

# **Enhancing Human Lives**

Toward an Embedded Approach to the Human Enhancement Project

## **Inaugural-Dissertation**

zur Erlangung des Doktorgrades der Philosophie  
der Ludwig-Maximilians-Universität München

vorgelegt von

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2021

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Tag der mündlichen Prüfung: February 12, 2021

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# Acknowledgements

As much as this dissertation is the result of a great many trying hours of labour on my part, it is not in the full sense *entirely* mine. *I am a socially embedded being*. As such, there are many people I am indebted to and am incredibly grateful to have in my life.

Foremost, in a turn of events that might have exhausted my life-time supply of “good luck”, I must thank PD Dr. Jan-Christoph Heiling. As the many pages to come will attest, words usually come easily to me, but not in this case. My gratitude for Jan’s guidance and support over these years knows no bounds. He has served as a role-model in truest sense, demonstrating not only how to do excellent philosophy—and an amazing knack for drawing out the best of my thinking—but also how to be a *good* philosopher and citizen of the world.

This dissertation, well and truly, would not have existed without you.

It is as a result of Jan’s faith in me that I was able to, for the first time, dedicate myself entirely to Philosophy. As such, I must thank also the Deutsche Forschungsgemeinschaft (DFG) for their generous support of the project on “Human Enhancement and Social Progress”—under which this dissertation was completed.

A combination of this funding and Jan’s help (again) led me to the second person who has had a significant influence on the ideas expressed in these pages. My thanks here go to Prof. Philip Kitcher, for his kind and encouraging support. My time at Columbia University marked a real turning point in the development of this work and I will always look back fondly on the discussions we had in and around Philosophy Hall; as well as later—when world events would conspire against their continuation—on the phone. You were more than generous with your time and wisdom.

Four years is a long time to be working on anything, so it helps when one is surrounded by wonderful people on a daily basis. Indeed, my heartfelt thanks go especially to my fellow PhD companion Eva Maria Parisi who was (on day one) an instant friend—and, quickly thereafter, a *dear* one. Your profound commitment to justice has been, and will remain, a source of inspiration in my work.

Yet, there are also a team of people who—over long tea-breaks and many non-tea drinks—have proven to me that the best philosophy happens in dialogue with others. Here I thank Dr. Lorenzo del Savio, Jordan Conrad, Christos Simis, Jake Ephros, Dr. Alexander Schulan, Dr. Dennis Kalde and Federica Merenda.

Of course, there is also much paperwork involved in such an undertaking and I would have drowned under it all without Veronica Sager and Nicole Kaczmer. You were more vital to this project than you may think. Thank you.

I also thank my mother and sister in Australia and Father in South Africa who have had to endure this European turn of events.

Last, and most importantly, I thank my wife, Aran. Despite harbouring a not-so-secret wish that I had dedicated my energies to almost *anything* else than the arduous path of philosophical academia, you have been unwavering in your support of my desire to do so. It is you who had all the power to stop this dissertation from eventuating, and, instead, you stuck with me through multiple international moves to make it happen.

Fortunately, we have our whole lives for me to express my gratitude.

# Zusammenfassung<sup>1</sup>

Die Möglichkeit, Menschen durch die Verwendung neuer Biotechnologien „besser“ zu machen und ihre physische, kognitive und emotionale Leistungsfähigkeit zu steigern, fasziniert anhaltend und hat in den letzten zwanzig Jahren eine fruchtbare akademische Debatte ausgelöst. In der Tat versprechen sich viele von den sogenannten „human enhancement technologies“ (ab hier HETs) – biomedizinischen Eingriffen in die menschliche Physiologie, welche verschiedene Fähigkeiten über die Grenzen des aktuell Menschenmöglichen hinaus steigern –, dass sie geradezu eine bisher unerreichbare Blüte der Menschheit ermöglichen werden. Die vorliegende philosophische Dissertation leistet in kritischer Absicht einen Beitrag zur Diskussion der Ethik von HETs.

Statt jedoch eine weitere Untersuchung der ethischen Implikationen einzelner HETs anzubieten, hinterfragt diese Arbeit kritisch, was die bisherige intellektuelle Auseinandersetzung mit dem Thema tatsächlich erreicht hat. Sie zeigt, dass die prävalenten Erörterungen im Diskurs weder befriedigende Antworten darauf bieten, *warum* man eine von HETs geprägte Zukunft als „enhanced“ (d. h. verbessert oder optimiert) erachten sollte, noch eine hinreichende wissenschaftliche Basis für die Annahme liefern, *dass* derartige verbesserte Zustände aus unserer gegenwärtigen Situation heraus mithilfe von HETs erreichbar sind. Auch nach Jahrzehnten liefert der Diskurs noch keine Klarheit darüber, wie diejenigen HETs, die in der Debatte besonders prominent diskutiert werden (s.u.), aktiv zu einem positiven Wandel der Welt führen können, hin zu einer Welt, die man guten Gewissens als „enhanced“ bezeichnen könnte. Hierfür wäre es insbesondere nötig, die gravierendsten Probleme der Gegenwart – u.a. hartnäckige und gewaltiger Ungleichheit und Ungerechtigkeit – anzugehen. Der Ausgangspunkt vorliegender Untersuchung liegt somit darin, dass es fraglich erscheint, ob Veränderungen durch HETs überhaupt das Leben von Menschen insgesamt signifikant verbessern können.

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<sup>1</sup> My heartfelt thanks to my dear friend Maximilian Thürl for translating this text into German.

Ein solches „Gefühl“ der Ungewissheit – bei Dewey (1938) der Anlass für eine moralische Untersuchung – hinsichtlich der Aussicht auf eine Verbesserung menschlichen Lebens durch die Verbesserung menschlicher Fähigkeiten resultiert aus den normativen Grundüberzeugungen, die mich bei meiner Untersuchung leiten. Der *relationale Egalitarianism* bildet das normative Rückgrat der vorliegenden Studie (s. Wolff (1998), Anderson (1999) und Lippert-Rasmussen (2018)). Grundidee des relationalen Egalitarismus ist, dass sich in einer gerechten Gesellschaft alle Individuen gegenseitig als Gleiche verstehen und als Gleiche miteinander interagieren. Das Ideal reziproker Anerkennung und Wertschätzung des anderen als gleichwertig in umfassendem Sinne umfasst die Einsicht, dass das Wohlbefinden und die Erfüllung anderer mein Dasein auf der Welt bedingt (und vice versa). Integral ist dabei zudem die Idee, dass ein Teil dessen, was ein Leben gelingen lässt, darin besteht, dass die Leben anderer ebenfalls gelingen (Kitcher, 2017). Eine derartige Welt, so argumentiere ich, ist eine, in welcher das Leben jedes einzelnen besser verläuft als es gegenwärtig der Fall ist. Da dies nicht die Realität der Gegenwart ist, erörtert Kapitel eins eingangs, was überhaupt als ein „enhanced future“ zählen sollte. Aus relationaler Perspektive erscheinen schließlich die Versprechungen der HETs von Beginn an als dürftig. Hierin liegt der Anlass und die Motivation zum Verfassen der vorliegenden Arbeit.

Ich möchte betonen, dass diese Untersuchung allerdings nicht als Kritik an der Idee der Optimierung des Menschen per se zu verstehen ist oder gar die spezifischen Formen technologischer Eingriffe, die im nach wie vor sehr aktiven Diskurs betrachtet werden, attackieren soll. Weder für noch gegen den Einsatz von HETs per se wird diese Arbeit schlagende Argumente vorbringen – allenfalls wird klar werden, dass derartige Festlegungen in besonderem Sinne kontingent weil kontextabhängig sind. Entsprechend erhebt diese Arbeit Einwände gegen die Abstraktheit, in welcher solche Betrachtungen in großen Teilen des Diskurses stattfinden. Dies geschieht nicht etwa deshalb, weil sie ohne konkreten Wert oder in philosophischer Hinsicht inhaltlos wären. Das ist klarerweise nicht der Fall, denn: Es steht außer Frage, dass die ethischen Implikationen in Bezug auf die Entwicklung, Anwendung und Verbreitung von HETs vollständig untersucht werden müssen. Sämtliche Vorschläge zur Milderung etwaiger assoziierter Nachteile, die in diesem Prozess identifiziert werden, müssen erfasst, evaluiert und adäquat umgesetzt werden, bevor derartige HETs tatsächlich als wertvoll gelten können.

In dieser Hinsicht hat der bestehende Diskurs zweifelsohne schon bis jetzt großen Mehrwert geschaffen.

Diese Dissertation ist aber darüber hinausgehend in konstruktiver Absicht ein Plädoyer für die Idee, dass der wissenschaftliche Diskurs in der Lage sein muss, mehr zu leisten. In diesem Sinne sollte er sich auf die Möglichkeit konzentrieren, das Leben – statt lediglich der Fähigkeiten – von Menschen zu verbessern.

Sollte dieses Idealbild relationaler Egalitaristen von der Welt für erstrebenswert erachtet werden, so ist auch eine klare Vorstellung davon nötig, wie eine „verbesserte“ Zukunft auszusehen hat. Das wichtigste Argument in diesem Kontext lautet, dass offenbar eine signifikante Diskrepanz herrscht zwischen dem, was HETs leisten – selbst nachdem ethische Bedenken ausgeräumt sind – und dem Anspruch, durch die Nutzung derartiger Technologien das Leben der Menschen im dargelegten relationalen Sinne zu verbessern. Es ist schließlich keineswegs sicher, dass die Verstärkung jedweder denkbaren Kombinationen menschlicher Fähigkeiten – wie HETs sie versprechen, – *ipso facto* menschliches Leben verbessern wird.

Somit kommt diese Arbeit zunächst zu folgender begrifflichen Unterscheidung und Abgrenzung: Es existieren einerseits spezifische „Werkzeuge“ mit dem Zweck, menschliche Körper zu optimieren (d. h. HETs), und es besteht andererseits eine grundlegende Absicht, die Charakteristiken menschlichen Lebens zu verbessern – diese soll als „human enhancement *project*“ (ab hier HEP) bezeichnet werden. HEP definiert also die allumfängliche normative Zielsetzung, aktiv Maßnahmen zu treffen, die eine Zukunft hervorbringen, in welcher das Leben aller Menschen floriert (im Sinne der bisherigen Ausführungen) und ein solches Ergebnis legitimerweise als „verbesserten“ (d. h. „enhanced“) Gesamtzustand anzuerkennen.

Folglich erklärt das *erste Kapitel*, dass die potenzielle moralische Bedeutung von HETs *nicht* adäquat verstanden wird, sofern sie losgelöst von der umfangreicheren Zielsetzung von HEP betrachtet wird. Daraus ergibt sich die zentrale Fragestellung dieser Untersuchung danach, welchen Einfluss das Bekenntnis zu HEP auf die Frage hat, welche Werkzeuge (z. B. HETs) zu seiner Verwirklichung am besten geeignet sind. Dementsprechend wird sich diese Arbeit auf die Ansichten konzentrieren, welche (zumindest implizit) feststellen, dass erhöhte Leistungsfähigkeit von Individuen in verschiedenen Bereichen (d. h. via HETs) gleichsam bedeutet, dass die betroffenen Individuen ein verbessertes (im Sinne von „enhanced“) Leben haben (z. B. Bostrom

(2008a, 2008b) und weitere sogenannte „Transhumanisten“). Es ergibt sich die Schlussfolgerung, dass die Beiträge, die sich lediglich mit den Bedingungen, unter welchen verschiedene HETs zulässig sein sollten, beschäftigen, eine wertvolle Gelegenheit vergeben haben, etwas normativ Wirkmächtigeres zu schaffen.

Nachdem die explizite Absicht zur Verbesserung menschlichen Lebens in seiner Gesamtheit (d. h. HEP) erklärt wurde, wendet sich das *zweite Kapitel* der Skizzierung und Untersuchung des ersten von zwei möglichen Ansätzen zu seiner Realisierung zu: Ich nenne diesen den „atomistic approach“. Der „atomistic approach“ verkörpert die im Diskurs dominante Annahme, dass das HEP direkt durch den Einsatz von HETs realisiert werden könne. Der Glaube, dass HETs dieses Potenzial in sich tragen, impliziert zwei Dinge: Erstens, dass existierende Grenzen menschlicher Leistungsfähigkeit einen zentralen Faktor für das Urteil darstellen, wie gut (oder schlecht) Menschenleben verlaufen und dass die Steigerung der Leistungsfähigkeit in spezifischen Bereichen das Leben von Individuen in signifikantem Maße verbessern könne. Darauf basiert die problematische Annahme, HETs seien genau die richtige Art von Werkzeug, um eine verbesserte Gesamtsituation hervorzubringen. Dabei wird argumentiert, dass die menschliche Leistungsfähigkeit der einzige Bereich sei, in welchem Personen „enhanced“ werden können. Da HETs direkt am Individuum angewandt werden, suggeriert der Ansatz zweitens, dass die Gesellschaft damit gut daran tue, sich auf „isolierte und abstrakte“ Individuen und deren Optimierung als Individuen (Cabrera, 2015) zu konzentrieren.

Diese Ansicht verleiht dem „atomistic approach“ seinen Namen. Es zeigt sich jedoch, dass der „atomistic approach“ schlecht dazu geeignet ist, HEP zu realisieren und dass seine Grundsätze umfänglich hinterfragt werden müssen.

Dieser Aufgabe widmet sich *Kapitel drei*. Hier erfolgt die Vorstellung und Erklärung des zweiten betrachteten Ansatzes zur Annäherung an HEP; den „embedded approach“. Der hier zu entwickelnde „embedded approach“ bietet eine neue Perspektive auf den „Enhancement“-Diskurs an, obwohl Elemente davon bereits durch Autoren wie Cabrera (2015), de Melo-Martin (2015, 2018) und die „the concluding remarks“ von Hauskeller (2013a) suggeriert wurden. Nachdem Lehren aus den Defiziten des „atomistic approach“ gezogen wurden, invertiert der „embedded approach“ dessen zwei Schlüsselmerkmale. Der erste und wichtigste Unterschied besteht darin, dass er das Individuum nicht als isoliert und abstrakt, sondern als „socially embedded“ (d. h. in der

Gesellschaft eingebettet) betrachtet. Während der Begriff seine Ursprünge in der ökonomischen Soziologie und der Erklärung des sozialen Charakters ökonomischen Lebens (Granovetter, 1985) hat, ist er in der hier entwickelten Form stark beeinflusst von Deweys Sozialpsychologie – zum Beispiel bei der Annahme, dass das individuelle „habit“ sozial konstituiert wird (Dewey, 1922) – Lewandowskis (2000) Interpretation von Bourdieus „reflexive sociology“ und von Marx' (1978) Idee, dass Individuen sich in bedeutender Weise durch ihre Beziehungen zu anderen konstituieren. Die Verbindung besteht darin, dass es nur möglich ist, die Bedürfnisse und Sehnsüchte von Individuen zu verstehen, ihre Probleme richtig zu begreifen und daraufhin Mechanismen zur wesentlichen Verbesserung (d. h. enhancing) ihres Lebens zu entwickeln, indem man ihre soziale Konstitution wahrnimmt und anerkennt, inwiefern ihr Leben in einer breiteren sozialen Ökologie *eingebettet* ist, welche in erheblichem Ausmaß die Gestalt ihres Lebens bestimmt. Auf dieser Basis argumentiert der „embedded approach“, dass es ausschlaggebend ist, dass das HEP bereit ist, das Leben von Individuen auf jedem erdenklichen Wege zu verbessern, den deren eingebettete Existenz zulässt, anstatt lediglich einen Weg zur Veränderung menschlichen Lebens durch Steigerung partikularer Fähigkeiten des Individuums in Betracht zu ziehen.

Somit sind die jeweiligen HETs zumindest vorübergehend „in Klammern gesetzt“ und es wird ein deutlich inklusiverer Ansatz zum „enhancement“ angewandt, wobei die Möglichkeit, einzelne Merkmale der sozialen Umwelt des Individuums (z. B. ihre spezifischen sozialen Strukturen, Institutionen oder Normen) zu verändern, als legitimes Mittel des „enhancement“ angesehen wird. Diese Lesart von „enhancement“ bildet eine Einheit mit der „broad definition“ Buchanans (2011), welche ihm erlaubt, Dinge wie die Entwicklung von „Ackerbau“ und „Alphabetisierung“ als Beispiele für menschliches „enhancement“ anzuerkennen, und es wird argumentiert, dass dies am besten zu HEP passt. In der Tat besteht beim „embedded approach“ die Möglichkeit, HEP im Wesentlichen zu realisieren, ohne jegliche HETs zu anzuwenden, sodass niemand radikal gesteigerte physische Fähigkeiten besitzen würde. Das bedeutet, dass „optimierte“ Existenzen keineswegs „optimierter“ (im Sinne von „enhanced“ im Sinne von HETs) Menschen bedürfen, was im Widerspruch zur strikter gefassten Definition von „human enhancement“ steht, an welcher der „atomistic approach“ festhält. Dadurch ergibt sich die Notwendigkeit, radikal zu überdenken, was Teil der Entwicklung einer „optimierten“ Zukunft sein soll; dieser Aufgabe wendet sich der verbleibende Teil der Dissertation zu.

*Kapitel vier* legt auf Basis des „embedded approach“ dar, was Personen, die HEP realisieren möchten, proaktiv zu tun haben. In dieser Hinsicht wird unter Bezug auf die Prägung menschlichen Lebens durch soziale Einbettung argumentiert, dass sie Deweys (1938) pragmatische Form moralischer Prüfung ("moral inquiry") anzuwenden haben. Insbesondere besagt die Argumentation, dass der Prozess des „enhancement“ damit beginnt, diejenigen Schwierigkeiten, denen Individuen in ihrem Leben begegnen, differenziert und „intelligent“ wahrzunehmen und diese als Ausgangspunkt für die Entwicklung hilfreicher und konstruktiver Interventionen zu nutzen, welche ihr Leben in seiner Gesamtheit verbessern werden. In anderen Worten wird eine solche Aktivität die Konstruktion sinnhafter Maßnahmen ermöglichen, die bewirken, dass ihr Leben im pragmatischen Sinne des Begriffs „progress“, für den Kitcher (2011, 2017, i. Ersch.) eintritt, voranschreitet. Solche progressiven Schritte (d. h. spezifische Lösungen für bedeutsame Probleme) sind als teilweise Realisierungen von HEP zu verstehen und im Gegenzug sind die darin involvierten Mechanismen als legitime „human enhancements“ zu verstehen.

Folglich erschließt der „embedded approach“ ein immenses Spektrum an Möglichkeiten, auf HEP hinzuarbeiten; dabei handelt es sich um Aktivitäten, die bereits begonnen werden können (da sie die Entwicklung der nach wie vor spekulativen HETs nicht voraussetzen).

