

Intra- and Intergenerational Justice, Law, and DOHaD

Isabel Karpin

9.1 What's Law Got to Do with It?

9.1.1 Introduction

Developmental Origins of Health and Disease (DOHaD) research focuses on the environmental causes of disease in the preconception, prenatal, and early-life periods of human development. Epigenetics is a key mechanism that underlies this research and refers to non-genetic inheritable changes that impact gene expression. DOHaD and epigenetics research can provide a critical resource for legal thinkers determining the lines of responsibility for environmental harms (both physical and psychosocial) that affect a child's growth and development. The epigenetic research that makes these claims is both contested and controversial; nevertheless, some DOHaD scholars argue it provides evidence of the origin of early-life health harms in events that occurred during pregnancy [1–3].¹ Additionally, some researchers argue that it is possible for disadvantageous epigenetic changes to occur in future children who were not even conceived at the time of the harm to their putative parents and thus were never directly exposed. Moreover, there is a body of scientific research that provides evidence that those suffering disadvantage throughout their lifecourse in conditions of systemic oppression, such as that arising from racism, sexism, or poverty, for example, may be disproportionately subject to epigenetic molecular changes creating harmed subgroups that are then intergenerationally reproduced as socially disadvantaged communities [4–10]. This chapter argues that, despite the tendency in Western common law systems to individualise responsibility, epigenetics may provide the key to an alternative approach that highlights interconnectedness within and across generations. In this way, whole communities and State systems may be held responsible rather than individuals.

Using examples from Australian, US, and Canadian legal systems, this chapter asks what legal obligations, if any, should or can be imposed on contemporary society to ensure not just the future 'health' of existing children (as they grow into adults) but also the generations of people yet to be born? It examines the possibility of *legal* protections and remedies for early-life and pre-life harms (ultimately manifesting as epigenetic changes), including from psychosocial adversity stemming from systemic mistreatment.

When identifying a 'risk pathway' for the attribution of responsibility in DOHaD research, there is a significant body of literature focusing on maternal causes for poor

¹ For a sociological perspective considering the contestable nature of this scientific research see Richardson S, this volume.

health outcomes in children. At the same time a growing body of literature in the interrelated field of epigenetics, highlights multiple and intersecting transmission pathways of harm stemming from marginalisation and disadvantage, including via the paternal line [11–13]. Epigenetic and DOHaD research show that social harms emanating from both psychosocial and physical environments can have long-term intergenerational effects. This poses a challenge to the standard reflexive response in law that identifies maternal responsibility and reinforces individualised models of blame. Epigenetics as an explanatory discourse makes a case, I argue, for a legal duty owed by the State for the harms caused by environments of systemic disadvantage. This would be a duty owed *to* parental actors rather than *by* them – an approach that would demand laws and public policy distribute responsibility across the community and demand State action.

9.1.2 Legal Persons and the Rights of Future Generations

The attribution of interests and rights (and thereby a capacity to be harmed) to an imagined future person whose development and birth are highly contingent challenges liberal legal and feminist views that rights should only accrue to legal persons. This is because what constitutes a legal person in law is not settled. The environmental and animal law fields have already had some success in attaching personhood status to natural entities such as rivers and non-human animals [14, 15]. However, there is ongoing concern that a flexible idea of personhood will be, if it has not already been, co-opted to control women's reproductive autonomy through the attribution of personhood to fetuses. Feminist disability scholars such as Rosemarie Garland-Thomson have come up against this problem when trying to create a space for autonomous decision-making in the abortion context alongside a deeper understanding of people with disability [16]. The risk of harm to 'future persons', for example, is already a justification used for a range of policy and regulatory strategies in Australia and the UK in laws around assisted reproductive technology [17, 18].² In those laws, the welfare of the future child is paramount or must be considered carefully when making reproductive decisions. The attribution of welfare rights to future individuals imposes a duty on existing persons.³ An alternative and arguably more just approach, in keeping with feminist accounts of the self, involves articulating a collective duty (moral, political, and legal) to future generations. Edith Brown Weiss, for instance, argues that 'each generation receives a natural and cultural legacy in trust from previous generations and holds it in trust for future generations' [19, p. 2]. Given that it is a certainty that there will be a

