Atypical Morphology and the Normative Limits of Ability and Function

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Introduction

This paper largely concerns grounding concepts that inform medical and social theories of impairment. It discusses impairment in relation to normal function, including its identification as deviation from normal health. It then draws upon phenomenological concepts to develop an alternate account of embodiment, as always already dependent upon relations with things outside itself. It posits that ‘normal ability’ is consequently a socio-historical elaboration rather than an objectively existing state of affairs, and that the accompanying prioritisation of some modes of embodiment over others creates the phenomenon called disability. Finally, it outlines an alternative framework that eschews reference to transcendent norms for grounding in capacities and goals, however atypical, of embodied agents.

1.1. Medical and Social Theories of Disability and Impairment

The meaning of disability is commonly take as settled. It is a personal problem occasioned by a dysfunctional body or property thereof. This ‘medical model’ broadly asserts the following (by degrees). (1) Identity obtains between disability and abnormal individual morphology. (2) This morphology fails to realise normal human function. (3) Disabilities
directly cause negative outcomes or health decrements. (4) Consequently, disabilities warrant correction or rehabilitation, which the disabled person should affirm.

Consider Christopher Boorse’s influential species typical function.¹ Here health equals conformity with species typical function. This is specified as statistically normal function or design of some ‘reference class’ (species members of similar age and sex). For Boorse, “the normal is the natural”: natural equals species typical design. Normalcy is an objective biological fact, verified statistically for a particular class. This ‘empirical ideal’ grounds health judgements. Health is conformity with this ideal; disease deviates from it. Impairment, as deviation from normal function, is pathological, and so is essentially a reduction of health.

Theorists advancing a ‘social model of disability’ dispute that impairment is the preeminent cause of many limitations. Medical definitions do not merely report natural states of affairs, but also ascribe negative meanings to impairments, that acquire the status of “objective fact and common sense”.² They criticise the medical model for considering disability largely objective, knowable and constant, overlooking not only how properties change, but how experience thereof varies by culture or environment. Minimal attention is paid to other life-affecting circumstances. They suggest that the medical framework itself produces deleterious outcomes. Its pervasive influence may engender a “fallacy of composition… where a false conclusion is drawn about the whole person


2 Alison Kafer, Feminist, Queer, Crip (Bloomington and Indianapolis: Indiana University Press, 2013), 5. In relation to the medical model, it matters less by whom it is applied, more that disability is thought a ‘medical problem’.
based on features of her constituent parts”.⁵ That disability is considered individual, a “personal tragedy” to be “treated, prevented or cured”, renders disabled people fundamentally unlike, even lesser then, a nondisabled majority.⁴ Removing disadvantage means overcoming disability through cure or personal fortitude. Social participation correlates to approximation of normalcy.⁵ Finally, where disability is considered the foremost or total cause of disadvantage, other causes are occluded and alternate responses precluded.

Social modellists reject that disability is immanent to the body. They disambiguate causes into two kinds—biological and social—with corresponding outcomes. Impairment describes mere objective morphological facts, and attendant limitations. Disability describes socially-instantiated discrimination flowing from negative evaluations about impairment; evaluations based in hierarchical divisions between normalcy and deviance whose origin is at least partially medical. Impairment becomes disability on meeting discrimination or an unsupportive environment. Impairment means one cannot walk. Disability occurs where buildings are inaccessible.

1.2. Some Problems of the Social Model

The social model is laudable for disclosing aspects of disability not entailed by impairment. Yet certain aspects warrant criticism: chiefly, the impairment/disability distinction. This objectifies the body as a brute thing separate from and prior to social experience. First, this upholds persistent dualisms that render the body inert, atemporal and ahistorical:

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⁵ Or in extreme cases, elimination of the pathological individual.
either a clump of inert stuff or mechanistically produced. It is reduced to what phenomenology calls an objective body: “devoid of meaning, a dysfunctional, anatomical, corporeal mass obdurate in its resistance to signification and phenomenologically dead, without intentionality or agency”. Lived or agential aspects are transferred to separate social or mental domains.

Second, while disabling social responses to impairment are criticised, the category itself remains unaddressed. Social modellists claim that the medical model falsely overestimates limitations flowing from impairment properties, and rejoins that some, though not all, are spurious. This maintains, and also naturalises, the existing bifurcation into normal and abnormal embodiment. Impairment remains a problematic deviation outside the normal scope of embodiment. Interestingly, Boorse considers his work compatible with disability theory that admits impairment’s objective pathology, while well-known disability theorist Tom Shakespeare affirms Boorse’s disease concept. For medicine and social model alike impairment equals natural abnormality. Relatedly, this impedes recognition that impairment’s provenance may itself be partially socio-historical and evaluative. This is apparent in contestations over definition: entities designated impairments vary by time and place. More profound still are Susan Wendell’s questions, which inform what follows: how far must one walk to be non-impaired? Do contextual variations not contribute?