Jedoch bringt dies auch ein neues Problem für HEP mit sich: Hauptsächlich bedeutet es, dass zu viel zu tun ist. Es ist nicht mehr ausreichend auszuarbeiten, welche Arten funktioneller Veränderungen an Menschen akzeptabel sind. Nun gilt es, zugespitzt formuliert, die Welt zu verändern. An sich könnte der „embedded approach“ nicht noch ehrgeiziger sein. Und doch rasoniere ich, dass dieser Punkt nicht gegen den Ansatz spricht. Vielmehr ist das lediglich ein Beweis für den traurigen Gesamtzustand der gegenwärtig existierenden Welt und es betont, dass es viel zu tun gibt. In der Tat scheint dies, „enhancing“-Aktivitäten zu veranlassen und notwendig zu machen und suggeriert eine Fülle an Möglichkeiten für das weitere Vorgehen. Desweiteren ist es in Bezug auf Kitcher's (2017) pragmatische Definition von Fortschritt nicht notwendig, das Projekt zu finalisieren, um von erfolgreichen „enhancements“ zu sprechen. Insbesondere da es keinen Grund gibt, davon auszugehen, dass HEP jemals wirklich (und final) realisiert werden wird; viel eher wird es stets weiterhin etwas zu tun geben. Wie Kitcher jedoch zurecht argumentiert, bedeutet dies nicht, dass wir die stufenweisen positiven



Veränderungen, die wahrhaftigen Einfluss auf die Verbesserung menschlichen Lebens haben und die vielseitigen Leiden, die Menschen erfahren, angehen, nicht als „Siege“ (d. h. als individuelle Beispiele von „enhancement“ im Sinne von HEP) zählen dürfen.

Und doch wird es nötig sein, Entscheidungen zu treffen – nicht alles wird sofort lösbar sein. In Anbetracht dessen stellt *Kapitel fünf* dar, dass der „embedded approach“ eine zusätzliche Stärke enthüllt; eine, die es erlaubt, auf die HETs zurückzukommen, über die so viele Bücher und Artikel geschrieben worden sind. Ein Schlüsselaspekt des „embedded approach“ besteht in der Idee, dass Individuen sich durch ihre erweiterte soziale Umwelt konstituieren. Sie sind „sozial eingebettet“. Dementsprechend erkläre ich, dass HETs als Aspekte ebendieser Umwelt zu verstehen sind. Es gilt zu betonen, dass es sich bei dieser Umwelt um ein Netzwerk handelt, in welchem der Möglichkeit von HETs mit beträchtlichem Enthusiasmus begegnet wird. Da sie selbst ein Produkt dieses eingebetteten Ganzen sind, wird geschlossen, dass sie somit bezeichnend dafür (z. B. für seine Bedürfnisse, Wünsche, Sorgen und Motivationen) sind. Sie sind daher in der Lage, die Untersuchung auf Probleme zu richten, indem sie die einen veranlassen, eben jene sozialen Aspekte zu untersuchen, die einzelne HETs für in die gegenwärtige soziale Landschaft eingebettete Personen attraktiv erscheinen zu lassen. Dadurch ergibt sich ein zusätzlicher Wert des existierenden Diskurses. Dieser geht nämlich davon aus, dass die gewünschten HETs in der Tat relevante soziale Probleme abbilden. Insofern wird dargestellt, dass HETs in der Lage sind, als hilfreiche Heuristik für das zu dienen, was Little (1998) als „suspect norms“ bezeichnet, welche potenziell adäquate „Räume“ für „enhancing“ Aktivität repräsentieren.

Das *sechste* und letzte *Kapitel* dieser Arbeit legt dies dar, indem es drei Typen von HETs betrachtet, denen prima facie sozialer Mehrwert unterstellt wird: „cognitive neuroenhancements“ (CNE), „mood enhancements“ (ME), and „moral bioenhancements“ (MBE). Durch die Überlegung, inwiefern diese speziellen HETs in die sozialen Umgebungen eingebettet sind, die sie hervorgebracht haben, wird klar, dass sie in einer Reihe von „suspect norms“ (Little, 1998) enthalten sind (in diesem Kontext zu verstehen als nicht nur Normen per se, sondern als die sozialen Strukturen und Institutionen die diese Normen hervorbringen und bestärken). Kapitel sechs legt dar, dass CNE mit problematischen kompetitiven Normen interagieren und diese wahrscheinlich verschärfen. Einerseits erklärt dies, warum CNE keine adäquate Lösung für das (gedachte) Problem der limitierten menschlichen Kognition darstellen. Doch andererseits

bedeutet dies auch, dass die Notwendigkeit besteht, solche weit verbreiteten Formen von Konkurrenzdenken zu adressieren, sofern man danach strebt, bedeutende Schritte zu HEP zu machen. Es wird dann nachgewiesen, dass ME auf zutiefst besorgniserregenden und sozial verstärkten Tendenzen zur Konformität, Homogenität und Entfremdung zurückzuführen sind. Wiederum ist es wahrscheinlich, dass ME vorliegende Probleme lediglich verschlimmern, was der „atomistic approach“ übersieht, da er sich auf die einzelnen emotionalen Ausdrücke von Individuen fokussiert. Letztlich erscheint das Bedürfnis nach MBE als äußerst bezeichnendes Urteil über die gegenwärtigen, sozialen Umstände. Insbesondere wird dargelegt, dass die Notwendigkeit von MBE (d. h. die offensichtliche Verbreitung von „moral failure“) im Großen und Ganzen ein Ergebnis vorherrschender ungleicher sozialer Strukturen und Institutionen ist. Mehr noch als die weiteren betrachteten HETs weisen MBE die Notwendigkeit eines stärker holistisch geprägten Ansatzes zur Lösung von Problemen und dem Streben nach einer besseren Zukunft, als sie HETs bieten können, nach. Schließlich ist die existierende und fundamental ungleiche Sozialordnung gestützt und stabilisiert durch eine Vielzahl von komplexen, miteinander zusammenhängenden und voneinander abhängigen sozialen Praktiken, Normen und Institutionen. Das anhaltende Bestehen dieser ungleichen Gesamtsituation erklärt, warum MBE (bestenfalls) eine zeitweilige, oberflächliche Lösung für das Problem des „moral failure“ ist. Da die moralisch „Optimierten“ (im Sinne von „enhanced“) dennoch mit der durch und durch ungleichen Umwelt zu kämpfen haben werden, in der sie sich wiederfinden, besteht die Möglichkeit, dass MBE nicht einmal zeitweilig eine Lösung darstellen. Somit wird konstanter Druck hin zum „moral failure“ und dadurch ein stets präsent Hindernis auf dem Weg zu HEP bestehen.

Kurz gesagt gibt der „embedded approach“ dem HEP etwas zurück, dessen es der „atomistic approach“ beraubt hat: Nämlich ein primäres Interesse an den Erlebnissen des Individuums und ein idealistisches Verlangen danach, sein Leben zu verbessern (d. h. in genau den Situationen, in welchen diese sich individuell und gegenwärtig befinden).

Es ist eine große Herausforderung, das betont er, dass wir mit vielen dringenden Problemen konfrontiert sind, die aus existierenden sozialen Regelungen resultieren und er weist die Idee zurück, dass diese durch sogenannte „quick fixes“, also die (leeren) Versprechungen von HETs, gelöst werden können. Dennoch liefert er einen deutlich belastbareren Eindruck davon, was Teil von HEP zu sein hat und eröffnet dabei ungeahnte Möglichkeiten, HEP voranzutreiben. Außerdem gibt der „embedded

approach“ eine klare Richtung vor: Wenn man aufrichtiges Interesse an „enhancement“ hat, dann muss man auf seine Mitmenschen achten und sich um sie kümmern und aktiv versuchen, ihre Lage zu verbessern. Beim ernsthaften Versuch, sich dieser Aufgabe anzunehmen, stellt man fest, dass sie bereits in HEP verwickelt sind.

Diese Untersuchung zum HEP insgesamt ist, trotz der in meinen Analysen zutage geförderten Einsichten, selbstverständlich bei weitem nicht abgeschlossen. Auf vielerlei Art hat sie lediglich den Anspruch, einen veränderten Weg des Nachdenkens über die Verbesserungen des menschlichen Lebens und die Rolle von Biotechnologien in diesem Zusammenhang aufgezeigt. Zukünftige Forschung auf Basis des „embedded approach“ hat die Aufgabe, die verschiedenen Probleme rigoros und ganzheitlich zu untersuchen, die dem Individuum begegnen – glücklicherweise haben viele im Feld der sozialen, moralischen und politischen Philosophie bereits begonnen, diese Aufgabe zu bearbeiten, sodass keine Notwendigkeit besteht, ganz von vorn zu beginnen. Desweiteren ist es nötig, eine belastbarere Darstellung der Arten von Antworten zu entwickeln, welche menschliches Leben messbar verbessern und somit als legitime „enhancements“ (im Gegensatz zu simplen sozialen Reformen und günstigen „mere“ changes“) zählen. Daher schließe ich, dass die Notwendigkeit besteht, „enhancement“-Aktivitäten mit einer belastbaren Darstellung sozialen Fortschritts zusammenzuführen – wie es im Sinne von Kitcher (i. Ersch.) ist. Letztendlich besteht Raum für weitere Betrachtungen von HETs vor dem Hintergrund des „embedded approach“. Schließlich ist die Gesellschaft, in der wir tatsächlich eingebettet sind, in starkem Maße darauf ausgelegt, Probleme auf die Art und Weise zu lösen, die HETs versprechen (d. h. was Morozov (2013) als „technosolutionism“ bezeichnet). Es ist daher dringend notwendig, herauszufinden, inwiefern diese Tendenz genutzt oder umfunktioniert werden kann, um der Art von Eingriffen ins öffentliche Leben, welche wir zurecht „enhancements“ nennen können, dienlich zu sein. Daher gilt es, Wege zu finden, auf denen partikuläre Veränderungen menschlicher Fähigkeiten tatsächlich soziale, strukturelle und moralische Reformen unterstützen können. Der „embedded approach“, so mein Argument insgesamt, ist dazu in der Lage, einem wichtigen wissenschaftlichen Diskurs, der sich momentan allerdings auf einem Irrweg befindet, neues Leben einzuhauchen.







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## Chapter One

# INTRODUCTION

## From Human Enhancement Technologies to The Human Enhancement Project

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“The real emancipatory potential of technology remains unrealized”

—Laboria Cuboniks (2018, p. 1)

### **1. Understanding Human Enhancement Technologies**

Human life today is in many ways defined by rapid, indeed exponentially accelerating, technological change and innovation.<sup>1</sup> Prior to the invention of the iPhone, Judy Wajcman had already remarked on the extent to which “life [was] somehow mediated by technology” and that “hardly any human activity ... occurs without it” (2004, p. 1). With the

benefit of hindsight, one can recognise that, at the time she was writing, technology (particularly of the computational kind) was only just embarking on the wholesale infiltration into our lives witnessed today.<sup>2</sup> The smartphone would bring humanity into direct and constant contact with the Internet and together set about a veritable revolution—redefining almost every facet of our daily lives.<sup>3</sup> Yet, such technologies (and many other innovations besides), which only yesterday boggled the mind, quickly lose their shine in consumerist societies, dulled by their pervasiveness and the overwhelming speed at which they are adopted, upgraded, replaced, or made obsolete.<sup>4</sup> The predictably routine announcements of new adumbrations of technology, paired with their minimally resisted acceptance and incorporation into our day-to-day, produces not just a technological complacency but generates an air of anticipation whereby many place (or are at least tempted to) great hope in technology to overcome every possibly inconvenience, unburden each challenge, stymie all suffering, and generally be a salve to humanity's varied ailments.

Such a perspective is not without cause: technology has, after all, succeed, time and again. There can be little doubt that technology has, in many ways, served humanity well (for example, on those measures captures by the United Nation "Millennium Development Goals"). This point gives rise to the common refrain that human history is a series of 'successes'—of steady and inevitable progress—such that we live a privileged existence compared to those who came before.<sup>5</sup> Swiftly flows the tide of technological innovation and we expect it to continue *ad infinitum*.<sup>6</sup> In fact, the argument that we may yet come to depend on technology 'saving us'—for example, as a response to anthropogenic climate change—is becoming increasingly common-place.<sup>7</sup> Our norm is now a state of perpetual expectancy, awaiting (yet never doubting) the arrival of the "next big thing"—the breakthroughs which will amplify our existences, give us that 'edge' we are conditioned to seek, or otherwise put an end to our troubles.<sup>8</sup> It is, so the saying goes, "only a matter of time." Indeed, Sheila Jasanoff explains, "technology and optimism fit together like hand in glove because both play upon open and unwritten futures, promising release from present ills" (2016, p. 4). The story of technology is primarily one of *hope*.



As such, we sit poised, waiting, in a world brimming with promise, for technology to tap into its potential and deliver us to Nirvana.

The present investigation, however, is not about ‘technology’ *per se*, but of a particularly potent kind of technology—and with it a particular kind of ambition for human beings.<sup>9</sup> While the human species is notorious for its ability to construct tools granting it the ability to shape and manipulate the external world (this characterises the vast majority of human ‘technologies’ to-date), it is the turn inwards that will occupy this inquiry. Specifically, it is the idea that we might *enhance* our physiology and take our own evolution into our own hands (Harris, 2007). The immensely popular (particularly, in bioethical philosophy) notion of ‘human enhancement’ concerns how we might re-engineer the human body so as to augment human functionality—amplifying various capacities and abilities on the one hand (Savulescu, Ter Meulen, & Kahane, 2011), and installing radically new ones on the other (Bostrom, 2008a, 2008b).

While the history of ‘human enhancement’ is a sordid one—finding repugnant instantiations in various eugenic visions and the horrific atrocities committed in their name that would ultimately lead to it becoming a central feature in dystopian fiction—by the turn of the second millennium we would witness a revitalisation of the idea. In particular Agar (1998)—and the many who followed his lead—called for a “liberal eugenics” wherein individuals could take control of their own genetic destiny free from the calculated, systematic, and oppressive connotations of the eugenics of old.<sup>10</sup>

Yet, the pull towards human enhancement was always going to be strong and has been a long time coming. Indeed, it arises as a natural extension of common medical practice. The idea is simple: if medicine is able to make ill people better or help poorly functioning people function better, could it not also help make healthy people healthier and typically functioning people extraordinary? More generally, vast and rapid improvements in health care and health technologies over the course of our lives have allowed human beings to live healthier, stronger, longer lives less inhibited by crippling disease or unfortunate happenstance (e.g., we already live at a time where there are “concerns” that

athletes with leg prosthetics will out-perform those without<sup>11</sup>), the focus has shifted to how else people can be made “better” (Hauskeller, 2013)? And to explore the possibility of the limitless human being, unencumbered by present day ailments and restrictions. Notions only spurred on by the results of steroid use and other forms of “doping” in sports.

The connection between medical treatment and human enhancement here is worth lingering on briefly. In particular, there exists an on-going (although less so than a decade ago when it was *the* question in the ethics of human enhancement) debate concerning the treatment/enhancement distinction. This work will not participate in this battle.<sup>12</sup> Rather, the focus here will be solely on what is sometimes referred to as “radical” enhancements (Cf. Agar, 2010). For the purposes here these are those which look to amplify various features of healthy human beings beyond what has typically thought to be possible for our species by making changes directly to human bodies by employing various biomedical technologies. As my primary aim is to explore the ultimate (normative) aim in enhancing human beings, it makes sense to grapple at the radical end; to consider the ‘best’ that is on offer. These kinds of tools, applied in different ways targeting different kinds of capacities (i.e., cognitive, physical, emotive, moral, etc.), will here collectively be referred to as “human enhancement technologies” (hereafter HETs). Moreover, the overarching idea that these biomedically induced changes realised via HETs are “human enhancements”—that is, that they ‘enhance’ humans—will be referred to as the “common definition” of human enhancement (given its prevalence in the established debate). A neat, but typical, portrayal of the common definition is provided by Giubilini and Sanyal (2016, p. 1) who explain that “[i]n bioethics the term ‘human enhancement’ refers to any kind of genetic, biomedical, or pharmaceutical intervention aimed at improving human dispositions, capacities, and well-being, even when there is no pathology to be treated.”<sup>13</sup>

HETs, as such, explicitly springboard off a range of recent scientific breakthroughs that brought the idea of directly altering human genetics to create ‘super-humans’ out of science fiction and into our reality as a genuine—albeit *emerging*—possibility. In 2000,

the academic journal *Science* hailed the completion of the decade long initiative to ‘map’ the human genome the “Breakthrough of the Year.” Fifteen years later and the prospect of bending said genome to our will would take a giant leap forward with ‘clustered regularly-interspaced short palindromic repeats’ (CRISPR)—a low-cost but efficient strategy for genome engineering—claiming that same sought after title and in the process marking the first serious indication that the technological hope underscoring ‘human enhancement’ might soon transcend mere speculation.<sup>14</sup>

The idea of amplifying one’s abilities undoubtedly appeals to many. Indeed, the roots of such a desire are old—an enduring companion to many of humanity’s historical narratives—with features of the ‘super’ and extraordinary tracing back to the myths of ancient human civilizations in the Gods and demi-Gods of the Egyptians, Greeks, and Norse (to name only a few).<sup>15</sup> Indeed, in many of these cases there existed some space to join the Gods (e.g. by living whatever counted as a virtuous life at the time or dying in the right way) and transcend the ordinary. Millenniums later, such aspirations continue to captivate our species but—through Science—have motivated a new kind of hubris; one where *we* (rather the Gods of old) construct our own bridge to Utopia. Not to forget that as a result of collective human innovation we would (presumably) *already* appears as “Gods” in the eyes of our ancestors. If there is a “new faith” motivating human action, then it is arguably that of (and in) Science.<sup>16</sup> And it is precisely this belief in humanity’s innovative capacity that spurs on HETs.

With all that humanity has achieved (technologically speaking), its ambitions have not paled; if anything, they have only heightened as we continue (on what seems to be a daily basis) to make breakthroughs in our understanding of the human body and our ability to interject in it and manipulate it for our own purposes. Most recently, and to the consternation of ethicists globally, CRISPR Gene-editing technologies were employed by Dr. He Jiankui in 2018 to controversially create the first genome-edited human babies (Lula and Nana) intended to be resistant to HIV. HETs are as such *here* (if only still in a minimal form). The question motivating the inquiry to come is “Where would we have

them take us?” or, more precisely, “What is it we hope, ultimately, to gain from fine-tuning the human body and improving on the apparent shortcomings of evolution and natural selection?”