² Other signs include recent prosecutions in the US for stillbirth and miscarriage after drug use as reported in the media in: Aspinwall C, Bailey B, and Yurkanin, A. They lost pregnancies for unclear reasons. Then they were prosecuted. *Washington Post*, September 12, 2022 www.washingtonpost.com/national-security/2022/09/01/prosecutions-drugs-miscarriages-meth-stillbirths/ accessed 28/11/2022 and Dwyer D and See P, Prosecuting pregnancy loss: Why advocates fear a post-Roe surge of charges. *ABC News* 28 September, 2022. <https://abcnews.go.com/Politics/prosecuting-pregnancy-loss-advocates-fear-post-roe-surge/story?id=89812204> accessed 28/11/2022.

³ *Assisted Reproductive Treatment Act 2008* (VIC) s 5(a); *Human Reproductive Technology Act 1991* (WA) s 4(d)(iv); *Assisted Reproductive Treatment Act 1988* (SA) s 4A; *Human Fertilisation and Embryology Act 1990* (UK) s13(5)

next generation, arguably, we can and must articulate legal and ethical duties in relation to those future communities. Claims about the intergenerational transmission of harms via epigenetic changes, however, demand a more complex articulation of the call for intergenerational justice, one that incorporates or understands the impact of *intra*-generational injustice – the unequal distribution of harms and resources within a generation. Eisen et al. argue, for instance, that the

[T]endency in the orthodox intergenerational justice literature to define the ‘interests’ of a given generation as an aggregate of all individual interests, is both misleading as description and perilous as prescription. It glosses over the significant disparities within generations, and thus cannot provide the analytical tools to think about how those disparities persist and transform over time. [20, p. 5]

Epigenetic effects manifest when the body responds at a molecular level to the external physical and psychosocial environment [21]. This may happen by activating biochemical changes to methyl groups that modify the histones that wind around DNA, for example. These epigenetic changes can alter the usual trajectory of a gene towards activation or deactivation. In such cases, the outcome may be a disease or deficit that would not have otherwise eventuated. The resulting harms can be significant and serious, including heart disease, cognitive impairment, diabetes, and neurological disorders among others [9, 22, 23]. DOHaD research evidences epigenetic changes that occur to an existing person or to a fetus during pregnancy. But, as foreshadowed above, there is also research showing that even before a person becomes pregnant, changes to their or their partner’s epigenetic system brought on by environmental harms may be passed on to the not-yet-conceived [1–3]. While this research is still nascent and contested, it is significant that epigenetic research is increasingly claiming to evidence the physical impact of systemic psychosocial harms such as racism, colonisation, slavery, child abuse, gendered violence, and socio-economic disadvantage [4–10, 24].

It is critically important to the development of a legal response to examine how DOHaD scholars and those working in the field of epigenetics articulate these harmful effects, because this will influence the way those harms are understood in the legal context. Epigenetic understandings may fundamentally challenge the reliance on ideas of individual responsibility in common law Western legal systems. I have argued elsewhere that if law incorporated an epigenetic understanding, the response to cases of systemic mistreatment would need to acknowledge the impact of a cultural milieu of hostility to certain groups [25]. As epidemiologist Nancy Krieger states, ‘We live embodied – and our bodies each and every day biologically integrate each and every type of unjust, and also beneficial, exposure encountered, at each and every level’ [26, p. 45].

