

The famous formulation is that the body is the *kli*, the vessel or instrument, of the soul—a formulation that, unlike its Platonic and Cartesian analogues, does not put the body and the soul in adversarial relation. The instrument is not an obstacle to the agent's work; the instrument is the agent's mode of working. To care for the instrument is to care for the work. This is why, for Maimonides, the medical regimen and the ethical regimen converge. To eat, sleep, exercise, and engage with the world in the right manner is, simultaneously, to maintain the body and to develop the soul, because the soul's capacities are realized in and through the body's condition.

The implications for our argument are direct. If body and soul are integrated in the Maimonidean sense—if there is no soul whose integrity stands behind the body and could be threatened by alterations to the body, and equally no body whose integrity stands apart from the soul and could be tampered with without affecting the soul—then a whole class of contemporary bioethical worries change shape. The worry that biotechnological intervention might "really" leave the soul unchanged while modifying only the body, or "really" alter the soul through what is ostensibly a bodily intervention, presupposes a separation Maimonides denies. There is one integrated person, and what affects any aspect of that person affects, to the extent of the affecting, the integrated person.

This is not, again, a license for any intervention. Maimonides as physician was extraordinarily careful, and his medical writings are notable for their moderation, their patient particularism, and the humility he counsels toward intervention. The point, as with Ibn Tufail, is that the right questions to ask about any intervention are substantive ethical questions about its bearing on the integrated flourishing of the person, not metaphysical worries about transgressing the boundary between two types of thing.

5. Application: Germline Editing and the Limits of Factor X

The framework I have been developing, which positions the human as constitutively self-shaping (Ibn Tufail), through media that include language and culture as well as physical environment (Al-Farabi), continuously responsive in body to its conditions (Ibn Sina, Al-Kindi), and indissolubly integrated in body and soul (Maimonides), can now be brought to bear on the contemporary bioethics of enhancement. I will take germline genetic editing as the test case, since it is here that the worries of Fukuyama, Sandel, and Habermas become most acute.

Consider Fukuyama's argument first. The fear is that biotechnological intervention may erode or unevenly distribute Factor X, the property that grounds the equal dignity of human persons. The argument has bite to the extent that Factor X is the kind of thing that could be present in the unmodified human and absent or differently distributed in the modified human. But what *is* Factor X? Fukuyama is candid that he cannot specify this precisely; he gestures toward a complex of capacities, moral choice, reason, language, sociability, sentience that constitute, when taken together, the human.

Notice what the framework I have developed says about this list. Reason, language, sociability, and the rest are not Cartesian properties of an inner self that the body's conditions leave untouched. According to Al-Farabi's analysis, capacities developed in and through linguistic and cultural participation are capacities whose realization is mediated by the environmental and social conditions that humans collectively shape. They are, according to Ibn Sina's analysis, capacities whose exercise depends on the body's equilibrium. They are, according to Ibn Tufail's analysis, capacities the human realize through

self-shaping activity in malleable conditions. And they are, in Maimonides's analysis, capacities of an integrated person whose body and soul are not separable.

If this is right, then Factor X, the cluster of properties Fukuyama is worried biotechnology might erode, is *already* the product of the kind of process that Fukuyama is worried about. The capacity for reason is something humans develop through language, education, and the shaping of their social environments. The capacity for moral choice is something humans cultivate through ethical practice that works on and through bodily disposition. To worry that biotechnological intervention threatens these capacities, in a way that the linguistic, cultural, educational, and moral interventions humans have always practiced on themselves do not, is to draw a distinction that the integrated framework does not support. Biotechnology is, as per this analysis, the latest *means* by which humans participate in a process of self-shaping that has always been constitutive of what they are.

Sandel's argument requires a parallel response. The disposition Sandel commends openness to the unbidden, acceptance of the given over the made depends on a contrast between what we receive and what we make. But in the Maimonidean view, the human is, in an important sense, always receiving and always making. We did not choose to be conceived; we did not choose our parents, our genes, our in utero environment, the language of our infancy, or the practices of our culture. Each of these shaped us. None of them were unbidden in the sense Sandel requires, because each of them was the product of someone's prior choosing, our parents' choices, our grandparents' choices, and the cumulative choices of our linguistic and cultural ancestors. The "given" against which Sandel asks us to remain open is not a pristine pre-human condition. It is the sediment of others' self-shaping practices.