As such, we sit on the cusp between the possible and the speculative, and from this vantage we look out at an open-ended future wherein it is increasingly pressing to explore the possibilities of the human enhancement *project*. That’s is, to identify what kind of ‘enhanced’ world the collective use of such innovative technologies is hoped to achieve. Are we to be satisfied—as the “Transhumanists” appear to be<sup>17</sup>—with having superintelligence and exceedingly long-life or being stronger, faster, impervious to disease, and—the present ‘hot topic’—more *moral*? It sounds like so much, but is it *enough*? Would their arrival really bring about an *enhanced* human existence? It seems that to answer this one must either be able to say what it is about any would-be enhanced future that would be worth aiming for (i.e., what it is that makes it seem enhanced) or, else, be able to identify what about our existing reality would be different in such a place (Roduit, Baumann, & Heilinger, 2014). On this last point, I suggest (in an intuition that will be tested throughout the coming pages) that on any ‘list’ of features describing the enhanced future and its differences from the present that it would be remiss if “having super-abilities” appeared higher up than any number of deeply troubling social phenomena (e.g., the great reduction of global injustices). It is this concern that motivates the present inquiry. In the next section I will explain the various features thereof.

## 2. Mapping the Concern

### 2.1. The “indeterminate situation”

In *Logic, The Theory of Inquiry* (1938), John Dewey explains that all moral inquiry sets out from an “indeterminate situation”—that leaves one feeling (morally) uneasy or unsettled—which prompts an investigation into the origins and potential cause of that (moral) distress. Subsequently, when undertaking such moral inquiry, the ultimate intention is, of course, to bring about a satisfactory resolution to the issue, thereby returning one’s “peace of mind” and rendering the situation “determinate” once more. In short, in carrying out moral inquiry—and this dissertation is an example of moral inquiry—one is motivated by *problems* to seek out (and implement) *solutions*. At least, that is, if one follows the pragmatists in this thinking (which I do).

The indeterminate situation that gave rise to this particular inquiry, then, stems from the sheer and gaping disparity between those future visions promised by advocates of HETs and the very many inexcusable features of the present reality. *Injustices*—to call them what they are—that routinely and systematically produce great suffering for many around the globe are pervasive. All told, the world is a cold and hard place for far too many of its inhabitants and it is unclear how talk of ‘human enhancement’ is meant to appeal to them. For example, how might the advent of HETs help unwind the damages the bled from Feudalism into Capitalism and address the staggering inequalities (understood in every possibly sense) evident in every society in the globe? How will they allow the child soldier in the Congo, the street urchin in Calcutta, and those refugees desperately crossing the Mediterranean to have *enhanced* lives?

The feeling this produced (in me) was two-fold. On the one hand, it did not appear at all obvious how one was meant to get from the moral mess of the status quo to a future where people are enjoying in a simple way the many benefits of HETs. That is, how are we to get from a world where such experiences are routine (and largely ignored) to an enhanced one via HETs? On the other hand, and more concerningly, was the worry that what was sought by advocates of HETs is that these states would simply coincide—i.e., that some will be able to enjoy those HETs while that “moral mess” largely perseveres. This last in particular struck a chord, as it seemed entirely plausible that that is precisely

what is likely to eventuate from the development and use of HETs if they were injected into our existing societies. In other words, it seems more than likely that HETs would not instigate radical changes to the world that result in pervasive human flourishing but, rather, bring about what might be more accurately thought of as only an “amplified sameness”.

Such an amplified sameness obtains when the general character of society and the shape of individual lives remain largely the same, except for the fact that they now have much improved (enhanced) abilities. Consequently, and with increasing alarm, I came to doubt whether, despite their “hype”, a desire for a meaningfully superior human future is amongst the primary ambitions of HETs (either individually or collectively). Rather, it appeared that many proponents of HETs were simply attempting to provide reasons to permit HETs which were merely promising in a variety of ways (and for particular persons). Consequently, the worry is that the human enhancement project as it is typically presented—i.e., as being primarily focused on specific functional enhancements made to individuals by way of direct HETs—may go sorely astray of its moral potential.

To be clear, this does *not* imply a view that the various HETs envisioned could never produce legitimate positive outcomes for discrete human beings. Rather, the fear is that, from our present vantage (both as individuals and as members of various communities), there appears much road to transverse in order to reconcile our contemporary collective reality with such an imagined future. Such scepticism is not unfounded; it draws on both the historical and ongoing suffering experienced by large swaths of people and the fact that we presently have the means to greatly improve their living conditions but routinely (and systematically) fail to do so. The intuition, as such, is that while specific HETs may sound greatly promising when considered in isolation, this may ultimately ring hollow, as there seems to be little reason (at present) to think that things would in fact turn out as desired; at least not for people like us, *living as we currently do*.

As such, to resolve this tension, the pertinent point to ascertain is whether or not HETs can be ‘saved’. That is, can they be put “back on track” (as it were), such that HETs

are able to be conceived of as genuinely valuable tools for instigating a meaningfully improved future (i.e., one where some weren't suffering as the norm and others were not largely ignoring their plight)? Moreover, if HETs are so conceived, are they in fact able to follow through? In short, would HETs make a salient difference? Over the next few sections I will map out where such work will to be done in this moral inquiry and intermingle it with the ways in which the existing debate evidences either helpful or counterproductive tendencies.

## 2.2. The hastiness of “technosolutionism”

As already noted, HETs promise to rid the human body of its various *functional* limitations and, in so doing, (supposedly) unfetter human potential. The thought is that things would be that much better for humans, if only technology allowed for the direct alteration of flailing bodies that could give them the helping ‘boost’ they need. Those who favour a world where HETs are pervasive and embraced, do so predominately on the grounds of the myriad advantages of such a future; articulated primarily in terms of the many ways that enhanced individual abilities might produce direct gains with respect to a range of activities we regularly carry out, issues we routinely face, and activities we typically value.<sup>18</sup> Or, put differently, by referring to the variety of ‘problems’ that HETs would solve for their human recipients.

Advocates of HETs excel at showcasing the experiential wonders that may yet come to be, depicting a vastly superior existence where the frailty and restrictions human bodies currently experience no longer prevent individuals from leading whatever lives they would choose for themselves. The vision provided is that of the unencumbered human who flourishes in ways presently though impossible (but are desirable) and who smugly defies their otherwise genetic constitutions to be as physically strong as their athletic idols and who learns and comes to master whichever skills they value. For the enhanced there is no problem they cannot facedown and overcome. Beyond even this,

there exists the further possibility that HETs would come to also permit forms of existence thus far *closed off* to all humans—presently obscured by a limited imagination that too could be enhanced (so as to construct better dreams with).<sup>19</sup>

While this all sounds so very majestic, advocates of HETs tend to illustrate this in a particular way that ought to give one pause. In particular, there seems to be a hard push to ‘sell’ HETs. Having seemingly already committed to their value, the literature over the past several decades has then proceeded to apply HETS to all the problems human’s might face—and, as Morozov (2013) notes, even some we didn’t know we had. In so doing, HETs are presented as providing both relatively simple and quick fixes to all of humanities troubles. Moreover, the idea seems to be they are *uniquely* positioned (because of that directness) to help in a way that other methods, such as education or practice, simply cannot accomplish (and to do so permanently). It is this logical series that reveals the “technosolutionism” (Ibid.) endemic to many HET proposals.

Entailed in technosolutionism is a kind of “solution bias” (or “innovator’s bias”) whereby a seemingly good idea one uncovers as a possible solution to a problem becomes a fixation. The desire to have the proposed solution be *the* solution to the problem (or, even better, to *many* problems) then blinds one to reasoned reflection on either alternative solutions or even the very problem itself. This issue is aggravated when, as Morozov explains is often the case, the solution with which one has become transfixed was developed in relation to a different problem than the one it is now vehemently being applied to (e.g. medical technologies such as CRISPR applied to solve social issues). As such, once an otherwise ‘good’ idea takes hold, one then seeks to extol its value by applying it across a variety of contexts (sometimes wholly distinct from the original problem that birthed the technology as a possible solution). As a consequence, the particular shape of the solutions *recasts* any problems it faces in its own image and “works it until it fits”.

The primary focus evidenced in such activity is on getting the proposed solution (e.g., HETs) to apply rather than on understanding the various problems it is now being applied to. Significant segments of the established debate on HETs are guilty of this.



Having locked onto the idea of gene-modification (and extrapolating from it the idea that everything about humans are open to change<sup>20</sup>) advocates of HETs proceed to engage in a quest to track exhaustively what could possibly be changed in human physiology and to then set about investigating the ethical ramifications and philosophical quandaries that arise from such prospects.<sup>21</sup> However, not only does this illustrate where the intellectual priority is (i.e., on the problems posed by HETs) but it therefore often transpires that a fully developed accounting of the problems those HETs are applied to fails to take place. Rather, the problems are presented in such a way that makes it clear how HETs are able to address them. Yet, the problem so conceived may be different (often in subtle but important ways) from the original. For example, while underperformance at school can plausibly be cast as a problem of “attention” (and therefore a cognitive deficiency that could be corrected by HETs) these are not the *same* problem. As a result, only those facets of the problem that lend themselves to a particular kind technology come to the fore and may be mistaken as representing the entirety—or at least the salient aspect—of the given issue (neglecting those features that are unlikely to be responsive to such manipulations). Ultimately, this risks largely (if not wholly) excluding much about the given problem from consideration and reshaping a range of pressing social problems solely in terms of functional shortcomings in individuals. As such HETs come to dominate the normative agenda and take the lead in thinking about a range of social problems.

For example, should it be possible to modify a person’s genetic or biochemical make-up (e.g., via CRISPR technologies), the question has been raised whether one ought to employ these to also make people more moral (e.g., by modifying oxytocin and serotonin expression, etc.<sup>22</sup>) as improved moral dispositions are thought to potentially fix all sorts of social problems? This is a drastically different approach than, say, to ask why and in what ways people fall short (morally speaking) and to explore in earnest what is involved in such events.<sup>23</sup> As such, the concern for the identified social problem (e.g., antisocial aggression) only follows from a consideration of the possibility that a particular technology can make changes to features which have a bearing on such outward

activities. The primary motivation is, therefore, to broaden the field of application of those technologies.

However, it is not the intention here to appear technophobic, nor to deny that technology has in the past helped in one way or another, or that HETs may very well continue to do so in the future. However, it is the immediate resort to such interventions in human functioning as necessary to “save us” and a subsequent ethical analysis limited only to ascertaining the contours of those technologies that is worrisome. As a whole, the fixation on HETs comes to imply that humanity’s (main) problem is that we are each somehow inadequate, or capability-challenged.<sup>24</sup> This detracts from the much needed, and often much harder, inquiry into the nature—and social roots—of pressing social problems and permitting the character of those problems to generate the shape meaningful solutions. Indeed, Dewey (1938) rightly argues that this is the only way to arrive at legitimate solutions.

What one needs to avoid is a future situation where only problems that can plausibly be influenced by HETs are thought of as “worth looking at”. Or, alternatively, that all meaningful problems can be solved by HETs. Consequently, instead of “thinking from technology” (i.e., by asking which problem could be addressed with the help of a given HET), it is proposed here that the human enhancement project puts its best foot forward by setting out from the identification of salient social problems as the primary motivating factor of the project—and therefore adopts no pre-reflective conceptions of what solutions to them might look like—in other words, that it starts “thinking from problems”.<sup>25</sup> However, the existing technosolutionist tendency evidences a desire only to illustrate the *ad hoc* value of HETs in a range of particular circumstances. To the extent that this is the case, I contend, they miss a valuable opportunity for an altogether more ambitious human enhancement project. One where HETs are defined by the pressing social issues they might resolve and where doing so permits existing humans to live less encumbered lives. It will be argued that executing this task requires that one care—in good faith—for the problems of humanity as they are. As such, I propose that there is a need for a shift in

focus in the enhancement debate from exploring human enhancement *technologies* to exploring the potential for a human enhancement *project*.

### 2.3. Endorsing a more ambitious ‘agenda’

The need for a shift from HETs to a human enhancement project suggests that, at present, there is an overemphasis on the *means* of bringing about an enhanced future that often comes at the expense of losing sight of what that enhanced future will look like as a result of those means. And, further, that this raises doubt over whether such means cohere with a defensible vision of what the enhanced future could (and ought to) look like.<sup>26</sup> I do not wish to argue that this is a deliberate slight from advocates of HETs. As such, I assume that advocates of HETs do not intentionally (or maliciously) assign greater ethical importance to the technologies over the ambitions for their use more broadly. That is, I do not think that what they want is simply a future filled with HETs—or, at least, that this is not *all* they want. Rather, the focus on HETs can be understood as a ‘shortcut’, whereby the underlying assumption is that the proliferation of HETs will bring about a drastically improved state of affairs for humans is taken as granted so that they can focus on the more novel (vis-à-vis the history of philosophy) and admittedly philosophically tantalizing details of HETs that will supposedly achieve this outcome. Accordingly, it is assumed that they harbour a belief that making life “better” for humans is the ambition but that HETs are thought to be vital components in a transition from the present state—judged as unsatisfactory in various ways—to that vastly superior one.

As such, I posit that the collective promise of HETs is that they will *enhance human lives*.<sup>27</sup> It is clear that many advocates of HETs would agree with this description of their intent. As Hall (2016, p. 138) summarises, the vision is that the revolution of the human being realised through HETs will “create a better world”—or, as Stoner (2020, p. 130) puts it, that HETs will “midwife the post-human age” (an age that will be better in *every way* to the present). This ambition that HETs will improve society as a whole can be seen

throughout the various pro-enhancement ‘camps’.<sup>28</sup> Such a promise, of course, generates considerable normative force for HETs; that is to say, if there is any reason to generally get behind HETs it is because one thinks that the future will be better in morally salient ways as a result thereof. In this work it is maintained that, to the extent to which the debate views itself in this way—i.e., as involved in such an ambitious normative project—that this is to its credit (and should be maintained or rescued where it has slipped). There is ample space, particularly given the still largely speculative nature of the field, to have in mind such grander claims about the enhanced human future and we do well in seeking to fill it.

Accordingly, this inquiry will not engage (at least not primarily or with great rigour) with what might be thought of as “first-order” ethical questions concerning HETs. These are those kinds of inquiries that view the ethical task as exploring the details of specific proposals for HETs and identifying ethically salient complications that might be involved in their use and proliferation (either for individuals or society writ large). The first-order questions that so dominate the ethical debate are largely of the kind “What can go wrong with HET X?” where this is followed—as a matter of course—by exploring the question “What can be done to make that HET more acceptable?” In each case the focus, therefore, revolves entirely around the HETs in question. Answers to these, it is proposed here, do not execute the entire ethical ‘burden’ (so to speak) in reflections on what to do about ‘human enhancement’. However, one should not interpret the ‘bracketing’ of this kind of activity as a suggestion that it is worthless or philosophically vacuous. This is plainly false. It is uncontested that the ethical implications concerning the development, use, and diffusion of HETs need to be thoroughly mapped out and that all proposals for mitigating any associated harms identified in the process need to be understood, tested, and implemented well before such HETs actually prove practicable. To this end, the established debate has indubitably offered much of value. However, it cannot keep doing the same kind of thing (cf. Agar, 2007).

As such, I contend that it is not possible to deliver a robust ethical judgment regarding the business of enhancing human lives solely on the basis of determinations gleaned from focusing on one possible means of enhancement (i.e., HETs) or, worse, one kind of HET amongst many (e.g., moral bioenhancements). It is this ‘narrow’ focus on HETs that, I propose, gives rise to the “indeterminate situation” that motivated the present inquiry. Namely, for all the ethical clarity concerning HETs that has been gained after decades of philosophical scrutiny, it remains unclear why or how HETs are crucial for the kind of future we might have good reason to call ‘enhanced’.

However, I am not the first to express such dissatisfaction with the existing debate. Proponents of Xenofeminism have recently issued a “call to arms” to identify and help realise the “real emancipatory potential” (Cuboniks, 2018, p. 1) of innovative instruments such as HETs to liberate humanity from what they (appropriately) view as a noxious status quo and bring into being a new era of human freedom. This is a not dissimilar ambition to their otherwise opponents, the transhumanists, who have decidedly distinct ideological commitments. However, arguing against the transhumanist, they rightly note that, while (at least in theory) transhumanists seek to ‘unchain’ humanity from present restrictions, they largely neglect the extent to which their proposed conception of an enhanced utopia is founded on the status quo they seek to escape. In particular, they remain fastened to a functionalist, mechanistic and deterministic picture of the isolated (‘liberal’) individual who seeks to gain only what they can from their obtaining circumstances rather than seeking to radically change them. To escape them to something wholly superior. In this way, they are hindered by what Hester (2018, p. 5) aptly describes as “politically tone-deaf imaginaries”<sup>29</sup> that cut the legs out from any genuine ‘openness’ in the futures transhumanist advocate and prevent the creation of a truly liberated and necessarily “alien” future (Ibid. p. 33).

It is as a result of maintaining this underwhelming vision of the individual ‘self’—simultaneously championed and exploited by the status quo—that the enhanced future for advocates of HETs can be reduced entirely to the functionality of productive and

rational agents. As a natural extension, one witnesses the belief that HETs are potentially a necessity, needed to “save us” from the self-destructive path we collectively find ourselves on as a result of these physiological limitations—which Persson and Savulescu (2012, 2017) view as “hard-wired” facts about humanity that make us “unfit for the future”. However, in being constrained in this way, it appears to me that the grand hope that a collective enhancement project built on the back of HETs will deliver us to a “new and prosperous” human future does not map perfectly onto the what those HETs are capable of achieving. That is, even if one concedes that they succeed in granting the various abilities advertised, that this alone is not constitutive of an enhanced world wherein humans live enhanced lives. The only obvious things to result from HETs is that humans will have enhanced *bodies*.

As such, one does not go far enough in rectifying this situation, if one illustrates only that various HETs can help us *now* in particular ways—especially since one may want to reject entirely the circumstances that render such HETs ‘useful’ in the first place and replace them with circumstances that are centrally oriented around freeing-up human lives from existing shackles. Even if it should prove the case that HETs do help people in the particular situations they are thought to, there evidently remains a need to reflect on the nuances of the existing social ecology that generated the initial need for such interventions. There may, for example, be exogenous features that contribute to various states of confinement that go unaddressed by any given HET—and which do not automatically dissipate from the social sphere by granting individuals HETs. The major fear then is that “[t]hese allegedly disruptive technologies leave existing modes of domination mostly intact” and that there is a genuine doubt that “they can ever truly be turned to [liberating] ends” (Greenfield, 2017, p. 26).

Accordingly, it is not sufficient that one simply embrace the idea that HETs will bring about a better future for humanity, one needs to *construct* an image of the future that runs contrary to the very features of the status quo that give us reason to think of it as “unenhanced”. It is this larger ambition that needs to be built into the discussion of

‘human enhancement’ (understood now in the broadest sense rather than in the way captured by the “common definition”<sup>30</sup>). That is, if one is to avoid the spurious conclusion that for those interested in realising an enhanced future the task is, merely, to proliferate (with as little harm as possible) HETs.