The attribution of an obligation of care towards future persons is problematic because, historically, the State’s interest in promoting the well-being of future persons has been enacted on and through the presumptively recalcitrant bodies of reproductive women. This has occurred using disciplinary legislative, medical, and public health regimes that attribute culpability to individuals, and women in particular, for failure to avoid poor reproductive outcomes [27]. However, this individualised model of blame can only gain traction if we see the future child as having different and conflicting interests from the people who created them. In fact, as I will show, a better approach, which aligns with the trajectories of harm identified by epigenetic changes, is to argue

that the well-being of future generations is impacted by social inequality (*intra-generational inequality*) as well as specific individual harms. This gives rise to a duty on the State to protect the well-being of future generations by assisting the existing person whose future progeny may be harmed by their unequal treatment. This would also unburden the pregnant person or potentially pregnant person from sole or even primary culpability and instead equip them with a claim themselves for legal remedies that demand State protection from the risk of harm to the health and well-being of their prospective children. In what follows, I draw on the research being undertaken in the fields of DOHaD and epigenetics to make a case for a legal duty that is owed *to* parental actors rather than *by* them for the harms caused by hostile, degrading, and discriminatory environments.

9.2 Law's Reliance on Discourses of Epigenetics

9.2.1 Expert Evidence and Epigenetic Narratives in Law

The term epigenetics has been slow to enter the legal lexicon in Australia. A review of Australian legislation turns up almost no mention of epigenetics or epigenetic processes in bills, Acts, regulations, and subordinate legislation [28, 29].⁴ A quick search of Australian case law, however, identifies a small bundle of cases where the word epigenetics has crept in once or twice. These cases evidence the slow but definite infiltration into the law of a particular aspect of this scientific narrative that speaks to the inter-generational impact of trauma. While these were only single paragraphs or sentences in lengthy judgements that turned on many factors, their appearance is a sign that this relatively new and highly contentious scientific discourse seeking to explain the DOHaD is slowly finding its way into legal decision-making.

One example from Australian administrative law is a 2017 Coronial Inquest⁵ examining the deaths of 13 Aboriginal children and young persons in the Kimberley region⁶ of Western Australia. Epigenetics was referred to in that report to highlight the collective impact of intergenerational trauma. The inquest was initiated because 'there were similar circumstances, life events, developmental experiences and behaviours that appear to have contributed to making [the 13 children] vulnerable to suicide' [30, para 1]. It is further commented that

To focus only upon the individual events that occurred shortly before their deaths would not adequately address the circumstances attending the deaths. The tragic individual events were shaped by the crushing effects of intergenerational trauma and poverty upon entire communities. That community-wide trauma, generated multiple and prolonged exposures to individual traumatic events for these children and young persons. [30, para 3]

⁴ With an all-Australian legislation database search in Austlii, only the one following mention of epigenetics was found: NSW *Greyhound Racing Rules 2022* (NSW) r 150(1)(e) which prohibits 'the administration of any gene editing agents designed to alter genome sequences and/or the transcriptional or epigenetic regulation of gene expression'.

⁵ A coronial inquest is a formal hearing where the coroner exercises various powers to investigate a death and consider evidence to determine the identity of the deceased and the date, place, manner, and cause of death of the deceased.

⁶ The Kimberley region is the northernmost area of Western Australia. Approximately 40 per cent of the population is of Aboriginal descent.

Dr Paul Simons, the Kimberley region's child and adolescent psychiatrist draws on epigenetics to support his argument that the poor health and well-being of Indigenous young people in the Kimberley region is, in part, due to ongoing trauma resulting from colonisation and forced family separation. He states:

Before birth, some children are exposed to high levels of stress and trauma, to alcohol and drugs, and poor nutrition; high levels of stress hormones in utero can affect the expression of genes, and these *epigenetic* processes can affect brain development, such that babies can be born hardwired to preferentially employ 'fight and flight' coping strategies as they develop, at the cost of executive brain functioning, which facilitates emotional regulation. [30, para 195] (my emphasis)

Scholars Warin, Kowal, and Meloni have cautioned that the use of epigenetic discourses by Indigenous scholars and activists may result in a different kind of determinism tied to 'milieu, history, and social and physical location (molecularly incorporated into the body)' [31]. The danger here is that the focus will not be on the environment that creates the harm but on the individual who has been harmed, undermining possible remedies and declaring them redundant. While this is a concern, there is the possibility of a different response, and in the 2017 Coronial Inquest, the evidence led to a recommendation for training in intergenerational trauma for those working with Indigenous youth in the Kimberley region.