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2.1. Merleau-Ponty and Active Perception

It bears consideration whether strict division between normalcy and impairment is tenable, and whether the body is separate from social experience. Accordingly, I will outline a phenomenologically informed account of embodied subjectivity, before addressing the salience of technicity. An enduring story about human experience supposes that perception and action serve knowledge; and, that objective body serves subjective mind, which is the locus of consciousness and knowledge.\(^{10}\) Maurice Merleau-Ponty’s phenomenology rejects such definitive distinction between consciousness and embodiment. For him the body is no inert ventriloquist’s dummy requiring animation. It is an ‘organ’ of movement and connection, one’s very openness to the world. As embodied and having a particular perceptual structure, and as immersed within the world, it necessarily and immediately has a perspective or comportment. Its world is prereflectively encountered as meaningful situations, structured by past and present interests, and eliciting response. Accordingly, the world appears not as Cartesian extensa wherein objects are disinterestedly arrayed and await meaning, but as already charged with sense.\(^{11}\) Likewise, the body is not typically experienced as an object, however intimate, but a power of acting towards situations.\(^{12}\) One does not have, but is, a body that is a “knot of living significations”.\(^{13}\) So, in familiar activity, body and world are not given as discrete terms—subject standing over against object—but as prereflective involvement in proximal activity. Knowledge serves activity. Indeed, perception is a kind of

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\(^{10}\) This is consistent with what Susan Hurley calls the ‘traditional sandwich model’ of mind and body. The body inputs sensation; then the ‘heavy lifting’ occurs within the brain qua mind as this is organised into knowledge via representation; then finally, this is returned to the world as bodily action. Susan Hurley, “The Varieties of Externalism,” in The Extended Mind, ed. Richard Menary (London: MIT Press, 2010).

\(^{11}\) By ‘sense’ is meant something like the French sens: at once meaning, and direction.


\(^{13}\) Merleau-Ponty, Phenomenology of Perception 153.
incipient action: to grasp the world is to prepare action in response to its solicitations. Consequently, the embodied self is not a substantive. Wherever encountered, it is always disposed, in motion, which is inauguration of sense.

2.2. Sociality and Technicity

I have so far suggested that the body’s ‘essence’ is to act towards situational possibilities, which concurrently inaugurates sense. This can be further developed. The human is traditionally considered bounded, self-identical and enduring, with determinate functions that exist in advance of activities. It is possible to propose a different ontology of human embodiment: both existing or constituting itself as its activities, and ‘always already enhanced’ through profound incorporation within such activity of extra-organismic materials. Various philosophers call this condition ‘originary technicity’. Technics refers less to technological objects, and more to a constitutive relation of embodied activity with things outside it. This implies that the being of the human is constituted through creative engagement with things, but that its realisation likewise relies upon such relations.

Two interconnected phenomenological aspects are salient: experiential, and developmental. First, myriad prostheses, broadly construed, are incorporated within activities more usually limited to mind and body. For Merleau-Ponty, the lived body does not terminate at the dermal boundary.\(^{14}\) He considers the visually impaired man whose integration of cane and bodily intentionality becomes sufficiently profound to incorporate this within perceptual integrity, as he negotiates situational space. It is no longer an external mediating object, but one “sensitive zone”

among multiple ‘organs’ that together give him his world. Likewise, experienced wheelchair-users traverse space using sensorimotor knowledge that is ‘of them’, and where chair is within this “global awareness of… posture in the inter-sensory world”.\textsuperscript{15} This is possible due to involvement within world-directed projects. Not only do thought and action overspill embodiment. They emerge from, and supervene upon, processual interactions \textit{between} brain, body and world: they are \textit{enacted} in “dynamic interactions between organisms and environments”.\textsuperscript{16} For Shaun Gallagher, mind is no container for propositional attitudes, but a (crucial) participant in a web of dynamic problem-solving procedures enacted through “dialectical, transformative relations with the environment”.\textsuperscript{17}

Second, prosthetics are profoundly interwoven within human development. For Joanna Zylinska the human is “always already prosthetic, whereby relationality and dependence on ‘the outside’ are the condition of emergence and existence in the world”.\textsuperscript{18} This tendency to self-exteriorisation, composition and assemblage suggests radical bodily openness. Humans do not merely interact with external things, while remaining essentially unchanged: in transforming technology they are transformed. A fundamental aspect of human being-in-the-world has been, and continues to be, meaningful and active negotiation of human-nonhuman boundaries. The history of hominisation is one of co-evolution