#### 2.4. Relational equality and the human enhancement project

The “indeterminate situation” outlined in section 2.1, when paired with this call to pursue not just HETs but a *human enhancement project*, reveals much about the normative commitments that I already bring to the table in this inquiry. As such, I do not arrive here “free from bias” (this is an impossibility). Indeed, as Dewey (1938) educates us, it is *only* in light of such commitments that any set of circumstances appears as in need of moral inquiry in the first place—put differently, they ‘jar’ with ones accepted view of how things ought to be.

To be forthright then, what is typically referred to as “relational egalitarianism” —cf. Wolff (1998), Anderson (1999), Scheffler (2003) and Lippert-Rasmussen (2018)—will form the ‘backbone’ of the investigation to come. Stated simply, I view this as the idea that a just society is one in which *all* individuals are able to *relate* to one another *as equals*. In other words, that there is a reciprocated and mutual appreciation of one another as equals in a strong sense—where this means that the well-being and flourishing of other people factors into how individuals proceed through the world. The clearest account of this kind of relational “flourishing” can be found in Kitcher (2017), who argues that the core conditions of human flourishing are that the “life plans” of individuals are “chosen autonomously” and that these “issue in central projects intended to foster the well-being of others” (p. 56).<sup>31</sup>

The first condition suggests that individuals are to be liberated from various harmful constraints on their existence and implies that society in general be organised in such a way that people are supported in pursuing meaningful and unalienated lives.<sup>32</sup>

Central to the second, then, is the idea that part of what makes my life go well for me is that the lives of others go well for them. However, importantly, the idea is not just that our lives are able to flourish *alongside* one another—i.e., that they are mutually compatible and, therefore, that my flourishing does not impinge on your flourishing (or yours on mine) and certainly that each pursuit does not harm the other. While also sought after, this does not fully capture a state of relational flourishing. Rather, it is the idea that my flourishing in some way *depends* on your flourishing. In other words, *we only flourish together*. This clarification strengthens the relational egalitarian element of Kitcher's proposal and makes it both robust and explicit. It suggests that when we are not “co-flourishing”—to give it a name—that neither of us is flourishing in a fuller sense consistent with egalitarian justice. To clarify, if we are actually relating as equals, then one of us ought to view the suffering of the other as a threat to that equality. How can we be equals when I do so well, and you do so poorly, and I ignore your plight? How can we relate as equals when you are not a factor in my decisions, and I am not a factor in yours? The answer assumed here is that we cannot—at least not fully.

This relational view of human flourishing borders on utopian. In the very least it is idealistic. And certainly, it does not describe the world we presently inhabit. As such, it is only a “possible world”. Yet, what it does capture—I propose—is a rather fair and plausible description of what a world looks like in which people lead morally superior lives—lives where they all flourish. It is a world, I contend, we would not hesitate in describing as “enhanced”. Moreover, it seems to have the potential to dissolve (at least part of) the “indeterminate situation” outlined in section 2.1. Clearly, if what is sought through the human enhancement project is something like this relational egalitarian world and if it was able to achieve it, then I would no longer feel that the enhancement project ignores the plight of existing people. Indeed, present day injustices have no place in any future world that would qualify as a relational egalitarian one. As such, I propose that this relational account describes what the human enhancement project seeks in wanting to *enhance human lives*. Or, more specifically, that this is what it ought to as this would



constitute a more morally compelling proposal. I will, therefore, proceed on the basis that it does. Note then, that from this point on, when ‘the human enhancement project’ (hereafter HEP<sup>33</sup>) or the “enhancing of human lives” is referenced, it is intended to capture transitions that allow people to flourish in some way that echoes the relational commitment just described.<sup>34</sup> Consequently, in asking for a shift in focus from HETs to HEP, the focus of the present inquiry can be described as a critical reflection on the notion of ‘human enhancement’ *from a relational egalitarian perspective*.

Of course, the main mismatch in the “indeterminate situation” so far described is that it does not seem like HETs can deliver us to such an enhanced future—but at least now there is a clearer picture of this ‘gap’ that can ground this recognition and give substance to that initial unease. As such, adopting this relational commitment helps define the indeterminate situation described above. One can now see it more starkly: there are two key aspects—HETs and HEP—and the feeling of unease arises from their apparent disparity. To clarify, on the one hand, there are HETs—understood according to the “common definition” as biomedical interventions seeking to amplify human functioning. On the other hand, there is HEP—understood as the idea that when legitimate forms of “enhancing activity” are carried out that they collectively will contribute to *enhancing human lives* (e.g., by steadily realising a state where individuals flourish in the relational egalitarian way just proposed). As such, the focus of the inquiry to come is to ascertain if—and if yes, how—these two aspects can be reconciled. The following section will outline my proposal for dissolving the tension and its implication for the human enhancement debate.

## 2.5. Two “approaches” to the human enhancement project

Having just stipulated that HEP is a meaningful endeavour—in that it offers normative guidance for prospective human enhancements—this leaves only the other half of the stated “mismatch” as the target of this inquiry. The reference to “human enhancement

interventions” here (as with the earlier reference to “enhancing activity”)—rather than HETs—is intentional and important to note. Generally speaking, all references to the kinds of technologies used to directly alter and amplify the abilities of discreet individuals will be referred to as HETs (i.e., this coheres with the “common definition provided earlier). However, to properly explore the diagnosed ‘mismatch’, it will prove vital that one is able to reassess the role of HETs in the realisation of HEP. As such, it gives rise to the possibility that there may be other means for aiding HEP. Since HEP is stated as capturing what might be involved in a meaningfully enhanced future and that people living there lead enhanced lives, it seems prudent to refer to those ‘activities’ or ‘interventions’ that facilitate as much *also* as human enhancements. Indeed, it is important that one does so less it imply that they are somehow not ‘enhancing’ and that HETs alone capture something special about what is involved in ‘enhancement’. Consequently, to avoid confusion, it can be assumed that unless explicitly referencing “HETs” that such terms refer to all other methods that might be employed in the name of HEP (i.e., that do not involve the direct manipulation of individual bodies).<sup>35</sup> For clarity I will not use acronyms for these other non-HETs methods.

The implication of all this, of course, is that HEP is not automatically restricted to the “common definition” outlined earlier. Rather, it remains open to what will be referred to as the “broad definition” of human enhancement—which includes all of the above potential possibilities for bringing about an enhanced future. I am not, however, the first to propose such a broad definition. Prominently, Buchanan (2011) also argues in favour of thinking about enhancement in the “broadest sense” (p. 39) and defends the claim (rightly in my view) that there is no “morally salient” distinction to be made between enhancements that are applied to alter human biology and those that produce in-kind benefits to individuals in other ways. Of course, this says nothing about prudential value; one form may of course be more effective at realising particular ends than the other. Nonetheless, this allows Buchanan to posit such things as agriculture, literacy, numeracy, and the development of social institutions as legitimate forms of human enhancement

(and certainly these have had remarkable and positive impacts on human life). This shift to the broad definition will form a key component of an alternate approach to HEP this dissertation will spend the bulk of its time defending.

To wit, the distinction between these two kinds of human enhancement—i.e., those following the “common definition” on the one hand and those non-HET means captured by the “broad definition” on the other—suggests that there are (at least) two approaches one might adopt in seeking to pursue HEP.

The first, naturally, tracks the already stated dominant view of the enhancement debate; namely, the view that HETs are capable of bringing about an ‘enhanced future’, whereby HETs contribute to the realisation of HEP as elaborated above. Call this the “atomistic approach”. The commitment to HETs by atomistic approach, however, renders it *individualistic* on multiple levels. Most obviously, by definition HETs are to be applied to individuals and they correct individual abilities (individually). Consequently, if such individual changes are viewed as crucial to realising HEP then, by extension, adherents of the atomistic approach also think that a failure to already lead ‘enhanced’ lives is (at least in some significant way) the result of the existing physiological constitution of individuals which they seek to correct. Stated in its strongest form (e.g., as seen in the transhumanist literature), the atomistic approach views such changes to individuals as *themselves* constituting of them having an enhanced life; i.e. to be differently constituted in the ways promised by HETs is to be an enhanced being and to have an enhanced life. Paired with the just proposed commitment to HEP, such a position views the attainment of HETs as ground enough for these concerned to lead flourishing lives. As such, on the atomistic approach HETs are considered both *necessary* and *sufficient* for realising HEP.

The crucial operative question of the atomistic approach is, therefore, that considered at length by Hauskeller (2013a, p. 9); namely, “What exactly is to count as making humans better?” Closely followed by “Which human properties are so essential to our being that their enhancement constitute an enhancement of the human as such” (Ibid.). However, it is the subtle shift from the first to second question that leads the atomistic

approach into hot water. Clearly, the two questions are *not* synonymous—yet, they are routinely treated by adherents of the atomistic approach as if they are. However, when the more general question of making humans better is clarified by reference to “properties of humans” the question is already substantially narrowed and leads one to answer only in terms of such (embodied) features—e.g. their capacities or capabilities. Subsequently, one starts to couch human life in this way. Yet surely, in keeping to their committed individualism, the atomistic approach will say this is no error. Rather, they might reiterate that it is only via the capacities of a given individual that their lives go more or less well. In short, it is these that enable them to do the things that make their life flourish and why their enhancement through HETs constitutes an advancement of HEP.

However, the second proposed approach will resist this mechanistic view of the individual, which conjures up the idea that humans are merely made of parts that can (and should) be upgraded. Indeed, it will be argued that it is precisely as a result of the commitment to HETs and the view of the individual it implies that the “indeterminate situation” that motivated this inquiry arises. Against this view it will be argued that there can be no satisfactory answer to that second question (as set out by Hauskeller above) as it requires having to provide a description of what humans are (in all cases) by providing a list of features which capture what it is to be human and then having to defend what kind of changes to those facets would make humans (and human lives) better (in all cases). Rather—and this is likely to make a proper answer even more complex—there is a need to account for the fact that much about an individual’s surrounding *social ecology* will impact their being able to execute any abilities they have and determine whether such execution is desirable or will have value in their life. In short, it is important to recognise the extent to which people can be (and are) externally constrained. As such, I proposed that any worthwhile suggestion as to how to proceed to enhance the lives of individuals must be thoroughly grounded on an understanding of their social relations and the various social mechanisms and institutions in which these are carried out.

Accordingly, the second approach—whose defence is the primary ambition of this work—will reject being shackled to a particular means for aiding HEP. Rather, the “embedded approach”—to give it a name—proposed here will utilise HEP itself as the springboard for reflecting on how to go about facilitating an enhanced future. Consequently, for the embedded approach one starts from the key value of HEP—namely, the desire that humans lead enhanced lives, which it was argued they do by having greater autonomy and being vested in each other’s “flourishing”. In using this as the starting point the pressing question for the embedded approach is “In what ways is this kind of flourishing presently not enabled?” And the follow up question “What prevents it?” To even begin to answer this question, the embedded approach is compelled to already be far more holistic than the atomistic approach. In particular, it must now reflect on how people in fact carry out their lives. This has two consequences: first it takes seriously the actual ailments in people’s lives and second it requires a recognition that these transpire as parts of a variety of complex, interconnected and relating social spheres. Consequently, while one might not be able to give an answer about what constitutes a ‘perfect’ human being, we find that one can rather quickly gain a pretty clear and uncontroversial idea about what it means to have an encumbered life and to recognise when communities are strained by harmful relations. The task then for the embedded approach is to ascertain, on the basis of the problems flagged by such inquiry as hindering human flourishing, how to helpfully start developing plausible interventions to alleviate them.

Importantly the embedded approach therefore opposes *both* of the key features of the atomistic approach. The first is that it is not confined by the focus on HETs. Rather by emphasising the actual lived experience of individuals it considers all means employed toward HEP, such that only those that can resolve the kinds of problems that constrain human life out to be labelled ‘enhancements’. Consequently, it is able to recognise, for example, such things as oppressive work environments or an intolerant society as legitimate constraints on human flourishing and therefore barriers to human enhancement that need to be addressed to bring about an enhanced future. These are clearly not things

that can be ameliorated by HETs—at best HETs might be able to help individuals to better handle or tolerate such settings (e.g., by enabling them to escape them through, perhaps, increased intelligence<sup>36</sup>), but these would not themselves remedy the problematic scenario; only evade it. Rather, various means to generate new norms in either setting might, for example, have a genuine and long-lasting positive impact on that individual's life. Should these changes be of a sufficient calibre to render their lives 'enhanced' then those methods are also to count as human enhancement interventions. The embedded approach therefore adheres to the "broad definition".

Second, by recognising that much of import for an individual's life going well sits *outside* the individual themselves, it rejects the mechanistic view of the individual witnessed in the atomistic approach. Instead, it favours a more encompassing relational view of individuals as, at least in some significant part, being defined by the social environment in which they are *embedded*. It is this feature that gives the embedded approach its name—and opposes that which gives the atomistic approach its. As shall become clear in the coming chapters, this has a marked impact on how one is to go about enhancing human lives.

### **3. Aims and Chapter Outline**

This final part of this lengthy introduction, which has already covered considerable ground, will outline the chapters to come and tie these to the overall ambitions for this project. To start, the first part of the dissertation seeks to make the case for the embedded approach over the atomistic approach as both a conceptually and practically preferable alternative for thinking about the idea of 'human enhancement'. Here it picks up and, subsequently, runs with the impulse shared by the Xenofeminist movement: namely, that innovative technologies intending to bring about an 'enhanced future' need to do more

than amplify the present. Rather, there is considerable space to be substantially more ambitious and look to bring about a radically new and improved social reality. To this point, this dissertation imports the tenets of *relational egalitarianism*—which does not *yet* have a major voice in the established enhancement literature—as being able to ‘fill’ in that space for revolutionary change and motivate appropriate direction for any would-be enhancing activity. This is done in service of one of the motivating aims of this work: namely, to unpack the aforementioned intuition that *enhancing human bodies* is not synonymous with *enhancing human lives*. Specifically, the first chapters seek to illustrate that the established debate errs in focusing on the former rather than the latter.

As such, **Chapter Two** first provides a detailed account of the atomistic approach (which characterises most of the existing pro-enhancement faction of the academic debate). It explores the reasoning that underpins the commitment to both the individual as the primary focus of human enhancement and that HETs are the supreme ‘tool’ for making them ‘enhanced’, as well as the idea that these are *necessary* and would *sufficiently* equip such individuals to lead enhanced lives. **Chapter Three** is a direct response to this that juxtaposes the atomistic approach with a new *embedded* approach to human enhancement debate.<sup>37</sup> Here the strengths of the two shifts—which directly opposes two primary commitments of the atomistic approach—the embedded approach adopts (and advocates) are illustrated. The case is made to focus on *enhancing human lives* as a whole (rather than individual abilities)—where the ambition is to combat the dominate view (even outside of academia) that being an “enhanced human” means simply being “superabled” and replace it with the idea that enhanced humans are flourishing coexisting mutually thriving people. To support this, special attention is paid to developing an account of the “socially embedded self”<sup>38</sup> as a *novel* entry into the debate.<sup>39</sup> As this chapter is taken to knock down the atomistic approach by denouncing its main commitments, the remainder of the book will explore the ramifications of adopting the embedded approach only.

Subsequently, **Chapter Four** looks to trace out the first major consequence of the embedded approach. In particular, it illustrates that it inspires a pragmatic engagement

with the possibility of human enhancement that works from the “ground-up”. Moreover, by detaching it from a pre-situational commitment to HETs, the embedded approach is shown to be able to partake in a valuable instantiation of Deweyan moral inquiry (1938). In so doing, it argues that the newly proposed (and relational egalitarian) HEP the embedded approach is catered to promote directs attention to a broad array of *existing* human social problems which are capable of grounding a whole new range of “human enhancement interventions” that can stimulate the existing debate. From this, it will be argued, that a clear and normatively guiding “task” for those interested in HEP can be constructed. In sum this highlights that the embedded approach is capable of generating new activity in the enhancement debate—and, in the process, both broadens the appeal of the debate to other academic disciplines as well as elevates their potential for eliciting actions of real-world impact.

**Chapter Five** returns to HETs but not as a means of reconsidering the atomistic approach. Rather, it demonstrates that through the embedded approach HETs are cast in a new light: one that is socially revealing and, therefore, helpful for guiding the development of interventions seeking to enhance human lives. To wit, it is argued that there is a need to completely *revisit* existing discussions on HETs in order to identify how they track what Little (1998) refers to as “suspect norms”. Via the insights revealed from expanding on the “socially embedded self” central to the embedded approach, HETs are to be considered *part* of the social ecology in which they are embedded. As such, it is argued that they are *indicative* of it in a meaningful way. That is, that they are evidence of the concerning kinds of obtaining social features that motivate their ‘need’. **Chapter Six** follows on directly from this and demonstrates each of those claims explicitly by exploring three candidate cases of HETs that have *prima facie* social value: cognitive neuroenhancements (CNE), mood enhancements (ME), and moral bioenhancements (MBE). Consequently, these HETs are investigated as being (inadequate) *responses* to existing perceived shortcomings in social life. It is argued that these highlighted shortcomings are then potentially able to serves as possible ‘targets’ for non-HETs interventions, Moreover, it is suggested



that the persistence of these concerning social features will likely bear negatively on the ability of already proposed HETs to work “as advertised”. As such, while this dissertation has not itself engaged in what was earlier referred to as “first order” ethical discussions of HETs, the embedded approach is revealed as being able to offer valuable insights for those kinds of discussions (which still form the vast majority of new contribution to the debate).

**Chapter Seven** marks the conclusion of the inquiry. It will recollect the various arguments presented and then outline how they each suggest a variety of future valuable research possibilities grounded on the embedded approach. In sum, this dissertation will have demonstrated that the embedded approach is helpful for alleviating the stated “indeterminate situation”, which recognised a ‘gap’ between what HETs themselves can do and what might be needed to bring about an enhanced human future that relational egalitarians could, in good faith, get behind (i.e. HEP). It does this by explicitly connecting the ailments of the present with such a possible future, and by illustrating that HEP is likely to best be realised by resolving such *existing* social shortcomings. This implies that the first principle of human enhancement is that one *cares* in a robust way for the lives of others and take an active interest in improving their situation. Here its pragmatist character is shown to be a core strength that ‘grounds’ the idea of humane enhancement “in the world” as it is (rather than the abstract realm common in enhancement discussions). Accordingly, the embedded approach is shown to breathe new life into the existing debate.