This does not destroy Sandel's worry; it precisifies it. The question is not whether we should receive ourselves as given or to remake ourselves through deliberate action; that question is malformed because we were always doing both. The right question is as follows: which forms of self-shaping should we ratify, and on what terms? That is a question the Islamic tradition is positioned to engage with. Maimonides's concern with the integral flourishing of the person, Ibn Tufail's with the cultivation of the highest human capacities, and Al-Farabi's with the political conditions of human realization all bear on it.

Habermas's worry is the most resistant to absorption into the framework and engaging with it directly will help show what the framework does and does not deliver. Habermas argues that the genetically engineered person stands by their traits in a relation that compromises their moral autonomy, because they know that their traits originated in another's intentional act. The naturally conceived person, by contrast, stands by their traits in a relation untouched by anyone's intention; their traits are theirs in a way the engineered person's traits are not.

There are two responses to this. Firstly, the asymmetry Habermas posits is overstated even within his own terms. The naturally conceived person's traits are increasingly, in the contemporary context, the product of a choice of partner, choice of timing, and choice of whether to carry a pregnancy to term based on prenatal information. The hard line between the chosen and the unchosen does not survive the actual practices of contemporary reproduction. Secondly, and more fundamentally, the concern about authorship presupposes that one's relation to one's traits depends on the absence of prior intention behind them. The Islamic tradition I have been developing offers a different account: one's relation to one's traits depends on whether and how one *takes those traits up* in one's own self-shaping. Hayy's eyes and limbs were given to him by the contingencies of his origin; the use he makes of them is his. The capacities Maimonides commends are exercised through bodily conditions one did not author. Authorship of traits is a confused criterion

https://doi.org/10.3390/philosophies11030090

for moral autonomy, because no one authors the conditions of her own existence. What matters is what one does with the conditions one finds.

This relocation, I want to insist, does not dissolve all bioethical concern. It changes the shape of the concerns that remain. Three substantive worries survive translation into the integrated framework and may even be strengthened by it.

The first is justice in access. If biotechnological enhancement is a continuation of the longer human practice of self-shaping, then unequal access to enhancement compounds existing inequalities of access to the other media of self-shaping education, nutrition, healthcare, and safe environments. The Islamic tradition's strong commitment to the integrated flourishing of the person, and to political conditions in which that flourishing is generally available (Al-Farabi's *Perfect State*), provides substantial grounds for worry about a stratified enhancement landscape. Bostrom's concern about the emergence of an enhanced class with superior cognitive and physical capabilities is, according to this reading, a concern the tradition can sharpen rather than dismiss [26].

The second is integration. Not all interventions integrate well with the rest of the person who undergoes them. The film *Advantageous* [27], which I commend as a useful test case for thinking about identity through enhancement, depicts a mother who, to maintain employment, undergoes a transfer of consciousness into a younger body, and whose daughter loses, through the transfer, the mother she had. The film's pathos rests on something the integrated framework can articulate: what was lost was not consciousness, which transferred, but the integrated person, which did not. A Maimonidean reading of the film locates its tragedy precisely in the severance of body-soul integration that the procedure required. Some interventions, that is to say, may produce what is in effect a new person, and we may have substantial reasons not to undertake those interventions, not because they transgress an essence, but because they affect discontinuity at the level of the integrated person that we have grounds to want to preserve [28].

Thirdly, we have wisdom in particulars. Maimonides, as a physician, was acutely aware of the difficulty of medical judgment, the variation among patients, and the limits of general principles in determining specific treatment. This is not a counsel of paralysis, but it is a counsel of patient particularism that bears strongly on biotechnological intervention. The germline editing decision is not a single decision; it is a vast and ramifying family of decisions about specific edits in specific contexts for specific persons (or future persons). The framework I have developed gives no general license for intervention, and substantial reasons for thinking that the wisdom required to intervene well is hard to come by and rarely possessed [29,30].