On the other hand, there are other areas of law where there is frustration that this evidence is not being more thoroughly incorporated and considered. I consider three areas briefly below.

9.2.2 Environmental Law

In the field of environmental law, there is a tendency to regulate to limit rather than prohibit polluting agents. Eisen et al., for example, suggest that Canada and the United States have a permissive approach to chemical regulation 'in which the burden of proof falls on those trying to show that chemicals are harmful' [20, p. 13]. This needs to change as evidence of long-term effects accumulates. Eisen et al. point out that there 'is increasing scientific support for the theory that children, even grandchildren, of those exposed to brominated flame retardants (BFRs) and phthalates [ubiquitous chemicals in household furniture and products] may incur health consequences' [20, pp. 10, 17].

Legal scholars are drawing on epigenetic claims to argue that environmental protection needs to be crafted around the potential intergenerational and early-life impact of toxic environments, understood as incorporating both physical and psychosocial harms. As Rothstein et al. point out, systemic disadvantage increases the potential for harm from polluted environments. They state that

It is well-known that disadvantaged populations with poor nutrition, substandard or nonexistent healthcare, stress from factors such as housing instability and fear of violence, and high-risk lifestyle factors increase susceptibility to environmental exposures. [33, p. 4]

In the case of chemical pollutants, for example, Scott et al. argue that 'BFRs can be thought to create a fleshy material archive of one's social location, practices, and movements. Not only are bodies embedded in social contexts and structures, but the social is also embedded, literally, in material bodies' [34, p. 333]. Thus, the presence of BFRs does not just tell us about immediate harm but also about the likely location of that

harm and the social circumstances that led to its magnitude. *Intergenerational* harm is thus integrally linked to *intra-generational* inequality. Epigenetics too suggests that people are integrated into harmed communities and are subject to multiple networks of harming effects that are passed on to existing children and future generations, distributing the responsibility for the harm across communities and the State. These realisations demand a conceptual change to law's traditional approach of assigning responsibility by tracing an uninterrupted line of cause and effect.

9.2.3 Tort Law

US tort law offers another example where the traditional response to these kinds of harms fails to protect those who are harmed. In torts, remediable transgenerational epigenetic effects do not generally include those that manifest in the first *unexposed* generation because the line of causation is narrowly cast and cannot accommodate multiple forms of insult. The classic example is the case of diethylstilboestrol known as DES, the drug that was given to women from the 1940s up to the 1970s to prevent miscarriage. It was withdrawn from the market after it was found to cause vaginal cancer. The children who were in utero when the drug was given were also found to have a higher incidence of cancer and infertility as were the children of those children [35]. However, the US Courts limited claims to the mothers directly given the drug and their children who had been exposed in utero, disallowing claims beyond first-generation exposure because of what they called 'victim attenuation' – namely, the difficulty of connecting, causally and temporally, the tortious conduct, and the injured victim [29, 33, 35].

In other words, the greater the distance in time between the offence and the victim's injury, the greater the possibility for potentially unknown causal acts to have been responsible or even partly responsible. However, as we have seen above, even when there is direct exposure there is also a network of other environmental influences and effects that may make one more susceptible to the harm. Individuals are exposed to thousands of different toxins from multiple sources throughout their lifecourse. The likely scenario where those who are most disadvantaged economically and socially are also those who will be most harmed, allows for the argument that the identification of a single responsible agent is untenable, leaving generations of victims with no recourse. On the other hand, scholars such as Doci et al. argue that 'individuals who are affected by epigenetic side effects should have a right to obtain justice and to present an epigenetic case within a legal system which is suited to handle it' [29, p. 274].