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## Chapter Two

# THE ATOMISTIC APPROACH

*Faltering individualism and the shortcomings of an abstract case for human enhancement technologies*

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### 1. Introduction

The introductory chapter delineated between two “approaches” to the human enhancement project (HEP): the “atomistic approach”, which envisions a primary role for human enhancement technologies (HETs) will be the focus of this chapter, and the “embedded approach”, which will be explored in Chapter Three. The aim of this chapter, then, is to ascertain whether the “atomistic approach” can be employed to genuinely advance outcomes one would consider consistent with HEP. That is, whether the proposal that it can holds any water. For advocates of HETs the hope is that the atomistic approach is able to overcome the proposed mismatch between what existing HETs can, in making direct alterations to the physiology of human beings, do and the proposed, more ambitious, hope

of HEP that these will (or are *required to*) enhance the lives of those people. In other words, it is suggested that there is a tension between the obvious kinds of way in which HETs might improve matters for many discretely considered individuals (which is conceded from the outset) and the idea that this will, *tout court*, equate to those people's lives going better.

In particular, it will be argued that, in maintaining its desired focus on HETs and therefore a particular understanding of what is involved in improving the circumstances of particular individuals, that satisfying the criteria of the atomistic approach does *not* necessitate meeting the requirement that people's lives go well in a robust sense. Indeed, it will be illustrated that it is possible to imagine a post-HETs future filled with superabled beings whose lives are not as a result substantively improved. In short, it will be shown that some HETs developed under the atomistic approach and subsequently utilised could result in one or more of five possible kinds of undesirable outcome (vis-à-vis HEP): they may (1) make matters worse for the individual who gets them (e.g. causes them some harm or other detriment); (2) they could make matters worse for the whole of society (e.g. they set a standard that evolves to be defeating of things we value); (3) they might not (upon reflection) provide the good they promise—or, at least, not *as promised*; (4) they might make living circumstances better for some but *worse* for others (or at the expense of others); and (5) that, all things considered, their use may be of little consequence (e.g. life does not change overly or in what might be considered a meaningful way).

While the first four cases might be somewhat mediated by additional social mechanisms, the fifth represents an interesting case. To start, it might not strike many people as undesirable; if the status quo is already miserable then it is better to be enhanced and miserable. Yet, what one has here is a case of what was introduced earlier as “amplified sameness”. The point, however, is that this would be a significantly underwhelming outcome for HEP and, while these ideas are still largely speculative, there is ample space to be more ambitious. It would *not* do to count amongst the scenarios thought to cohere

with HEP those there the gains produced via HETs are relative and mimic the current spread of relative gains in society without improving the overall character of that society changing. For example, should the same 'elite' group of people reap the bulk of the rewards while the same overlooked group continue to receive only a pittance in comparison. Added to this, as shall become clear, is the problem that on the basis of the atomistic approach this outcome seems rather likely (possibly even the best-case scenario). This should immediately cast doubt on the atomistic approach.

Moreover, it will be argued that simply adding a final threshold requirement that actual improvements to the user of a given HET life *must* occur, lands the atomistic account in hot water. In particular, it problematically merges it with the embedded account, which will have detrimental implications for the stated focus on HETs. Ultimately, it will become clear that developing mechanisms that will enhance human lives requires a nuanced appreciation of those lives that is not included in the atomistic approach. Barring such an appreciation, there is considerable risk the HETs will amount to mere luxuries divorced from the real issues that make people's lives go poorly and the needs of those who experience such hardships. A starving child doesn't need to be superhuman, they need food (and, by extension, a support network that gets them food and makes sure they are fed). Indeed, granting such a child some super abilities while blatantly ignoring their needs evidences a callousness of the words sort. Of course, if our world was one without starving children (and all the other social injustices that plague it) making them super-able might then hit a less sour note.

The coming chapter will proceed as follows: first, in section 2, a more systematic and rigorous account of the atomistic approach will be provided that spells out its base commitments and assumptions and connects these to the usually merely *implied* premises that suggest that HETs can result in HEP. The limitations of this idea that better humans might produce a better world are then explored in section 3, which sets out from a hypothetical scenario wherein any presently envisions HETs can be realised and then, by way of a series of refinements to this scenario, attempt to identify the practical

consequences of such an eventuation. Finally, in section 4, it will be argued that the atomistic approach errs to the extent that (1) its focus is on meeting the demands of *individuals* rather than having to satisfy a collective viewpoint and (2) that it fails to properly include obtaining social context in its portrayal of the value of HETs, preferring to operate in the abstract.

## 2. Better Humans for a Better World?

### 2.1. Ascribing general value to individual functional augmentations

Broadly speaking, it has been argued that HEP intends to bring about what one might loosely call “a better future”. HETs then, it was further proposed, arise as the embodiment of that sought-after possibility—or what Fesmire (2003, p. 67) in his Deweyan neologism refers to as “as-yet-unrealised potentialities”. In other words, that through the use of HETs advocates see the hope of a better future (i.e. one in which the *potential* of HETs has been *realised*). In the introduction it was argued that, morally speaking, this must be what advocates of HETs have in mind and ultimately desire. That is, not just that HETs are used in the future but that their use produces some notable benefit that ushers in a new “golden era” for human beings. If advocates of HETs do not champion these technologies on the grounds that they could improve human lives, then they certainly should—minimally in their public persona lest they appear merely as avid technophiles. It is insufficient that HETs be considered interesting, curious, or fun—they must be valuable from the moral point of view. It is in the intersection of these two notions that the idea of the ‘atomistic approach’ emerges: i.e. it proceeds on the understanding that HETs, which augment human bodies in a variety of exciting ways that permit them to do things they

previously could not (e.g. amplifying existing abilities or granting novel ones), can result in HEP (e.g. will make human lives better and, therefore, bring about a better future).

How then might a given HET illustrate some morally laden value? Clearly, there is a simple sense in which HETs *always* produce a benefit; they grant people some ability they did not previously have—and, therefore, open up an additional avenue on their life path. Yet, is this sufficient to say that they make their lives better? An obvious way of judging whether this is the case, of course, is to ask the persons involved. Consequently, one might argue that should HETs produce a *preferable* state of affairs that they, thereby, play a legitimate role in a better future. Afterall, a better future is one that one (i.e. the people involved in and experiencing a change of affairs) has reason to *prefer* over those obtaining in present. However, this criterion is inadequate and too easily satisfied. For example, all things being equal, an individual should (rationally) *prefer* a world with HETs to one without them: if only since in the first case there is *some* chance that any associated benefits of HETs would come to pass, while in the latter there is *no* such chance—and some is preferable to none. Yet, this is clearly undeveloped—devoid of the complexity of human life—and recognises only the potential stake in *benefits* rather than also in potential *harms*. It is on the basis of those harms that one may find it prudent to prevent just anyone taking such a gamble. The actual features of the scenario matter. It is, therefore, not just a general, mathematical, preference that is to be met, rather that HETs produce a more concrete form of improvement: the change is better for *someone, somewhere*.

Consequently, one might treat such preferences as merely a placeholder—to be confirmed retrospectively (with hindsight) by particular individuals. In predicting a preference for the outcome of a given HET someone elects to use it and confirms the preference only *after* the fact. This, of course, does not help so much when one is attempting to pre-emptively ascertain whether such technologies *as a kind* are conducive to improving human lives. The conceptual question would have been subsumed by an empirical one. However, there are categories of things one might predict with relative confidence. For example, I might predict that I would in due course validate an existing

preference for superior musical ability and would recognise such an improvement as elevating the quality of my lived experience. Perhaps most presently proposed HETs are of *this* kind. Such that when they come to pass there would be good reason to hold that the world now inhabited is, to most intents and purposes, a *better* one. Consequently, advocates of HETs might assert that, assuming HETs function as intended (which is conceded), an individual is able to rationally predict that such gains will help them given their own circumstances, and on those grounds to post a legitimate preference for attaining them. Moreover, they might add, it is likely that similarly placed individuals can be expected to voice like preferences. On the basis of such preferences, genuinely expected to bring about a better state of affairs, individuals (collectively) ought to be free to pursue HETs. As such, it is conceived of as an educated, albeit individualised, preference for a post-HETs state of affairs. From the perspective of the HETs recipient the world is better—and this serves as reason to seek out HETs. Such reasoning is then thought to be universalizable. To generate more general claims about the value of HETs would then simply be a matter of addition. In summary form, if a person has reason to prefer their life with HETs, then people similarly situated are likely to share that preference, such that if all groups with such preferences for various HETs are aggregated that the result is a situation where all concerned people prefer their lives—in such a case human life is, *ipso facto* better.<sup>1</sup>

However, there has occurred a subtle, but important, shift in the presentation of the better world produced by HETs. Specifically, a move from a value obtaining for a given individual (i.e. that it is “better for me”) to it grounding a conception “a better world” generally (i.e. for everyone). Typically, the proclamation that, for example, “our world is better than that which existed under feudalism” is a *general* claim for humanity writ large rather than a statement that *I* have good reason to prefer it (e.g. given my lack of royal heritage). Even though this is also the case: i.e. we do *as individuals* have reason to prefer non-feudal social organisation. Are these cases similar? Is feudalism to be preferred only because of the accumulated preference of individuals who benefit? Is realising HEP simply a task of aggregating atoms, such that if one can confidently assert that from the

individual perspective life is made better by HETs then the outstanding task is finding ways to ensure that this is the case for everyone else? If so, then what one is left with is a universal claim about what constitutes a better world built on individual claims to that effect. This will surely appeal to liberal (and libertarian) thinkers, who prize the freedom and autonomy of individuals as first amongst political concerns. It certainly appears that the large bulk of HETs advocates subscribe to something like this view (Cabrera, 2015), and would see little wrong with asserting that all that matters is that HETs will improve the options available for individuals to make their lives go better, and that when individuals are not inhibited from acting in their own interests that a better world results.

However, once individual benefits are seen as grounding universal claims, then a further shift has transpired, strengthening the faith in HETs. In particular, it permits recognising their new post-HETs life as not just “to be preferred” but, in fact, *constitutive* of a better world. At least, this seems like the stronger claim advocates of HETs ought to make. In doing so, they demonstrate not just that they support HETs but provide a legitimate motivation for doing so. In other words, that in advocating HETs they are not merely supporting the proliferations of such technologies—either because HETs are exciting or simply because individuals should be free in this respect—but rather that HETs are valuable in that they play a constitutive role in the meaningful development of humanity.

When all of this is brought together, the following criteria for the atomistic approach emerge:

- (1) HETs offer distinct advantages for an individual (they, by definition, *improve* a particular function in a particular individual).
- (2) The possession of HETs coincides with gains in an individual’s life (i.e. their life is improved simply because they have increased abilities).
- (3) Due to (1) and (2), individuals generally have good reason to want HETs.
- (4) It is the individuals themselves who are best poised to make this assessment.



- (5) Given (1) to (4), individuals who actually do want to be functionally tweaked should—on liberal grounds—be permitted to pursue HETs and benefit from the advantages they offer.
- (6) Making HETs possible for individuals is constitutive of a better life arising for them (where this is presumed to be universalizable).
- (7) A better human future, generally speaking, is one that is deemed so by most individuals.
- (8) Given (5) to (7), the accumulation of individuals who lead better lives as a result of HETs, in aggregate, constitutes a better human future (i.e. HEP).

As a result of such reasoning, proponents of HETs are able to argue that those HETs which provide individually recognisable and acknowledged gains are capable of producing a future wherein human life generally is improved—and therefore can be considered *enhanced*. In short HETs can realise the ambition of HEP. This view of HEP as an essentially “individualistic endeavour” is consistent with what Cabrera (2015, pp. 55-84) calls the “transhumanist paradigm”.<sup>2</sup> Especially important in the above series is the move from (5) to (6)—that then carries through in the remaining points—which implies that HETs are *sufficient* for enhancing human lives and bringing about a better world. I will bracket (for the time being) the stronger claim by that particular HETs are *necessary* for such an improved human future,<sup>3</sup> or that is some moral obligation to enhance people.<sup>4</sup> Regardless, the view it extols is that it is possible to make such grander claims about the ultimate value of HETs purely by explicating the details of a given technology (i.e. what functions they change) and how it relates to the lived situation of a given individual (i.e. the ways an individual would find such a change beneficial).

A stronger version of this claim would be to conceive of HETs even more ambitiously as tools capable of realising *all* possible dimensions of HEP. That is, as potential solutions to *all* of life’s present ailments. Accordingly, both everything that one could want for one’s life and all that presently hinders one from leading the life they otherwise

could, is reducible, in some way or another to particular “un-having’s” or physiological limitations at the individual level. On this view, all the problems of human life whose resolutions could only count as making human life better, follow from limitations of the human body that HETs promise to augment. To stretch the ambition even further, as some authors have,<sup>5</sup> proponents of the atomistic approach might argue that one’s present imagination (i.e. to conceive of the good life) is a faculty that could be enhanced. As such, there may be better ways of living presently being obscured as a result of limitation in this cognitive ability, which will only become visible once particular HETs are utilised. Relatedly, existing limitations are such that one might not be able to fathom just how good post-HETs life would be—one might have “access to far higher pleasures than those accessible to existing humans” (Savulescu, Sandberg, et al., 2011, p. 10)—they are a tantalizing unknown.<sup>6</sup> Finally, there may even transpire, as a result of HETs forms of living we presently are incapable of assessing the value of: the implication being that there may be some possibilities for novel forms of flourishing human existence that are inaccessible to us without the functional changes promised by HETs (e.g. becoming an interplanetary species or playing “eight-dimensional chess” (Agar, 2010b, p. 142))—what Bostrom (2008) refers to as “posthuman modes of existence”. At this end of the spectrum, HETs start to appear as not only *sufficient* for achieving discreet goods but as *necessary* for bringing about superior human futures presently closed off to us. Human inability is, as such, considered a straitjacket inhibiting potential avenues for human flourishing and only HETs hold the key to unlock it.<sup>7</sup> Without such changes, so the thought goes, humans do not have the means to make such worthwhile transitions. Here it becomes apparent that humanity’s problem that resigns it to a comparatively lacklustre existence, stems from each individual functional “bereftness”, which HETs would overcome. This ambitious tenor of such a vision for HETs is much to its credit and represents the kinds of hopes that ought to motivate proposals in HEP. However, as will become clear in this chapter, it’s particular execution (especially it’s individualism) is flawed. By the end of

this inquiry, I hope to rectify those individualistic shortcomings without stripping HEP of the same ambitious spirit that seeks a radically improved human existence.

In sum, this chapter has illustrated the primary features of the atomistic approach, which ties HETs to HEP in various degrees of ambition. As a minimum, the atomistic approach holds that, as a result of the benefits derived from functional improvements provided by HETs, people ought to prefer having HETs and, since their preference demarcates changes in their lives as making them better, that the use of HETs ought to count as legitimate steps in HEP. Consequently, HETs are conceived of as individualised technological means for realising HEP, such that the functional augmentation of individuals is identified as a legitimate method for making the world better. In the coming section, the two-fold individualistic character of the atomistic approach will be spelt out and some initial concerns regarding it raised (which will be further developed in section 3).

## 2.2. The charges: two counts of individualism

As portrayed in the previous section, the ‘atomistic approach’ is individualistic in at least two distinct ways. First, the primary ‘target’ that HETs are intended, and therefore designed, to benefit are isolated *individuals*. As such the reasons provided by the atomistic approach as to why specific HETs would be good or will aid the betterment of human life—and, therefore, why they ought to be developed—is that they would offer distinct benefits to the individuals who have them.<sup>8</sup> The first and obvious sense is that the HETs will allow an individual to do something they previously could not. Perhaps they were an average runner and now they can outpace Eliud Kipchoge or they were a decent accountant but can now follow (and even contribute to) advances in quantum mechanics. While such abilities might provide obvious benefits to the individual, if the idea is only that they benefit them then the ability gained need neither itself be objectively good nor be utilised in morally acceptable ways for them to benefit. Indeed, they might benefit from the ability enabling them to take advantage over others. As such, some explanations of how or under

what circumstances the HETs in question aid the individual in question might surely be objectionable. The same is true to the extent that the atomistic account considers the individual as providing the reasons for why they prefer a given state of affairs and would desire a given HET. They may want them for entirely detestable reasons or prefer circumstances that evidence a blatant disregard for others. The individual as such cannot be the sole interested party. So far, the atomistic account has included no space for such considerations that look beyond the individual.

Yet, this problem is as old as liberalism and J.S. Mill's solutions can be implemented here: namely, that the individual remains primary so long as their actions and choices do not directly harm others. This caveat can be added to point (5) above, such that "an individual should be permitted to pursue HETs that will benefit them, so long as they do not directly harm others". This, of course, need not introduce an entire social dimension to their account; rather, the logic of the Golden Rule might suffice such that an abstract individual can understand what would harm others by not wanting that consequence for themselves. Everything the advocate of Atomistic approach requires remains with the individual.

However, here there arises a further concern regarding the individual whose judgment is sought, namely that there seems little reason to expect that some plausible articulation of the objective individual might be forthcoming. Perspectives on human enhancement, as Buchanan (2011) outlines in detail, are rather polarising. As such, the "reasons" applicable to one person mightn't pertain for another (given difference in their respective circumstances that may have to do with their particular values, culture, or socio-economic standing). It might also be incompatible that the benefit offered can be experienced by multiple people simultaneously—not all HETs have what Buchanan (2011) refers to as "network effects". There are, as such, *prima facie* reasons to doubt that the preferences of discreet individuals suffice to establish that such a state would constitute a better one, all things considered, for everyone. This individualistic character 'atomistic approach' is such that it focuses on the desires and needs of isolated individuals

but also that these are abstracted from the finer details of their social milieu. Of course, there is something “safe” about this approach, given that it is not only a near impossible task to weigh the actual desires and life circumstances of all individuals against one another, but also—given the nature of HETs—that there is something suspect about turning to the anyone but the individual who would receive them. That is, talk of applying HETs to individuals that are not to their benefit or are primarily to the benefit of others smacks of the eugenics of old—the horrors of which direct the atomistic approach toward what (Agar, 2008) refers to as a “liberal eugenics”.

The second way that the atomistic approach is individualistic is that it focuses on changing *specific* functional capacities in individuals. In other words, the idea is that since the issues are with specific kinds of functional problems that *only* HETs are able to help (since this is explicitly what they are designed to do). There is a further individualistic character evidenced in the debate that stems from this, namely that the focus is only on one area in which individuals lives could be improved—i.e. their functional capacity—but also that it tends to consider the various human abilities in *isolation* from each other—e.g. cognitive enhancement or mood enhancement. The literature is saturated with ‘the case for X enhancement’ type arguments—where X represents a specific isolated ability, which is argued to be of general value to human beings. The idea here, like in the earlier point, seems to be that the case for HETs *generally* follows from the reasons for *specific* HETs. Or, alternatively, that there is no need to speak of a general case for HETs when it suffices to illustrate why specific kinds of HETs are valuable (which it was just argued means that it is valuable for an individual). In this way, proponents of the atomistic approach presume to “hold all the chips” as *everyone* is able to point out features of themselves that could be favourably ‘tweaked’. Consequently, on the basis that any measurable improvement is by definition good, HETs are clearly deemed to be desirable and this then feeds into the earlier argument. It is this limited, indeed vacuous, conception of improvement that is individualistic. In other words, being able to measure something (i.e. running faster) is ipso facto an improvement and desirable (regardless of

any connection to the world). Yet, the case that some people clearly see a value in, for example, cognitive enhancement (perhaps given their line of work), does not automatically make the case for their general value or that their use would be desirable in the grand scheme of things.