\textsuperscript{15} Ibid., 102. Such insights are augmented by Bach-y-Rita’s study of prosthetic tactile-visual substitution system use by visually-impaired people. Visual stimuli from a head-mounted camera is referred to a vibrotactile activator array, producing a ‘tactile image’ on the subject’s back. With time subjects report three-dimensional spatial experience of objects and object-relations, and can enact spontaneous spatial negotiation (including grasping), despite never having seen. Paul Bach-y-Rita \textit{et al}, ”Vision Substitution by Tactile Image Projection”, \textit{Nature} 221, no. 5184 (1969): 963-4.


\textsuperscript{17} Shaun Gallagher, ”The Socially Extended Mind”, \textit{Cognitive Systems Research} 25-26 (2013).

with tools and prosthetics: “a long line of technical prostheses such as flint stones and other ‘memory devices’ that have played an active role in the very process of the constitution of the human.” This constitution remains essentially incomplete.

All bodies are mixed. The subject is not self-identical but produced through its associations. This has implications for biological-social relations. Recall the phenomenological insight that milieus are disclosed not only according to morphology, but also accumulated experience expressed as habit or comportment. So, worldly possibilities are disclosed as an indivisible compound with organismic and social aspects. There is no pure organism separate from social and technical relations, since comportment is enabled and acquired within a world of already meaningful, historically elaborating assemblages.

2.3. A Biosocial Account of Impairment

I now consider implications for impairment. This concerns its supposed natural dysfunction, rather than socially instantiated disability. My point is that impairment is no more natural than disability. Impaired arises from historically elaborated disvalue attached to atypical morphology.

First, contexts delimit in advance which activities are available, and thus which have been assigned value. While a certain body may be unable to realise activities in a given milieu, many purportedly spontaneous and natural objectives and situations are contingent outcomes of the aforementioned harmonisation of bodies and space, that has prioritised a

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21 Indeed, in many cases interactions modify neural and physical makeup. Clark suggests that body and brain have developed as they have precisely because of this primordial activity that tends towards connection and formation of coupled systems. Andy Clark, *Supersizing the Mind: Embodiment, Action, and Cognitive Extension* (Oxford: Oxford University Press, 2008).
delimited range of morphologies. This grants to typical bodies their apparent natural function. Yet since situations and activities are produced and contingent, so are associated functional norms. There is no essential human function that transcends contexts. Context-transcendent ability would imply some kind of originary, self-sufficient, complete human, as though in the state of nature. As Bernard Stiegler writes, this condition represents “the absence of relation”. There is no universally valid—that is, ‘normal’—mode, but normalised relations that prioritise certain modes.

Put differently, ‘ability’ is not preexistent but realised in situational activity. This makes occurrence not merely spatial but temporal. Disability and ability exist as they happen, according to the activity at hand and norms concerning valued activity. There is no ability or disability antecedent of situation, only enabling and disabling relations. ‘Ability’ is less a matter of innate features, and more of temporally-normalised relations between bodies and a world of ‘assistive devices’ that enable them. The seeming complementarity between ‘normal’ humans and environments is not spontaneous, but the outcome of activities, both historical and contemporary, that render the world thus according to a privileged corporeal ideal. Conversely, disability qua impairment is neither reducible to physical properties, nor inherent lack. It occurs where supports are absent, or ill-fitting for merely atypical bodies: where an orientated body encounters others with incongruent orientations, or spaces with inapt affordances. The ’normal body’ it is implicitly given at

23 No convenient opposite exists for impairment, and I will discuss ‘ability’ in a fairly general sense. Hence I use disability and ability here in a loose sense of ‘(not) being able to do things’, where this is not caused by bodily properties but relations with milieus.
24 For this reason, I consider impairment merely a medical term with limited applicability, and do not consider impairment qua objective abnormality part of the furniture of the universe. Henceforth I will use anomalous embodiment to denote mere atypicality, and disability to describe limiting situations based in assumptions that impairments are objectively real.
one pole of the body-world circuit, instantiated within milieus of various kinds. One attempts ‘normal’ possibilities because these are habitually given as ‘what everyone does’, and because contexts advert to such affordances. So, environments solicit unrealisable possibilities: however effectively the non-visual person or wheelchair-user comports themselves, they inhabit an environment designed for motility other than theirs.