9.2.4 Regulating Reproductive Bodies

On the other side of the coin is the willingness of law to identify a cause and effect when it comes to the putative pregnant person. The proximity of a pregnant person to their fetus appears to create a sufficiently *un-attenuated* line of causation that justifies pre-emptive hyper-surveillance of their behaviour from policymakers, public health institutions, and sometimes legal actors. While the scientific literature is contested, it nevertheless offers an alternate narrative that can be used to insist on a more complex and contingent account of responsibility and harm. However, rather than cautiously drawing on the scientific claims emerging in the fields of epigenetics and DOHaD that trace a physical harm from psychosocial sources such as stress, trauma, violence, and abuse against the pregnant or potentially pregnant person, public health initiatives tend

to focus instead on the aspect of DOHaD research that identifies the pregnant woman as the locus of harm. Pregnant women and those seen as of reproductive age are schooled to modify their behaviour to counter some of these societal and environmental effects.

One example of such schooling is the US Centre for Disease Control (CDC) guidelines on preconception care, for example, that were published in 2006 but are still referred to in the literature. These guidelines have as their first recommendation that there should be individual responsibility across the lifespan. They describe the 'target population' as women from 'menarche to menopause who are capable of having children, even if they do not intend to conceive' [36]. These women are told that they should be conscious of their genetic factors and cumulative risks and modify their diets accordingly. Among the lengthy list of things for women to avoid while pregnant is a caution to be aware of 'fetal exposures to teratogens'. In the plain English version on their website, the CDC warns women to avoid harmful chemicals at work and at home. Perhaps unsurprisingly, there is thus considerable concern among feminist legal scholars that more research in the field of DOHaD and epigenetics will see women subjected to more scrutiny. Take, for example, studies such as that of Roberts et al. linking maternal exposure to child abuse with a higher rate of autism in their offspring, or Slykerman et al.'s study linking depression in early adolescence with stress during pregnancy [37, 38]. These are just two examples among many [39].

Outside the discipline of law, scholars such as Sarah Richardson and Megan Warin have cautioned against an approach that places women at the centre of this harm. Richardson asks, for instance, whether there is 'potential for this research to heighten public health surveillance and restrictions on pregnant women and mothers through a molecular policing of their behaviour?' [40, p. 210] Warin et al. argue that 'A new and powerful meta-discourse has emerged in which women are blamed for both their reproductive physiology and their social role as mothers, thus constructing women as potentially contaminating future generations by creating obesity lineages' [41, p. 361]. This they say, 'coupled with a neoliberal agenda that emphasises self-governance and individual responsibility', individualises the responsibility for harm, and it does so in a gendered manner [41, p. 361]. In such a discourse, the responsibility for harm is shifted back to the individual who must, it seems, find a way to protect her offspring from the harms to which she herself has been subjected. A collection of cases where women have been prosecuted for neglect and abuse in raising obese children or not protecting their children from an abusive partner speak to the concern that epigenetics will be used to increase the scope of that responsibility, not delimit it [43, 44]. Contrary to such cases, feminist challenges suggest the need for an approach that recognises systemic injustices that create, as stated above, *networks* of harming effects.

Interestingly, scholars Loi, Del Savio, and Stupka optimistically suggest that we should look forward to 'a society in which people can be informed by their family physician of the accumulation of risk due to specific environmental insults, including those arising prenatally and in early childhood for which people cannot be held responsible' [45, p. 143]. Unfortunately, however, their assumption that women will not be held responsible is not borne out by recent history and is likely to be significantly amplified in the next few years with the recent development of so-called *epigenetic* tests. According to Dupras, Beauchamp, and Joly, these tests 'may provide sensitive information about individuals, not only their increased risks of diseases but also about their exposures and lifestyles' [46]. They list some of those exposures as comprising smoke, stress, alcohol, and other 'toxic chemicals' and describe the tests as potentially 'uncovering

new layers of sensitive information about individuals that were not made accessible by genetic tests' [46]. Dupras et al. note the burgeoning industry specifically in the unregulated field of direct-to-consumer epigenetic tests with companies such as Chronomics, EpigenCare, Muhdo, MyDNAge and TruMe now offering them.