What does this individualism of the atomistic approach imply about both the shape of the ‘better’ world to come and how one is supposed to go about attaining it? It suggests that a better world is simply one where humans do not have the functional limitations they do now—that pertinent shortcomings faced by humanity in need of redress stem from the inabilities of people. As such, a better world is one where people have the means (i.e. HETs) to overcome their limitations, as they see fit. Rather than providing a solid foundation for being able to assess that a better world is likely to eventuate as a result, this endorses only the claim that *some* people might recognise their functional limitations as hinderances to success (on the basis of existing measures thereof) and that they would *on those grounds* have reason to find HETs alleviating them desirable. Consequently, it is only by (shaky) implication that their lives will be better as a result thereof, and shakier still that we would deem that a ‘better future’ even if it did. If all there is to show for the future is that people are no longer functionally limited than it would appear that we have squandered a valuable opportunity for enhancing the world in a more meaningful way and conceded an impoverished and unimaginative vision of a better world.

Consequently, to the extent that HETs are important for HEP, it reduces the domain for improvement to only the individual functioning of human beings considered in abstraction to everything else that surrounds human life and the ways in which humans navigate it. As de Melo-Martín (2018) argues, there is considerable doubt that the more objectionable facts of human existence—e.g. the pervasiveness of injustice in all societies of the world—can be reduced to discreet functional inabilities that could be resolved through such simple “fixes” as HETs.<sup>9</sup> The concern, as such, is that the HETs that satisfy the atomistic approach promise only a state of superfluity and *nimiety*; that the desire to unshackle human functioning is hidden under the auspices of bringing about utopia when

it simply stems from rejecting existing limitation and a world-view that routinely reduces individual worth to their abilities. Such HETs, therefore, seek excess regardless of any good that will come of it (e.g. like a dragon hoarding gold). The fear, ultimately, is that no matter how generous the portrayal of the gains granted by HETs that it will, nevertheless, fall short of amounting to a better world. Section 3 will expand on this point and illustrate how the individualism inherent in the atomistic approach undermines the extent to which it can in fact aid HEP.

### **3. Troubles with the Atomistic Approach**

In this section it will be argued that the inadequacy of the atomistic approach stems from the just explicated individualism. This it does by demonstrating that the atomistic approach is able to be met—supposedly indicating a legitimate development vis-à-vis HEP—by rather concerning social circumstances. Specifically, it will become clear that the concerning features of such outcomes are *not* captured (or considered) by the ‘atomistic approach’ (e.g. information about the social and economic context of the individuals affected) nor does it provide a metric for rendering judgments thereon. This suggests the need to incorporate these in some way and, therefore, to amend the approach.

#### **3.1. Gift scenario**

In order to explore the morally salient shortcoming of the atomistic approach and to get a better picture of the kinds of HETs that might matter to HEP, it will be helpful to first consider the following hypothetical scenario, which strives to be as charitable as possible concerning the feasibility and success of potential HETs:

*GIFT SCENARIO*: Upon deciphering the invitation put forward by then-UN Secretary General Kurt Waldheim on the *Voyager Golden Record* to come teach us, a more technologically advanced alien race (fortuitously) elects to do so.<sup>10</sup> Accordingly—and not unlike the “Heptapods” in Ted Chiang’s (1998) short story ‘Story of your life’<sup>11</sup>—they impart on us their collective knowledge. In so doing, they *gift* us with the technology needed to realise any HETs currently entertained.

What *Gift Scenario* would do is to open up the possibility of (immediately<sup>12</sup>) bringing about the fullest ambitions of HEP; granting *carte blanche* to remake humans in the manner advocates of HETs presently assert a desire to. Presumably, humanity would proceed to enact array of functional changes to human beings that, thereby, catapult them into a “better future” wherein they flourish in ways presently denies to them. In short, human life is predicted to improve in a meaningful way. At least, as has thus far been strongly suggested, this is the kind of claim advocates of HETs ought ascribe as their primary in using such technologies. As has already been noted, the explicit claims of at least some influential advocates of HETs support this reading.<sup>13</sup> Others, however, might view this as a misrepresentation or embellishment of their goals. Instead, they might define their task as involving only the following: (1) identification of functional shortcomings in human beings whose improvement would be *prima facie* beneficial, (2) to propose and describe the HETs that would rectify them, and (3) to defend why should be ethically permissible. Their edict, in other words, is to explore which HETs could make improvements to people’s lives and in what ways they would do so.<sup>14</sup> This perspective avoids the grander claim that HETs seek a better world more generally. This view is, however, easily dispatched as short-sighted.

To illustrate, consider how one so inclined might defend that a given HET succeeds *as an enhancement* (e.g. that it made a meaningful improvement). This is necessary to escape the charge that the HETs amounts to only, what philosophers call, a “mere change” (Kitcher, 2011, p. 7)—i.e. that HETs succeed only in making humans *different* than they



were. Such a claim would, it seems, need to be attached to some concrete features outside of the enhancement that have improved as a result thereof; e.g. demonstrating some instrumental value of the changed ability. A physical strength HETs, for example, can, in a rudimentary sense, be considered an enhancement when the comparison being made is only to the ability of the individual in question prior to the intervention (something that could be tested with standard gym equipment). In a brute sense the person is stronger than they were pre-HETs—yet is being stronger always better? Is the good life reducible only to ability?<sup>15</sup> Possibly there may arise some discernible subjective enjoyment from the mere possession of additional strength, but if this was all HEP offered it would be wholly underwhelming. Yet, if one is only beholden the common-place definition of human enhancement (see p. **Error! Bookmark not defined.**), then this is exactly the kind of thing one would be able to label an legitimate enhancement. Indeed, all sorts of changes directly to individuals which amplify their various capacities (possibly even remaking each individual in whatever way they most desire<sup>16</sup>). This, however, is primarily indicative of an ambition to have a future *filled* with HETs and only secondarily, by tenuous implication, that the ambition is to have human lives improve as a result.

Clearly the hidden premise begging to be defended is that the two states are *coextensive*: namely, that a future filled with HETs *just is* a better future. This appears to underscore early pro-enhancement statements such as those by John Harris: who famously proclaimed, “if it wasn't good for you, it wouldn't be enhancement” (2007, p. 9). Accordingly, if enhancements are by definition “good” then more of it is surely preferable to less of it, and, by extension, that a world with more enhancements is a better one.<sup>17</sup> However, defending that such a change is *important* (i.e. that it is *better* to be stronger) requires a different kind of explanation: namely, that it will provide specific benefits to (at least) the individual utilising it, which will be incredibly context sensitive. The reason why a given change is important will invariable be connected to some aspect of a concrete individual's life, which when altered improves their lives in a meaningful way. Extrapolated to society writ large, it appears that if, in each instance of enhancement, one needs

to show how it makes a life better, then the accumulative concern of such HETs is, *pro tanto*, the bettering of human lives. It does, as such, not seem a significant stretch to state the HETs (and, by extension, HEP) is fundamentally concerned with bringing about a better world (in which humans can live).

By exploring some plausible consequences of Gift Scenario in the upcoming pages, it will become clear that the embedded approach as outlined above is not sufficiently grounded in a commitment to the genuine improvement in human lives. In fact, it can be satisfied by rather suspect social arrangements. As such, the embedded approach is good for only one thing: it guarantees a world filled with HETs (and is therefore a good method to adopt if one's primary concern is to convince people to use HETs). As such, this chapter will provide *prima facie* reasons to resist the idea that the ultimate ambition of HEP is merely making better *functioning* humans and that resorting to HETs should be done out of a genuine desire to make human *lives* go better. These are *not* co-extensive goals.

Before doing so, however, it is worth noting that *Gift Scenario* has a further important consequence relevant to the inquiry to come. Specially, it removes the likely fact that, without such a miraculous event, technological advances facilitating human enhancement would almost certainly be more gradual, and, therefore, more permitting of a timely and (hopefully) reasoned response to their invention. Consequently, *Gift Scenario* places one immediately in a position of having to reflect on a great many facets of our society which did not have the necessary time to change (as one might optimistically hope they would) as the consequences of enhancement technologies slowly became more evident. Obvious issues, include which new regulatory bodies, laws, and legal mechanisms would be needed to prevent misuses of the new abilities granted by such enhancements.<sup>18</sup> Likely many share the intuition that, given existing exorbitant wealth and power inequalities, the instantaneous arrival of such enhancement technologies into the societies we presently occupy would, in all likelihood, be a recipe for disaster. This, of course, says much about the status quo (more, I contend, than it does about the technologies in question)—and, to be blunt, it doesn't look good. Indeed, this should already hint that, of

the problems that hinder human flourishing, functional ability per se may not be amongst the most pressing. In fact, over the course of the coming chapters, several existing social and structural issues will be highlighted that should concern all who either recognise that some benefits could follow from the arrival of human enhancements technologies or that their development is, in any way, “inevitable” (Baylis & Robert, 2004).<sup>19</sup> However, bracketing the deeper implications of this point for now, they provide prima facie reasons that there is a need to explore the obtaining social context surrounding any HETs and to recognise that they are likely to have considerable bearing on whether such technologies will result in positive outcomes (for individual).

If any scenario involving HETs could, *Gift Scenario* would grant the ability to realise HEP. This much should be obvious. If undesirable outcomes arise from it then this suggests either (1) that HEP is a doomed endeavour, or (2) that the wrong approach has been adopted and put into practice (i.e. that the opportunity it presents has been squandered by an inadequate agenda). The case will be made for the latter possibility. Particularly, it will be argued that the atomistic approach evidenced by much of the established debate needs to be replaced by a superior approach properly oriented around the idea that human lives can be enhanced.<sup>20</sup> Specifically, by exploring some possible outcomes thereof, it will become clear that such a project would need to be anchored to something *other* than the enhancements themselves. This, it shall become clear, will require a reconsideration of what kinds of interventions ought to count as ‘enhancing’—as the “targets” against which the technologies of gift scenario are to be directed will greatly influence outcomes in HEP.

To wit, the following sections will explore some possibilities that might follow from *Gift Scenario*, in order to not only demonstrate in more detail the just hinted to shortcomings of the atomistic approach but to also gesture towards how it can be improved. Naturally, given that the issues have been conceived of as stemming from an engrained individualism, it will be argued that *social* features need to be built into the atomistic approach, without which the project lacks a clear sense of direction and, as the

case studies will demonstrate, may be lead astray. Consequently, the examples explored below should be read with this ambition in mind: i.e. the meaningful expansion of the foundational features of HEP.

With these clarifications made, it is high time to describe those arrangements resulting from *Gift Scenario* that could plausibly be deemed consistent with the atomistic approach, but which are clearly undesirable (i.e. as not realising the proposed ambition of HEP to bring about a better world). To wit, there earlier identified ways to fail HEP can be grouped into two general categories of undesirable outcomes: (1) it may turn out that HETs, in some sense, do more harm than good and (2) HETs might prove to be rather inconsequential (in the grander scheme of things). The following scenarios will tease out the myriad ways in which these might unfold, however, in each case the outcome is deemed undesirable because how they fall short of realising a substantially better world. Of course, they can fail more or less spectacularly and identifying what features play a mitigating role in reducing the severity will be crucial for constructing alternatives that can offer guidance for a more nuanced approach to HEP.

### 3.2. Restricted access scenarios

The most obviously objectionable outcome is, of course, that human enhancements are actively utilised to create a *worse* world. This might occur in the event that the blueprints for HETs in *Gift Scenario* are provided in a way that persons with nefarious intent gain control over them. This would seem to permit outcomes even the most ardent libertarian advocate of HETs would reject. For example, should they for some reason be delivered to a single individual who hoards the knowledge to make herself super-powerful, wealthy, and influential (reinventing herself as some kind of supervillain ruling over an oppressed population). However, a scenario whereby HETs are explicitly utilised to gain an advantage over others in terms of granting the ability to greatly, and perhaps unstoppably, dominate, oppress, and exclude them is indefensible. As such, it merits no further

exploration. It would not be in academic good faith to reject the ‘atomistic approach’ on this basis already—so let’s assume (perhaps somewhat wishfully) that the ordinary functioning of most societies will prevent such outcomes. As such, Gift Scenario is, in need of some further refinement. However, as shall become clear, the example can be substantially weakened without losing its edge.

To wit, the well-meaning aliens in Gift scenario—in recognising the competitive streak of many of the planet’s inhabitants—are more judicious with their sharing of such valuable information. As such, they ensure that no *individual* has control over it. Specifically, they ensure that it gets sufficiently *geographically* dispersed, so that most segments of the world have access to the information. As this is still not universal access, it therefore permits that some will be able to restrict the access of others to those HETs.<sup>21</sup> Let’s call these *Restricted Access Scenarios* (which are a sub-category of *Gift Scenario*). Consequently, what one has here is, rather than an individual, that a group of people (e.g. a class, a nation, a religion, or a particular race) who are able to (and in fact do) exclude all non-members from access. To be as generous as possible, this segregation into those enhanced or with access to HETs (the “Haves”) and those not enhanced or without access to HETs (the “Have-nots”) might be rather equal in size.<sup>22</sup> For example, should only those without a “Y” chromosome gain access and deny the remainder of the human population. Here a situation obtains whereby roughly half the world’s population witnessed a vast improvement in their capacities, and, let’s assume, experienced an equally great improvement in their subjective well-being as a result.

As in the earlier case, the Haves could directly use their newfound advantages to oppress the Have-nots and make their lives substantially worse. Should the Haves harbour ill-intent, this would not be so different to the current affairs—it is a truism that not everyone gets along and groups have long memories motivating active efforts to hurt other groups. Yet, this again might be too easily dismissed as “beyond the pale” and the intentions of HETs advocates. Accordingly, assume that the Haves are not malicious, but nevertheless exclude the Have-nots from access (i.e. without actively seeking to reduce

their well-being). In this case obtaining features of the world can be included as part of the reason. This makes for a far more realistic case, one where issues of development and distribution are still pertinent (as they would undoubtedly be in any actual manifestation of HETs).<sup>23</sup> For example, such limited access occurs as a result of existing hinderances to technological diffusion (e.g. cost and scarcity of resources). As such, the exclusion might not even be permanent—the distribution of HETs might just be significantly delayed.

For many this scenario may already satisfy the atomistic approach. As per the arrangement of the example, HETs provide a functional improvement to individuals who benefit therefrom. Some doubt remains as to whether people can be said to have a reason to prefer this state of affairs. We can assume that the Haves do, but it is not so cut and dry in the case of the Have-nots (i.e. they may yet have reason to prefer it—but this is to anticipate). Should the Haves represent the majority of the world's population then, for many democratic theorists, the matter can be considered resolved (i.e. the new status quo is preferable to the old by democratic consensus). Yet, it is worth noting that even this is idealistic when compared to the proportions of people who presently have access to various technologies and our belief that they improve the world. As such, the case could be made that the final criterion could be more easily satisfied (i.e. with far fewer people needing to prefer the situation). Why should this be considered an undesirable outcome? Perhaps, this question can be answered with a counter set of questions: Would one be prepared to count this scenario as either the realisation of HEP or a legitimate step in its direction? Would one be satisfied to be a Have-not in this scenario? The tentative answer to these, I contend, is “no”. A strong reason against this situation is advanced by Sparrow (2014b, pp. 23-24) who argues that in such a situation, the Have-nots could, foreseeably, be precluded from political participation and the possibility to rule on the basis of their lacking abilities. Indeed, he argues that, as a result of HETs granting the Haves vastly superior cognitive—and perhaps even *moral*—sensibilities, one might even be tempted to conclude that it would be both reasonable and legitimate that the Haves rule (i.e. that

their enhancements make them better rulers) and that they should have “a greater say in social decision making”.<sup>24</sup>

Yet this might not be all bad. Perhaps this scenario ushers in a new era of well-being for *all* concerned, such that even the Have-nots would prefer such circumstances over the pre-HETs arrangement. Indeed, it seems that the Haves could be incredibly beneficent, coming together as a result of their shared enhancements to implement measures that significantly improve the global average quality of life for the Have-nots along most possible measures we might consider. Measures that would not have been possible in the absence of HETs. Call this variant (i.e. of *Restricted Access Scenario*) *Beneficent Scenario*. There are several possible variations of *Beneficent Scenario* which, for future ease of reference, merit brief enumeration. Each of these variants are capable of satisfying the atomistic approach and would count as having made legitimate strides toward HEP. As such, to the extent that they entail “suspect” features, they will offer instruction as to how the atomistic approach ought to be modified.

### 3.3. Beneficent scenarios

There are a number of ways in which the Have-nots might benefit. The first variants considered are those where the Have-nots never gain direct access to HETs.

- (1) *Beneficent Scenario without HETs diffusion (BS-No)*: some fact of the social organisation allows benefits to ‘flow’ indirectly to the Have-nots. As such benefits obtain without the Have-nots ever gaining direct access to HETs.

In this case the ingenuity of the Have-nots allows them to take advantage of the new arrangement. Alternatively, something about the behaviours of the Haves serves as inspiration for the development of innovations by the Have-nots that advance their cause. Or, a not unlikely outcome, the Have-nots benefit directly from the Haves acting in self-

interested (e.g. the Haves work out a way to halt global warming). In this last cast in particular the Have-nots benefit by direct proxy of the Haves improving their own living conditions in measurable and indisputable ways, which was made possible only because of their having HETs. However, in each case one can assume the positive development in the lives of the Have-nots would not have eventuated but for the presence of HETs in the Haves.

(2) *Beneficent scenario resulting directly from HETs* (BS-HETs). Benefits to the Have-nots might follow from some obtaining mechanism of the HETs employed by the Haves, which inhibits or compels the Haves in ways advantageous to the Have-nots (who still do not have direct access to HETs).