These are not the worries Fukuyama, Sandel, and Habermas press. But they are, as I have been suggesting, the worries we are left with once the metaphysical worry that intervention as such transgresses some prior given essence has been dissolved. They are substantive ethical worries; they are difficult; they admit progress through careful argument and case-by-case judgment. They are the questions self-shaping beings should be asking themselves about how to shape themselves well.

6. Conclusions: What Self-Shaping Beings Owe One Another

The body remains philosophically central in the age of biotechnology, but not as the fixed essence the older accounts described and the newer worries presuppose. It is, rather, the integrated locus where shaping forces meet self-shaping agency, the place where what we receive and what we do meet in a single life. This was, I have argued, the picture available in the work of Ibn Tufail and Maimonides, prepared for by Al-Farabi and Ibn Sina, and inherited by them from a Greek tradition they substantially transformed.

It is the picture the contemporary bioethics of enhancement has needed and has not, overall, had [31].

The shift from a metaphysics of given essence to a metaphysics of integrated self-shaping does not make bioethics easier. In some ways it makes bioethics harder, because it removes the easy rejoinder that intervention is forbidden by what we are. What we are turns out to be the kind of being whose self-shaping is constitutive. The interesting questions therefore shift to which forms of self-shaping integrate well with the lives and communities of the persons undertaking them, which are accessible in justly distributed ways, and which require a wisdom we should be slow to claim.

These are old questions in the Islamic tradition, even as the technologies that pose them are new. Maimonides's patient counsel of moderation, Ibn Tufail's insistence that technical mastery be ordered to philosophical and ethical development, and Al-Farabi's vision of a political community in which human capacities are generally realizable: these are not direct answers to the bioethical questions of CRISPR [32], neuroprosthetics, or cognitive enhancement, but they are the right kind of resource for thinking about those questions clearly. They take us seriously, who we are. They take seriously what we do. They refuse the temptation to settle the question by appealing to a metaphysics that, on closer inspection, none of us actually accepts [33].

The body is not what biotechnology threatens. The body is what we have always been working with. The question is what we now do with it, and that question is, finally, ours.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Fukuyama, F. *Our Posthuman Future: Consequences of the Biotechnology Revolution*; Farrar, Straus and Giroux: New York, NY, USA, 2002.
2. Sandel, M.J. *The Case Against Perfection: Ethics in the Age of Genetic Engineering*; Harvard University Press: Cambridge, MA, USA, 2007.
3. Habermas, J. *The Future of Human Nature*; Polity Press: Cambridge, UK, 2003.
4. Kennedy, R.F.; Jones-Lewis, M. (Eds.) *The Routledge Handbook of Identity and the Environment in the Classical and Medieval Worlds*; Routledge: London, UK, 2016.
5. Jotterand, F. The Hippocratic oath and contemporary medicine: Dialectic between past ideals and present reality? *J. Med. Philos.* **2005**, *30*, 107–128. [CrossRef] [PubMed]
6. Vasiliadis, E.S.; Grivas, T.B.; Kaspiris, A. Historical overview of spinal deformities in ancient Greece. *Scoliosis* **2009**, *4*, 6. [CrossRef] [PubMed]
7. Jowett, B., Translator; *Plato Laws*; MIT Internet Classics Archive: Cambridge, MA, USA, 2006. Available online: http://classics.mit.edu/Plato/laws.html (accessed on 15 May 2025).
8. Jowett, B., Translator; *Aristotle Politics*; Batoche Books: Kitchener, ON, Canada, 1999.
9. Alwali, A.K. Logic Functions in the Philosophy of Al-Farabi. In *Handbook of the 6th World Congress and School on Universal Logic*; Beziau, J.-Y., Buchsbaum, A., Rey, C., Eds.; Université Clermont Auvergne: Vichy, France, 2018.
10. Klein-Franke, F. Al-Kindī. In *History of Islamic Philosophy*; Routledge: London, UK, 2020; pp. 165–177.
11. Al-Kindi. Philosophical Letters, Parts 2 and 3. In *Philosophical Concepts in Arab World*; General Egyptian Book Organization: Cairo, Egypt, 1989.
12. Alwali, A.K. *Interpretation in Muslim Philosophy*; Globethics Library (GEL) Repository: Geneva, Switzerland, 2012. Available online: http://hdl.handle.net/20.500.12424/186682 (accessed on 20 March 2026).
13. Sina, I. *Kitab al-Shifa (The Book of Healing)*; Dar Al-Minhaj: Cairo, Egypt, 2026.
14. Sina, I. *Al-Qanun fi'l-Tibb (Canon of Medicine)*; AMS Publishers: New York, NY, USA, 1973.
15. Al-Rawi, M.M. *The Contribution of Ibn Sina (Avicenna) to the Development of Earth Sciences*; FSTC Limited: Manchester, UK, 2002.