Arguably, women could be pressured to use direct-to-consumer epigenetic tests and, depending on the outcome, be held responsible for the 'harms' that follow. Dupras et al. indicate that one of the present uses of direct-to-consumer epigenetic testing is to reveal a person's smoke exposure history. In the traditional legal framing of individual responsibility, this might be an area where a regulatory response is triggered. Typically, women are viewed as culpable for harm if they smoke while pregnant, and while they might not be morally condemned for unwittingly exposing themselves to secondhand or environmental smoke, should they undergo a test that identifies their level of exposure to such smoke, a new responsibility arises to respond to the information provided by that test, and with it, a choice to either terminate an affected pregnancy or not move forward with plans to become pregnant. This new burden of responsibility is further complicated by the context of anthropogenic climate change, as demonstrated by epigenetic studies on smoke exposure undertaken in the wake of the Australian bushfires of 2019, which tracked the increased risk of adverse pregnancy and fetal outcomes for pregnant women who were exposed to bushfire smoke [47]. Viewing exposure through the prism of the individual maternal body in such studies highlights how social responsibility for harm can be masked and neutralised by such testing regimes [47].

Developing an alternate approach entails recrafting laws and public policy to recognise the network of harming effects. Ideally such an approach would distribute responsibility across the community and demand State action and responsibility, as I will examine in more detail below.

9.3 How Can Law Respond?

Because epigenetics blurs the distinction between the physical and the psychological by revealing a physical register for psychological harm through changes to methylation and the epigenome, it is possible to show how social adversity has physical effects. This kind of evidentiary trail is particularly appealing to law.

9.3.1 Legal Orthodoxy and the Autonomous Individual

Legal systems found in most common law countries operate within an orthodoxy which, to differing degrees, centres on the self-determining, independent, and autonomous individual both in terms of who it is aimed to protect and to whom it attributes responsibility. At the same time and perhaps ironically, law is sometimes used to assign responsibility to the harmed individual by characterising it as a failure of self-care and self-regulation. This accords with a contemporary neoliberal ideology where, as Robertson puts it,

notions of individual autonomy, the free market and limited government are related, in a mutually producing and sustaining way, to the imperatives of 'self-care' – in the form of self-surveillance and self-regulation. [47]

It is clear then that we cannot understand or develop a response to epigenetic harms derived from psychosocial adversity and their intergenerational impact without revising these underlying ideological limitations.

Feminist legal scholar Jennifer Nedelsky argues for an alternative model for law that foregrounds our relational status. She states that ‘human beings are in a constant process of becoming in interaction with the many layers of relationship in which they are embedded’ [49, p. 38] and ‘a relational self requires relational conceptions of values, which then require appropriate forms of law and rights built around those conceptions’ [49, p. 5]. This relational model is one alternative. Another is Fineman’s model of universal vulnerability, a model that demands that laws are refashioned around people as ‘embodied creatures who are inexorably embedded in social relationships and institutions’ and ‘experience the world with differing levels of resilience’ [49, pp. 1–7]. ‘Resilience’ according to Fineman is not an inherent trait but rather a resource that is unequally distributed. This occurs, as I have said elsewhere, ‘when the “assaults” of inequality turn ordinary vulnerability (and dependency) into a politically amplified source of embodied and abiding psychosocial harm’ [11, p. 1121].