Though partially instantiated in architecture, cultural products, policy prescriptions, and so on, disability is relational: it is only activated to the extent that these encounter bodies. In this biosocial notion of humanity, categorisations are non-trivial, and affect distribution of resources for activity. Thus, some enjoy affordances while others are denied. It is not intrinsic to an atypical body that it cannot act in a milieu; a historically elaborated milieu only accommodates typical bodies. This does not deny that ability has degrees, only that it is specifiable independent of context and activity. And, it may be enacted differently—aided, or inhibited—by different environments.

3.1. The Problem of Limits: Impairment and The Human

So, the development of the human has centrally involved production and negotiation of limits, including boundaries between itself and what lies outside it, where this outside has also involved anomalous embodiment. Some such limits are materially embedded: genetic endowments (prioritisation of certain genotypes during prenatal testing), or spatial organisation (inaccessible architecture). Others are epistemic: ways of seeing, thinking and acting incarnated as habit or “maintained in textual, technological, institutional procedures or cultural practices”.25 They might

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25 Gallagher, "The Socially Extended Mind", 7. This is only a difference in principle, a false dichotomy. Material space affects how behaviour is enacted; likewise habits of thought affect which genetic endowments are transmitted, and ways of acting modify spatial organisation.
be recognised as contingent and somewhat negotiable. While variable in extent—behaviour is more readily modified than morphology—none are truly transcendent, *a priori* categories.  

This does not make them arbitrary. They determine in advance what is thinkable or doable. This is not inherently negative, since limits are conditions of possibility: they enable. Every action reckons within possibilities organised by contextual limits (and implicitly, those limits themselves).

Under this aspect, limits are necessary but transformable conditions. Under another, they seem fixed and insuperable. Such is the case when some state of affairs is naturalised as an enduring object, its constitutive processes elided. This occurs routinely with the human. Manifold reasons exist to question the universality of generic humanity and normal form and function. The human emerges relationally: its apparent harmony within the world is not, strictly speaking, spontaneous, but the product of co-evolving processes. However, only the outcomes of such activities are typically endorsed as real. Developmental processes are taken as secondary, even ignored. This takes the product for producer: it places the ‘ideal human’ prior and external to the circumstances of its elaboration. Its purportedly determinate form and function become transcendent norms constraining bodies and modes of being within a grid of pregiven possibilities. Limit becomes a *limitation* upon variety, while the body’s fundamental and constitutive indetermination is obscured.

Related implications obtain for freedom and dependence. At least since modern thought, the human person has been considered an individual

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26 Even organisms are transient determinations of ongoing processes.


28 Indeed, a perfectly free or unconditioned act, lacking the limits entailed by initial impetus and context, would be groundless.
cognising agent, having certain essential attributes, and free—at least in principle—from constraint. Rational, individual autonomy is paramount among such attributes. Its body, while partially determined, labours to realise this freedom. This becomes another norm transcending life. Thus, tool use by notionally nondisabled persons appears to merely extend preexisting freedom or ability. Prosthetic use by a putatively impaired person, however, is called assistive, and thought to enable freedom or ability. This distinction is specious, and elides how ‘nondisabled autonomy’ is likewise dependent upon, and enabled by, constitutive relations.

3.2. Limits on the Future

Why this production of oppositional limits within the heterogeneity of bodies? Foucault famously cites rationalising Enlightenment goals of organised knowledge and administered bodies. Where bodily anomaly was hitherto comprehended through myth or religion, medicine now performs this role. However, he and others note that its relatively simple dichotomies have succumbed to more granular and mobile operations called biopolitics. These practices address biological capacities and health conditions as political problems. They seek to “optimise, and multiply [life by] subjecting it to precise controls and comprehensive regulations”, by targeting perturbations in phenomena that manifest at the population level: “birth, and mortality… health, life expectancy”. The most salient

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32 Ibid., 137.
33 Ibid., 139.
aspect of this politicisation and “intensification of biological difference”34 is the aim to “improve life by eliminating accidents, the random element, and deficiencies”.35 That is, biopolitics involves an attempt to master and control the human present, and especially future, by rendering these “regular, predictable, knowable”.36 Keith Ansell-Pearson and Babette Babich each describe such goals as utopian. Instead of life it “as it is, with all its trouble and mess”,37 these crave life extirpated of all suffering and adversity.38 Imagining the possibility of a future purged of disorder, these seek to delimit its outlines in advance.