Here the Haves might seek to change features of the Have-nots lives in order to improve them as a direct result of the HETs. In other words, something about the character of some HETs makes it more likely that the Haves seek out and implement changes that benefit the Have-nots. Keeping in mind, that some features outside of their control prevent them from simply turning the Have-nots into Haves (e.g. there are just not sufficient resources). Here a given HET does the majority of the work vis-à-vis producing the benefits for the have-nots. In other words, the character of the HETs in question might be more or less forceful. On the one hand they might simply dispose the Haves to act with more concern and charity for the Have-nots—should it be the case that as a result of a given HET that the Haves become more empathetic.<sup>25</sup> Yet, some forms of what is often referred to as “moral bioenhancement” (MBE) might do more than this, it might *compel* the Haves to act more morally (understood acting less egotistically and with more concern for others)<sup>26</sup>—this radical subset of BS-HETs will be referred to as BS-Compel. In BS-Compel, Haves gain enhanced moral reasoning and psychology that alters (and indeed confines) their behaviours with respect to others.<sup>27</sup> As such, the distinction between BS-HETs and BS-Compel rests on the degree of ‘voluntariness’ available to the Haves, with



the later truly and irresistibly compelling the recipient such that they have no choice but to care for others.<sup>28</sup> BS-HETs might simply involve some cognitive augmentation that negates those cognitive biases which favour self-interest (this, for example, could arise as a by-product of seeking more clear-headed critical thinking). In either case, the fact that the Have-nots are Have-nots, will need to be explained by some “hard” barrier to their gaining access to those HETs that they would find valuable—since the morally enhanced Haves would presumably feel compelled to get the Have-nots those HETs that would help them.

Yet, these scenarios each make it such that the Have-nots do not gain access. Clearly, this might not be the case; there may arise no “hard” barrier on the Have-nots not having access to HETs. Rather, the initial unequal distribution was simply a matter of chance, where the initial bestowment of the HETs worked only for persons with a particular genetic constitution (so not unlike the existing genetic lottery where some people are more fortunate than others). However, it may be the case that once the technology became available that it was possible to correct this initial oversight, such that the Have-nots could eventually gain access to HETs. However, these would have to adhere to existing limitations on such things, such that it takes time to test, develop, and distribute such HETs. Let’s assume then—as is presently the case—that it takes some years before the first Have-nots becomes Haves, and that many additional years are required for them to proliferate through the remaining population of Have-nots (and, indeed, that they may never *fully* disperse).

(3) *Beneficent Scenario with HETs proliferation (BS-Yes)*: Here the Have-nots eventually gain *some* of the HETs of the Haves, yet their diffusion is much the same as with existing technologies today—i.e. the wealthier (and wealthier countries) gain access and proliferation through the society first, and poorer populations enjoy them at some temporal distance.

It can be assumed that BS-Yes is the most realistic best-case scenario to follow from *Gift Scenario*, given that it mimics many features of existing societies. Of course, it might also be aided by variously compelling features of HETs in the Haves—but this need not be the case. As the same kinds of concerns would arise here as in the earlier case, these variations are not explicitly delineated. The key factor here is only that the Have-nots are not explicitly barred from gaining HETs. However, existing variations in the lived circumstances of individual Have-nots may, in such a case, also be assumed to have a marked impact on the kinds of HETs various members of the Have-nots eventually gain access to. Practical matters may result in the costs of HETs differing considerably, such that only the most affordable will witness significant diffusion while the more expensive (and possibly more impactful) HETs will only be available to an elite few. And even these may always linger behind the technologies employed by the original Haves who, as a result of longer access to enhanced states, have further enhanced themselves on the basis of insights their original enhanced abilities granted them.

There is, as such, many possible iterations of *Beneficent Scenario*. The variations provided above are not intended to be exhaustive, rather they serve as a way of roughly directing one to the kinds of concerns evidenced in the ethical debate on human enhancement. As such, they do a well enough job of illustrating the scope of available options and, in so doing, to provide a backdrop against which the discussion can proceed. The aim, it is important to keep in mind, is not however to explore these scenarios in greater detail and to, at the end, make the case for the moral acceptability of any of them and how they might be realised.<sup>29</sup> Rather, these kinds of scenarios—which, importantly, are all *prima facie* legitimate outcomes of the atomistic approach—are intended to set us in the right frame of mind for exploring the link between the atomistic approach and HEP. By skating between the various scenarios, the hope in section 4 is that some general insight regarding which kinds of concerns *should* feature in a valuable ‘approach’ to HEP will be gained that might identify limits of atomistic approach. Limitations that an improved approach might learn from and, thereby, forestall such problematic outcomes that undermine HEP.

## 4. Implications for the Human Enhancement Project

There is, in the case of BS-No, evidently good reason to prefer being a Have than a Have-not. Yet, barring this option, it seems plausible that many (if not most) people living today might nevertheless ‘choose’ to be a Have-not; perhaps even warmly welcoming it should it mark an improvement over their current lot.<sup>30</sup> Such improvements to their lives might follow as a direct result of the Haves having certain enhancements or by a voluntary initiative on the Haves behalf (i.e. the Have-nots benefit proxy as in BS-HETs and BS-Compel). Nevertheless, in either of these situations the lives of *all* people concerned are, therefore, measurably better (although to varying degrees). The atomistic approach would cheer on this outcome, so why shouldn’t one accept it?

It cannot simply be because there is an inequality in the distribution of goods. Rawls (2001), notably, disputed the base or inherent wrongness of such inequalities, arguing by way of the “Difference Principle” that some social inequalities are permissible provided that even disproportionate benefits to a distinct group (i.e. the Haves) also produce benefits to the worst-off members of society (i.e. the Have-nots).<sup>31</sup> This is assumed to be the case in the circumstances described. Note, however, that on Rawls account such differences are only justified if those benefits to the worst-off can *only* accrue as direct result of that unequal distribution. In other words, if the Haves were not permitted unequal benefits, the Have-nots would be in a worse position or would also not benefit (i.e. they do well *together*). The Difference Principle cannot, therefore, be employed to justify any inequality that happens to improve the lives of the worst-off but, instead, arises as a tool in non-ideal circumstances.

Grant then, in good faith, that this is the case here—i.e. that those improved global outcomes do follow directly from the Haves being enhanced. As BS-HETs and BS-Compel roughly indicated, there are several possible ways this might eventuate. Let’s assume

then that HETs allowed the Haves to appreciate the “big picture” more, to reflect rationally (not merely politically) about global issues and, as a result of the enhancements, be able to more effectively and reliably cooperate to address them. A simpler alternative is merely that the enhancement just become cheaper over time and, as with technologies existing today, diffuse throughout the population as a result. However, history informs us that new technologies almost always benefit the elite of the time period in which they arise first, and only subsequently “trickle-down” through the remainder of society (Buchanan, 2011).<sup>32</sup> Yet such diffusion is almost always slow and hardly ever complete (consider, for example, easy access to the internet, or more worryingly—given the longer time-frame—on-going illiteracy). Why should one expect the diffusion of HETs to be much different to other human technologies? Nonetheless, in non-ideal circumstances HETs might very well prove to be a crucial causal link for realising benefits on behalf of the Have-nots. In slogan form: “Enhancements for some, Benefits for all”. That is, even if the actual diffusion of HETs is delayed or ultimately not forthcoming. As noted, where the Have-nots (such as they are) benefit in some way by proxy, can be considered a ‘realistic’ outcome given its likeness to existing circumstances. Given all this, would one still want to say that the HETs have produced an undesirable outcome and should, therefore, be denounced or rejected?

Such a question, however, surreptitiously implies a position *not* yet argued for. In particular, no argument has yet been raised against HETs *per se* (e.g. that they should somehow be prevented or prohibited), nor that they could not produce good outcomes. Recall that the distribution of HETs in *Gift Scenario* was arbitrarily chosen and applied by an alien lifeform on the basis of genetic happenstance over which none of us has control. It does not follow automatically that simply because the exact benefits are not universalizable that all should be denied them. In fact, the intuition of many is likely to run in the opposite direction: i.e. the denying clear benefits to some on the basis that not all can have them seems not just non-sensical but itself would constitute an injustice. Such reasoning would give no person a wheelchair if not all people have also been granted them.

This of course does not mean one can wash their hands of the matter. The issue is of course dependent on whether some having them comes at a cost to others (e.g. should they gain from it some social standing and additional benefits or that those excluded lose some social status that causes them harms). These associated costs may, however, be a result of the social circumstances which will need to be reviewed and not (at least not necessarily) due to something about the HETs in question.

The pertinent point, therefore, is ascertain what it is about the approach taken to advance HEP that might result in undesirable outcomes and can they be avoided by adopting a different approach. For example, if the approach directs one to consider and bring about social circumstances whereby one's abilities had no bearing on one's status in society. What this suggests, however, is that there may be a salient distinction between what specific HETs themselves do and the impact they have in reality. By extension, this implies that there may be a gap between what counts as HETs and that which is constitutive of HEP. As shall become increasingly clear in the coming chapters, drawing the distinction in each case requires a thorough exploration of the given social context in which HETs unfold.

As such, the moral troubles that arise in all variants of *Beneficent Scenario*, can be seen as following from the 'narrow' calculus employed by the atomistic account to ascertain "good" changes: i.e. that it is only the HETs and what they do that needs to be considered in these cases.<sup>33</sup> In particular, it raises some sound that satisfying its various elements permit an endorsement of those HETs as a legitimate method for realising HEP. This is true even where HETs do create a benefit and people would elect the outcome; at least, that is, since the atomistic approach provides no requirement to consider if there are superior alternatives arrangements.

Due to the individualistic character of the atomistic approach, it grants no room for recognising the overall shape of the society entailed, tempting one, on the basis of just those confined metrics listed earlier, to prematurely champion all gains brought about by HETs as successes (i.e. vis-à-vis HEP) absent broader social consideration. Consequently,

one is able to legitimately advocate HETs even if they are unequally distributed (i.e. BS-No) and that one would be justified in doing so on the basis of the benefits of the Have-nots. This might produce the counter-intuitive conclusion that a party motivated to realise HEP can, on the basis of the atomistic approach, actively seek to realise something like BS-No—and do so, apparently, *because* they care about the Have-nots. Particularly, since it is unclear that anyone actually needs to care about them beyond the minimal way required to assuage the aforementioned requirement (i.e. that their lives are measurably improved—even by proxy). If all that is required to demonstrate that one cares about others is that they benefit and appreciate the benefit, this is an unacceptably low bar. Consider, for example, that it has been purported Jeff Bezos earns over US\$1,000 per second, and that it would therefore be a poor use of his time to pick up a dropped US\$100 note (assuming doing so had an impact on him earning money). Now imagine that a homeless person happens to come into possession of the neglected bill. Surely, their circumstances are improved (in a way they appreciate). Moreover, they would not have so benefited if Jeff Bezos had not been so exorbitantly wealthy. However, it would be absurd to argue that because we care about homeless people that we should make some people so inordinately wealthy and as careless with their money.

Recognise, however, that I am not therefore guilty of committing the ‘fallacy of relative privation’ (what is sometimes colloquially called the “children are starving in Africa” argument).<sup>34</sup> I do not claim that unless the bigger problems (i.e. of brute inequality and the bifurcation of society into Haves and Have-nots) can be solved that one should not acknowledge any smaller gains made (i.e. that people live subjectively better lives as a direct result of some HETs). Although we should certainly be suspicious of such placations when they appear to purely serve as a justification for maintaining the inegalitarian stratification of society in lieu of a genuine effort to arrange matters differently. Moreover, I do not claim that one cannot legitimately care about such things as increased quality of life while also worrying (even if to a lesser extent) that one has opted into a subservient class or that the Haves demonstrate only a rather minimal concern for one’s well-being.

Rather, my argument brings to light two related ‘leaps’ in reasoning that one should be wary of (and which might pertain if one relies on atomistic approach).

On the one hand, as the Jeff Bezos analogy demonstrates, one should not be fooled into thinking that the mere fact that good outcomes eventuate from the arrival of HETs that this is evidence that they were pursued for that reason. Nor that a primary concern for the Have-nots should inevitably lead one to endorse such a tactic (i.e. that in order to bring about those desired outcomes one *needs* those technologies). On the other hand, without an inclusion of the broader context in making assessments of the success of HETs, it is not obvious that by focusing on ‘small problems’ (i.e. amplifying the specific qualities which granted the Haves the ability to improve the world) one necessarily solves the ‘big problem’ (i.e. of improving the world). Together these erroneously assume both that correlation implies causation, in the first instance, and that the whole is merely the sum of its parts, in the second. These are flawed bases on which to make the follow-up claim that the specific HETs are turned to (and whose development and use is justified) expressly out of a *primary* care for the ‘big problem’—or are required for such an outcome. Such a result may just be a happy coincidence.

Particularly, since it is unlikely that the beneficial situation the Have-nots now find themselves in would not also have eventuated simply by them gaining the same HETs as the Haves (indeed they would have likely benefited more greatly).<sup>35</sup> Any hoarding of HETs by the Haves or restriction of the access of the Have-nots, would therefore have to be justified on the grounds that doing so produces overall better outcomes for them (i.e. the Have-nots). As such, any claim that universal distribution of HETs would produce an inferior outcome would need to be substantiated. Herein rests a key point against the atomistic account, namely, that such an argument would, undoubtedly, rely on features of existing (that is non-ideal) circumstances that will need to be built into the approach. For example, by expounding the realities of the existing global economic structure or the drastic changes to the “means” (read: “control”) of production that would be required. Yet, such an argument suggests *alternative* concerns beyond whether HETs—in

improving desired functionality —help realise a better world. I.e. Ones *not* included in the atomistic approach. Moreover, in order to make a legitimate claim to the effect that particular HETs are pursued with the proper ambition of HEP in mind, the claim would have to be a *comparative* one inclusive of the social context of the two states in question. In other words, to demonstrate that the beneficial outcome realised were *best* brought about through HETs rather than by some other changes to society. The onus, therefore, falls on those positing as much to justify why one should prefer to preserve those institutions at the cost of the benefits that could arise by changing them. Yet, the atomistic approach as conceived above seems poised to concede only to the status quo, rather than relieve us from it. Those genuinely concerned with HEP need to be at pains to avoid the same-old rhetoric that has produced the world we inhabit today from driving the enhanced future, and it is unclear that the atomistic approach does so.<sup>36</sup> As it stands the atomistic approach suggests a lesser concern for realising a better future than with illustrating that HETs could potentially help do so.

Of course, one need not be overly idealistic here. Indeed, realists are right to highlight that in practice it is likely to prove inescapable that a balancing of *competing* (i.e. mutually incompatible) concerns will be necessary.<sup>37</sup> One can grant the realist this much. They might, without malice aforethought, inspect the world we live in and conclude that, if HETs can do any good, that they will need to be able to do so despite unjust distribution.<sup>38</sup> In fact, as stated earlier, it does seem plausible that in practice many people would *still* elect to be the Have-nots in *Beneficent Scenario*. While they might not do so explicitly when presented with the final outcome, they might nevertheless do so as a result of wanting the ‘small’ gains which are granted to them as mollifying gestures by the Haves. This is likely to transpire simply because people *do* live in non-ideal circumstances and this has the consequence of *warping* their thinking about what it means for our lives to improve. Specifically, they are likely to over-acknowledge the immediate benefits accrued as a result of changes in their lives and to focus narrowly on that advantageous transition from our isolated previous status quo, while neglecting the larger framing of such



outcomes.<sup>39</sup> Indeed, for those struggling in the world, one can hardly begrudge them if they take while the getting is good.

The point, however, is not to deny persons agency in making such choices or to rebuke their having such preferences. The point is to make their lives better so that they are not forced between accepting “crumbs” or “nothing”. The problem that is being tracked with this point is not that individuals are flawed but rather that the atomistic approach hinges *entirely* on these flawed and manipulatable individuals, as the nexus points for deciding what is to count as making for an improved set of circumstances, without including some metric that assesses the status quo. The problem, as such, is that what constitutes as an ‘improvement’ in the atomistic account relies overly on the isolated preferences of individuals while overlooking that their choices are constructed in reference to a world there may be good reason to challenge or reform. The comparison being made that allows individuals to prefer and to ‘freely’ elect the outcomes in BS-No is, in a sense, a false dichotomy.<sup>40</sup> One that forces a choice between only two deeply flawed states of affairs while neglecting the possibility of alternative options (e.g. that there might be a different arrangement vis-à-vis the distribution of HETs or that they might not be required to improve their lives at all). As already occurs in our highly unequal and profoundly unjust societies, one might of course reconcile one’s choice by finding solace in the gains made (i.e. overemphasising these in ones justificatory self-narrative and ignoring the larger concerns). Chalking up the gains and how much better life is, while ignoring that the new conditions inhabited are still deplorable and could potentially have been different.

As such, a focus on the various discreet improvements made, even when emphasising the legitimate ways that people’s lives are better as result, might not (in the conditions described) be indicative of a genuine *care* for people’s lives or for wanting a better world for *them*. Rather, the atomistic approach betrays a concern mainly for HETs themselves and should placate only those whose sole wish is that HETs made things better: a technophiles self-congratulatory pat on the back at having “made a difference”.<sup>41</sup> Is

this too harsh? After all, the actions of the Haves in all the *Beneficent Scenarios* result in people's lives improving and those who experience the betterment genuinely feel their lives are improved, so why must I "rain on their parade"? Again, it helps to be precise and keep the various claims here distinct: no part of the admonishment challenges that people's lives in fact got better, nor that that improvement is positive, nor that they would have good reason to want such a transition. Neither is it disputed that it might be rational for many people to welcome the enhancement project even should it dissolve into one of the various *Beneficent Scenarios*. Nor are any implications regarding the permissibility of such HETs traced out.

The point, rather, is that these situations can be condoned (and indeed actively pursued) by the atomistic approach without demonstrating or requiring an explicit and robust care for the overall lives of the people concerned becoming enhanced. This, it has been argued, is the primary ambition of HEP—which, one must therefore consider unrealised. Rather as the *Beneficent Scenarios* tick the boxes of the atomistic approach, it seems to accept a scenario whereby, so long as legitimate goods arise for all (not matter how perfunctory), that it is sufficient that it depends the goodwill of the Haves. It is akin to considering the securing of charities or foreign aid as indicative of a good-faith concern for the receipts of such good-will. Certainly, perpetual reliance on charity (or foreign aid) is preferable to having no such assistance, but far from ideal (e.g. where those persons are self-reliant and not requiring aid in the first place). Or, more pointedly, like slaves who preferred life with one owner (who did not physically abuse them) over life with a previous owner (who did). Certainly, such slaves may acknowledge that their lives have improved. What kind of preference is this? As such, there is something morally pernicious, even perverse, in taking up a position which advocates the shift from brutalising owners to 'caring' owners (for all slaves!), rather than championing the abolition of slavery in its entirety. Similarly, one cannot therefore sell the atomistic approach as a good-faith approach to realising HEP.

And if this is not the primary aim of the atomistic approach, then one should not mince words, extolling the ambitions of HETs in terms of bringing about a new and improved world (i.e. advancing HEP), all the while tying one arm behind one's back, tainting an otherwise inspiring goal with the addendum "without destroying existing social structures," or more pointedly, "so long as it also helps the best-off." Such placations would, in other circumstances, be indicative of a rather resounding conflict of interest. Instead, so long as we are still operating in the speculative realm (as is still the case when speaking of HETs), one should rule out from the outset that possibility of fundamentally changing the world? In fact, this ought to be primary aim. However, if one adopts this aim as central, then the atomistic approach will need to, in the very least be amended; but more likely, it will need to be replaced entirely.