In this vein, epigenetics offers us both a scientific account of cause and effect and a model for a conceptual shift to the relational self as an animating architecture around which to construct laws (rights, duties, and responsibilities). While there is a risk that foregrounding epigenetics can lead to a new form of stigma – the epigenetically disadvantaged – I argue that epigenetic processes nevertheless offer a constructive metaphor for rethinking legal rights and responsibilities. This is because epigenetic discourses reveal the impossibility of the autonomous, self-sufficient individual of liberal legalism.

Laws and public policy that are reworked to recognise *the network* of harming effects, however, must also be conscious of assumptions around what constitutes a harm. Assertions of ‘harm’ are inevitably entangled in prescriptions about what is normal, and therefore to talk about harm risks further stigmatising diverse embodiment. As such, a disability studies critique must also be mapped over the top of any legal remedies that are proposed to ensure that we do not simultaneously and unthinkingly instantiate inherited difference as self-evidently a harm. (See also Azevedo et al. in this volume.) Rosemarie Garland-Thomson has argued, for example, that feminist disability studies ‘questions our assumptions that disability is a flaw, lack or excess’ [51, p. 1157]. Eisen et al. argue too that ‘critical disability studies scholarship calls on us to confront evocations of “anomalous bodies” as emblems of a tragic or dystopian future as constituting a distinct set of harms with their own distinct intertemporal dimensions’ [20, p. 40]. They go on to note, quoting Alison Kafer, that the critical disability studies literature frames disability as relational and ‘that individuals inhabit: the social institutions, laws, and policies within which they are embedded and that regulate their daily interactions and encounters; and the “social patterns that exclude or stigmatize particular kinds of bodies, minds and ways of being.”’ [20, p. 40]. Clearly, then, any invocation of relational accounts of harm and responsibility must not degrade anomalous embodiment and determine it as presumptively harmed.

9.3.2 Bioinequality and the Dismantling of the Individual in Law

Creating a new conceptual apparatus for legal action requires a linguistic device that names the previously unnamed. Karen O’Connell and I have developed the term bioinequalities, a concept that ties together biology and inequality to offer a language in which legislative life can be given to a harm previously unnamed in the law: the bodily effects of unequal treatment [25]. What is understood by unequal treatment is not simply

different treatment but disadvantageous treatment in a system of oppression and subordination based on gender, race, socio-economic status, and ability among other traits. Bioinequalities suggest material harms tied to systemic injustices that inhere in bodies that occupy those systems both now and in the future. By taking account of the growing literature suggesting that trauma associated with unequal treatment affects us materially in our molecular biology and may be transmitted intergenerationally, it can be argued that a legal response that provides only an individual remedy to an individual incident of harm is insufficient. Instead, what is needed are positive legal obligations to protect communities (and in particular disadvantaged communities) from harmful bioinequalities that are shared among them both intra-generationally and intergenerationally.

Harmful environments in the workplace, in public spaces, in educational institutions, and in private corporations currently operate within a cultural milieu that upholds certain hierarchies of power and subordination that favour some individuals over others. Treating harms as environmental anomalies only, and not pervasive, entrenches bioinequalities by masking the way environments are reflections of cultural values and standards of oppression. It fails to identify the cultural framework of inequality that informs law and infiltrates legal processes and systems rendering the harms invisible to normative (dominant group) legal thinking.

Currently, where law provides redress, it tends to do so on the basis that the incident is resolved once the finding is made. The possibility that the harm continues materially and internally is not addressed. I have argued throughout this chapter that DOHaD's version of an interconnected and entangled human provides a unique counter to the reductive individualised notion of legal subjectivity that currently pervades common law systems. Legal thinkers must address the claim that the psychosocial harms of systemic oppression cause harmful epigenetic changes in individuals and their progeny (both gestating and not yet conceived), creating intergenerationally harmed communities. Only by doing so can we craft real protective legal action that acknowledges that people are not just harmed as individuals but are always situated inside an epigenetic logic of relational, vulnerable, and continuous entanglement with others.

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