This is of utmost importance for anomalous embodiment: it affronts not merely by involving ‘hardship’, but by its unpredictability and unboundedness. It appears to warrant normalisation by exceeding “predictable narratives”.39 In one prevailing imagined future—called by Alison Kafer a ‘curative imaginary’—atypical bodies have no place: this “understanding of disability… not only expects intervention but also cannot imagine… anything other than intervention”.40 This medicalised temporality cannot conceive a future not governed by (present) ideals of human perfection. Impairment rehabilitated or cured confirms progress; as un-cured, it either falls outside or impedes it. This is especially apparent in bioethical endorsement of practices like prenatal testing, which take as axiomatic that “we” want children who are “longer-lived, stronger,

40 Kafer, Feminist, Queer, Crip 27.
happier, smarter, fairer”. For John Harris this involves prevention of inverse attributes, which include atypical properties. Thus these appear as failure to properly realise an ideal future. Such imagined futures do not merely reveal present ideals, but loop back in turn to condition the present.

**Concluding Remarks**

Can one affirm biomedical strategies continuing normalisation or endorsing a biopolitical future? Arguably yes, alongside conceptual work to disclose presuppositions and explore alternatives. I do not argue for or against particular procedures, but am concerned where certain outcomes seem obvious, or are taken for granted. I am sceptical of practices proceeding from abstract type rather than concrete embodiments; from individual autonomy rather than interdependence; and especially, claims based in restoration of full humanity. While not every mode of living is equivalent—some things are experienced as obstacles; bodies do incur restrictions—I reject ideal form or function for the absolute singularity of bodies, and multiple and diverse modes of living.

I finish with several gestures towards a more open account. First, anomaly has nothing *essentially* to do with health. Catherine Mills notes that for Georges Canguilhem, species typicality illicitly conflates two kinds of norm. Anomaly is synchronic, describing similitude and difference among diverse bodies. Its norms are statistical. Pathology is diachronic, describing temporal modification of life course: how conducive states of affairs are with subjective goals. Its norms are therapeutic and evaluative. Anomaly, as statistical deviation, is not

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42 For example, the majority of women in developed countries choose abortion following a Down syndrome diagnosis. Catherine Mills, "The Case of the Missing Hand: Gender, Disability, and Bodily Norms in Selective Termination", *Hypatia* 30, no. 1 (2014): 82-96.
abnormality *qua* pathology, which involves “direct and concrete feeling of suffering and impotence, the feeling of life gone wrong”. For Canguilhem, health involves capacity to respond to milieus. Crucially, this is not relative to an absolute ideal—no such type exists—but previous states of that life. A bodily state can only be evaluated—can only be normal—relative to milieu and life trajectory. If anomaly does not perturb life activity, it is normal, not pathological, for that person. This can be fruitfully coupled with Anita Silvers differentiation between functional *level* and *mode:* “mode is the manner in which a functional outcome is achieved… level is the quantitative degree of the functional performance, such as speed or the strength”. For ‘normal function’ advocates it is better to approximate normal mode than to function well, precluding “anomalous but effectively adaptive alternative modes”. If normal function is abandoned, high functional levels are realisable for “very atypical people” using “atypical modes of functioning”.

Second, autonomy criteria require modification. Humans are constitutively conditional upon myriad prosthetics. Instead of a binary between normal bodies with (potentially) unlimited freedom of activity, and abnormal bodies whose activity is intrinsically limited, there are heterogeneous bodies within contexts that partially enable them. I reject dichotomisation between dependency and autonomy for *enablement.* This

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44 This might also comport with Merleau-Ponty’s ‘optimal grip’: an adequate relation to desired outcomes in some context. This ‘norm’ is relative neither to other bodies nor an abstract ideal, but to realising conditions that, however atypical, avail of one’s ‘flourishing’. Cochlear ear implants can be a salient therapeutic provision for some, rather than a normalising strategy that disavows Deaf identity. Concurrently, others may reasonably reject implants for just that reason.


captures interrelation between each aspect of activity, addressing the role of context (enabled by) alongside realisation of action (enabled to). A simultaneously richer and more modest autonomy should relinquish the will to individual self-mastery, for a relational form encompassing and affirming connections with other bodies and technologies.

Finally, there is the future. That humanity is malleable and emerges with situation does not dissolve it outright—it is a profound horizon for life—but implies that its outlines are not unchangeable. Burgeoning biotechnological developments will transform capacities in ways that overspill all extant humans, engendering new, yet-inconceivable, entanglements and enablements. There is no principled reason to differentiate between biotechnical, or medical and social, interventions. Rejection of a normalcy criterion means that proposed interventions need not replicate existing functions. They are only limited by what can be imagined. And, imagining different futures might also allow us to differently imagine, and create, the present.

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