16. Alwali, A.K. The effect of the environment on the physical appearance and mood of humans from the perspective of philosophers. *Int. J. Sustain. Soc.* **2022**, *14*, 77–92. [CrossRef]
17. Al-Farabi, A.N. *Fuṣūl al-Madanī: Aphorisms of the Statesman*; Dunlop, D.M., Ed. and Translator; Cambridge University Press: Cambridge, UK, 1961.
18. Al-Farabi, A.N. *Iḥṣāʾ al-ʿUlūm (Enumeration of the Sciences)*; Amin, O., Ed.; Anglo-Egyptian Library: Cairo, Egypt, 1968.
19. Al-Farabi, A.N. *On the Perfect State*; Walzer, R., Translator; Oxford University Press: Oxford, UK, 1985.
20. Alwali, A.K. Benefits of Using Critical Thinking in Higher Education. In Proceedings of the 5th International Technology, Education and Development Conference, Valencia, Spain, 7–9 March 2011.
21. Goodman, L.E. *Ibn Tufayl's Hayy Ibn Yaqzan: A Philosophical Tale*, Updated ed.; University of Chicago Press: Chicago, IL, USA, 1996.
22. Tufail, I. *Hayy Ibn Yaqzan*; Goodman, L.E., Translator; Twayne: Houston, TX, USA, 1972.
23. Haraway, D. A cyborg manifesto: Science, technology, and socialist-feminism in the late twentieth century. In *Simians, Cyborgs, and Women: The Reinvention of Nature*; Routledge: London, UK, 1991.
24. Endress, G. Averroes' De Caelo: Ibn Rushd's cosmology in his commentaries on Aristotle's on the Heavens. *Arab. Sci. Philos.* **1995**, *5*, 9–49. [CrossRef]
25. Mizrahi, A. The soul and the body in the philosophy of the Rambam. *Rambam Maimonides Med. J.* **2011**, *2*, e0040. [CrossRef] [PubMed]
26. Bostrom, N. The human enhancement revolution: A transhumanist perspective. In *The Future of Humanity: A Transhumanist Approach*; Oxford University Press: Oxford, UK, 2008.
27. Phang, J. (Director) *Advantageous [Film]*; Good Neighbors Media: Brooklyn, NY, USA, 2015.
28. Clark, A. *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*; Oxford University Press: Oxford, UK, 2003.
29. Farah, M.J.; Illes, J.; Cook-Deegan, R.; Gardner, H.; Kandel, E.; King, P.; Parens, E.; Sahakian, B.; Wolpe, P. Neurocognitive enhancement: What can we do and what should we do? *Nat. Rev. Neurosci.* **2004**, *5*, 421–425. [CrossRef] [PubMed]
30. Agar, N. *Truly Human Enhancement: A Philosophical Defense of Limits*; MIT Press: Cambridge, MA, USA, 2013.
31. Alwali, A.K. Bioethics issues in Arab society. *Eubios J. Asian Int. Bioeth.* **2019**, *29*, 59–64.
32. Doudna, J.A.; Charpentier, E. The new frontier of genome engineering with CRISPR-Cas9. *Science* **2014**, *346*, 1258096. [CrossRef] [PubMed]
33. Lebedev, M.A.; Nicolelis, M.A.L. Brain–machine interfaces: From basic science to neuroprostheses and neurorehabilitation. *Physiol. Rev.* **2017**, *97*, 767–837. [CrossRef] [PubMed]

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.