## 5. Amending the Atomistic Approach

The exploration of the various *Beneficent Scenarios* has, so far, demonstrated that it is possible to construct a highly questionable state of affairs that nevertheless produces benefits for the people impacted that would lead them to prefer those circumstances. As such, one would, on the atomistic approach, be able to recognise such transitions as constitutive of HEP. In fact, on the atomistic approach one could explicitly aim for such an eventuation (i.e. from the outset) and defend it as a legitimate manifestation of the human enhancement project. Yet, to conclude that, for example, any version of BS-No embodies the ambition to bring about a better future, is surely to endorse a much pithier conception of what was initially intended—and which made the original idea of human enhancement outlined in the introduction appear so exciting. There is, as such, cause to challenge the limited criteria of the atomistic approach as not being ambitious enough—and, as a

result, that it is not the best approach to get the most out of HEP. However, can it be saved? Will some minor reworkings of the defining tenets suffice? This is the topic of this section.

A common feature of the criticisms in the previous section was that there is need to expand the focus so to include elements beyond just the details of the HETs themselves. In particular, it was suggested that a feature capturing or including the broader *context* (understood at this stage still rather generally) surrounding their use seemed pertinent. While, a full accounting of what would be involved in a thorough “contextualisation” of HETs is the primary focus of the next chapter (i.e. Chapter Three), there might be some strides made towards this that nevertheless maintain the defining character of the atomistic approach—namely, that HETs are an especially good tool for realising HEP. Recognise, however, the call to incorporate “context” into the atomistic approach is, simultaneously, a call to reduce the “individualism” overemphasised in it. As noted in section 2.2. above, there are (at least) two ways in which the atomistic approach is “individualistic”. One was that it focuses on *individuals* (as opposed to collectives) and the other was on changing their functional capacities by way of HETs as particular potent kind of tools for making such changes (as opposed to other more traditional forms of training or education). This of course provides two obvious ways in which to expand the atomistic approach. I will consider them each in turn, starting with the latter.

### 5.1. Shifting focus and/or means?

As the key element of the atomistic approach is its focus on HETs, it would seem that this cannot be removed without fundamentally redefining it.<sup>42</sup> It nevertheless is important to understand what is involved with this form of individualistic focus, as doing so might highlight where there is room to “bend” this defining ingredient and—should there appear no leeway—to have some initial grounds for considering an altogether different approach. To be clear then, this form of individuals considers the kind of change being

made (i.e. to functional abilities) and the means employed to do so (i.e. HETs). This singular focus has two ‘faces’—that it is *individual* capacities that need to change and that HETs are *the* tools to be utilised to that end. The reason they run together is that HETs are designed—as per the ‘common definition’ (see p. 4 above)—to alter the physiology of individuals with the intention of liberating them from existing functional limitations. HETs are, therefore, considered the supreme means of changing functional abilities.

An immediate problem that arises here, which underscores some of the concern regarding context raised earlier, is that this the focus immediately cuts off alternatives for realising the stipulated ambition of HEP (i.e. that human lives are enhanced). In other words, it may be the case that part of the reason we previously ran into a need to look *beyond* the HETs being employed (i.e. in section 3 above) is that more may be involved with and individual’s life going well than simply that they gained a given ability. Indeed, significant parts of making a person’s life go well might have nothing to do with their individual abilities. If these ‘other’ features are important, this suggests that there might be different (possibly more salient) matters one might directly focus on in order to improve the lives of *individuals*. To wit, one might then look to the intimate details of an individual’s life and ascertain what might can be done to improve their life and one might be surprised to learn that some key facets (in their view) do not involve particular abilities. For example, a person may wish to have grown up in a different country, one with a welfare state, or higher standards of living (such as universal free access to higher education) that would have supported their life goals.

To the extent to which their desires did coincide with functional changes, this shift in perspective suggests that one ought to look more closely at the individual’s life (rather than jumping immediately on the possibility to amplify abilities) to understand why such changes are thought by them to be valuable for improving their life. Upon doing so, one might discover that (1) there are alternative means for achieving the same *goals* that do not run into the larger problems identified with persons having and not having HETs, or (2) that there are alternate means for achieving the same (or similar) functional

improvements. For example, in the first case their desire might be rooted in a belief that HETs might net them a greater income or reduce the length of their typical work week. If this is the case, changes to such things as economic norms concerning daily output, laws concerning remuneration, and practice concerning work hours and overtime, might be considered as possibly able to produce the same benefits in that individual's life.

Now of course, there may be additional knock-benefits that come from HETs, but it would appear that at least *some* of the benefits can be mitigated in other ways. Similarly, the same might be said in the second case: perhaps the ability offered is uniquely accessible via HETs (indeed this is what is required by the 'common definition' to count as a HETs). Yet, the fact that they offer such relative greatness does not mean that this is what is needed for the benefit to the individual to be "maxed out". As such, this prompts a need to investigate whether the utility of some functional improvements might "plateau" at a certain point (possibly even before they reach the highest attained measure by a human)—such that additional gains offered by HETs do not further improvements in a person's life. In this case, it does not credit HETs further that they are able to provide such amplified ability. In such cases, it might make sense to provide the individual with the necessary education, training, diet, etc. to permit them to improve in those ways up until the limit. And, indeed, this might also have knock-on benefits beyond the pure abilities gained given that it will involve a change in their lifestyle.

Certainly, it may be the case that only the kinds of radical functional changes promised by HETs are capable of improving a person's life, but this is far from obvious. As such, the atomistic approach immediately endorses a kind of tool that advocates only "elite" changes as capable of improving significantly a person's life, and this appears to be in need of further qualification. Further, it raises the legitimate question of if there are and functional goods whose enhancement beyond present capacities of the human race would actually result in greater benefits of one's subjective experience of their lives. Consequently, these points suggest that a higher onus with respect to criteria (1) of the

atomistic approach could be installed, such that HETs are *only* resorted to if *comparable* gains cannot be granted by other means.

Such changes to the atomistic approach, would serve to greatly limit its applicability. As it would seem to only arise in those cases where HETs are truly uniquely positioned to contribute to some kind of individual gain. Accordingly, even while the earlier concerns raised will remain in these cases (they haven't been resolved), they would only arise in a smaller number of possibilities (and the focus on individuals and HETs has not been lost). Yet, this raises a final point of concern. Namely, that what we are left with are examples of extreme—largely unknowable<sup>43</sup>—kinds of potential goods promised by HETs. This desire for the “beyond”, however, might also drag the atomistic approach away from HEP. Yet, in this case it might make sense to see the atomistic approach has having its own value and to detach it from HEP (although this will cost it considerable moral weight). While it may no longer be primarily geared toward HEP<sup>44</sup> it evidences something of its own value: namely, it evinces a fundamental and driving human desire to push our limits and to discover what sits outside the presently known. This is admirable in its own ways: like the sailors first setting out for the new world (possibly not foreseeing or fully grasping the horrors of colonialism they would set into motion). Likewise, this promise is open to any takers—but then this would be pursuing an entirely different conception of HEP than was adopted at the onset of this inquiry.

## 5.2. Including the “social”

As was just illustrated, attempting to amend the second kind of individualism in the atomistic approach, stretched it almost to breaking (and overhauling a focus on functional improvements or the use of HETs would render it obsolete<sup>45</sup>). However, amending the first kind of individualism may show more promise (i.e. reducing the primacy of the individual as the judge and beneficiary of HETs). This would involve shifting the focus from satisfying the preference of individuals to including (in some way) the *collective*

perspective. As such the atomistic approach could maintain both its focus on those functional capacities of individuals (i.e. as the root of the human lives going poorly) as well as on HETs as an invaluable tool for changing these. The main thrust of the atomistic approach that HEP (i.e. a desire to improve the overall situation of human existence) can be realised by functional changes to individuals. Yet, what is to be altered, is that the kinds of HETs considered only be those that do not *only* have individual benefit but, rather, are also socially advantageous. Criterion (2) could then be modified so that the possession of HETs coincide with gains not only to an individual's life but that (in the weakest form) have a reasonable expectation that they could produce gains for others—although, as shall become clear, a stronger sense will most likely be required. Accordingly, criterion (3) would also be amended so that not only do individuals have a good reason to want such HETs, but that society has a vested reason to permit them (this is *key* and suggests why a stronger sense of social benefit might be needed).

Of course, not all of this kind of individualism is avoidable. Indeed, it is in a real sense *inescapable*, since HETs need to have a target (i.e. they must be applied directly to a distinct individual). The focus of HETs (at least in terms of application) is, therefore, still the individual. There is no alternative, no distinct pluralistic entity (e.g. “society”) which can have an enhancement applied to it. Indeed, when one starts to think of society as its own entity that can generate demands on individuals, one starts to drift ever closer to that dreaded notion of “eugenics” the enhancement debate has been at pains to distance itself from.<sup>46</sup> What one likely has in mind when one thinks of a “social enhancement”<sup>47</sup> are either those improvements to individuals which are likely to have a social benefit or those kinds of individual HETs that are universally valuable (i.e. all members of society would benefit from having them). In the latter case the ‘social’ here is, as such, merely an aggregate of individuals, and therefore the benefits are those gained by individuals, which, if others had a mind to, would also grant them benefits. The first case suggests something slightly different: namely, that there are categories of HETs that might produce benefits generally to members of society (even those who do not have HETs). One



might, for example, think of an individual who digs a well on their property and grants their community access to it. This, of course, begs the question of whether there are such HETs that are beneficial for social writ large and in what way this might be the case.

An oft proposed (and indeed exceedingly popular) HETs that might do the trick, is that what the literature sometimes calls “cognitive neuroenhancement” (CNE). CNE are interventions into the human brain that amplify a variety of desirable cognitive functions (e.g. memory, concentration, processing speed, etc.). The individual benefits of CNE are, to many, likely to appear obvious: with these one would be able to excel at many of the tasks one presently sets one brain to and would be able undertake further enjoyable activities one perhaps shies away from as presently too intellectually demanding. Yet, there might also be social (understood here as “being social”) benefits that might arise from CNE. For example, better memory would allow one to recall the personal details of others better (or even just one’s appointments with others) that would enable one to be a better friend and enliven one’s relationships with others. There might be also be social (understood here as “being a good citizen”) benefits from greater intellectual vigour. For example, one is able to understand and see through political rhetoric that enable one to be a more informed voter. Finally, one of the features which make CNE exciting is the fact that one is able to *do* new things with it; and some of these might be have great social (understood here as “of collective utility”) value. For example, one way in which a person directs their mental energies is to “solve problems” or to “innovate”. In each of these cases, with the benefits of CNE, one would be better placed to resolve issues of collective import or to develop novel technologies that help others in a variety of ways. Consequently, introducing a “social” caveat of the kind proposed into the atomistic approach might direct one to only these kinds of HETs.

However, one may one to be cautious in reflecting on such HETs that one not conflate the happenstance improvements in the social domain as evidencing a primarily pro-social character of HETs whose direct benefits remain overwhelmingly with the individual recipient. Well it may be the case that an individual would seek out CNE with each of

the social aspirations just highlighted in mind, they certainly need not. In the case that there are still massive inequalities in access to such HETs then the social dimensions listed can just as easily be explored to morally suspect ends as they are to pro-social ones. For example, by equipping people with the means to manipulate others or advance their own individual causes (e.g. through their inventions) (Hauskeller, 2013a). There may yet be forms of HETs that are *primarily* of social benefit.

Two possibilities are “mood enhancements” (ME) and, the incredibly topical proposal mentioned briefly earlier, “moral bioenhancements” (MBE). The reason why these are directly social forms of HETs is that they seek to make individual “good” (in the moral sense). As such they look to alter the behaviours of individuals in explicitly pro-social ways (or at least to inhibit them from anti-social behaviours). For example, ME might make persons less prone to violence and aggression, while MBE might reduce egoism and amplify empathy and the concern for others.<sup>48</sup> As a result of these people will behave in ways that benefit society generally. While it is less clear that these ought to count as HETs (a question picked up again only in Chapter Six) or that individuals would elect these for individual reasons, there is at least one sense in which individuals do gain from such enhancements. Specifically, acting pro-socially is generally a good tactic for gaining other advantages and avoiding distinct disadvantages. For example, being more empathetic might endear one to others and therefore help one gain more friends, while being less violent will prevent encounters with law enforcement and the individually restrictive punishments they are likely to extol.

The point here, however, is not to make the case *for* these forms of HETs *per se*, but rather to illustrate that there are HETs of a decidedly more social lean, which might be made the focus of the atomistic approach. In other words, where advocates of the primary HETs considered in the mainstream debate, have largely done an excellent job in illustrating why those particular HETs would be good for ‘you’ or for ‘me’ in an isolated and abstract sense, they have done a less good job of demonstrating why an overall shift to the post-HETs world would be better for all concerned (Agar, 2007). The primary

problem with restricting our reasoning in this way (i.e. where the ball is delivered into the individual's court, so to speak, to decide if they would in fact benefit), as was illustrated in the lengthy exploration of the so-called *Beneficent Scenarios*, is that these values are so dependent on the circumstances of the individual in question. These then raise a bunch of red flags regarding their potential to actually advance HEP. Consequently, even cases where one's gaining a HETs result not only in others not being harmed but in their gaining some proxy benefit, it is not clear that what has eventuated are circumstances one would champion as consistent with the strongest ambitions of HEP. By adopting the kinds of social shifts just hinted at, this might be corrected—and, subsequently, grant advocates of HETs (and by extension the atomistic approach to HEP) a stronger leg to stand on.

Ultimately, these more “social” HETs just suggested, might be able to satisfy the “collective” viewpoint. In other words, it may prove possible in these cases to illustrate why ‘we’ (i.e. collectively) should endorse the shift to the post-HETs world (namely, because it could in these instances be recognised as aiding HEP). Consequently, the idea that it is necessary to include the “social” in a robust consideration of HETs will, moving forward, be referred to as “the social inducement critique” (SIC). As the name suggests, the idea is that, in expounding the benefits of HETs, it is important that these are able to “induce” a collective to accept their use and possible proliferation through society. In the case that the collective is so satisfied, there would be greater *prima facie* reason to think that the improvement offered by the HETs in question contributes to the general improvement of human life (i.e. coheres with HEP). This follows from the fact that if one were able to situate themselves in a future world that *indubitably* embodied HEP (i.e. each human life was enhanced; flourishing in a way that it did not previously), then every change they would note would be one that would be endorsed by the collective viewpoint. Minimally this requires only that in when positing and reflecting on potential HETs that the collective viewpoint be added to the consideration alongside that of the individual, and, in doing so, to be able to say in good faith that the HETs utilised can be employed

genuinely for a direct collective benefit—so rather than such benefits being a mere outside possibility or by-product of their use. Illustrating as much would, of course, require understanding what the motives are for using such HETs and attempting to situate them in the world wide large to anticipate how they might be deployed.<sup>49</sup>

Rather than simply illustrating in an abstract way that a discreet person might benefit from and have reason to endorse a given HET, demonstrating why society might endorse it will involve a greater accounting of the status quo so that relative shifts prompted by the arrival of HETs can be properly appreciated. In the case that the changes HETs instigate relate not just to individual experiences and abilities but to the shared conditions of human lives as they relate to one another in the public domain, that the collective would be more inclined to endorse them (i.e. for SIC to be met). In Chapter Three it will be argued that one can get out of this seemingly over-demanding stipulation simply by demonstrating a genuine concern for the lives of others and undertaking a good faith attempt to improve them. That is, by making HEP the primary drive of inquiry rather than HETs.

## **6. Conclusion**

This chapter started by outlining the dominant view evidenced by pro-enhancement authors in the established debate on human enhancement: i.e. that creating better humans will produce a better world. This view was labelled the “atomistic approach” because it embodies to forms of individualism. On the one hand, a focus on individuals as the targets for interventions and as the final judges on the merits of such interventions, while on the other hand, it focused solely on a singular feature of such individuals (i.e. the functional limitations) and therefore on one kind of tool for enhancing the abilities of individuals (i.e. HETs). Ultimately, section 2 outlined the various criteria that comprise the atomistic approach by spelling out what the premises it would need to endorse if it were to hold

that such an individualistic focus is capable of realising the ambitions of HEP (i.e. the enhancement of human lives).

The ‘atomistic approach’ suffices to capture all the kinds of HETs that are regularly proposed in the debate by the so-called “transhumanists” and other pro-HETs factions. Indeed, those HETs that could be proposed on this view (i.e. super-strength, speed, or intellect) appear (at least to the uninitiated) as *obvious* cases of enhancement. The atomistic approach also captures the kind of view of such HETs they must have, if they are wont to champion such HETs as publicly desirable (or at least that they should be permissible on liberalist grounds). It does, as such, possess an intuitive *descriptive* strength. However, it is when these are attached to the idea that they make human life better (i.e. the primary ambition of HEP) that the account became increasingly strained.

Consequently, section 3 argued that the atomistic approach runs in to considerable troubles in practice. Particular, it did this by constructing a range of hypothetical “scenarios” where it was possible to realise any of the HETs present defended in the debate. However, while each scenario was shown to satisfy the requirements of the atomistic approach, their outcomes were such that one would either want to reject them outright as undesirable or, in the best case, as rather lacklustre illustrations of what could have been hoped for in HEP. Stated plainly, such outcomes did live up to the brochure (to speak)—i.e. the promise of HETs outlined in the introduction.

In section 4 the troubles highlighted in these scenarios were shown to stem from two primary ways in which the atomistic approach is individualistic. As a result of this individualism the kinds of claims to the good one can make regarding HETs were rather limited, as such it was unclear that they did in fact track features pertinent to human lives going well. Accordingly, reason was provided to resist both forms of individualism evidenced in the atomistic approach, as they together risk sub-optimal outcomes. Particular, it was argued that they do not account for (or make sufficient room to include) such things as the influence existing and concerning forms of social organisation—as evidenced in the various *Beneficent Scenarios* explored in section 3, which were themselves

already charitably idealistic iterations of what is likely to transpire in actuality given existing social structures and inegalitarian distributions of goods.

As a result, section 5 looked to amend the atomistic approach by inducing socially oriented caveats that might serve to counterweight its overemphasis on the individual. Ultimately, while replacing the focus on functional limitations in human beings and the use of HETs to amend them would negate entirely the point of the atomistic approach, a consideration of this possibility highlighted the value of including into a more robust approach to HEP features disconnected from individual abilities (and, therefore, of HETs to intervene in). This idea will be picked up in the next chapter. The alternate tactic considered—namely including consideration from the collective point of view—similarly revealed ways in which the atomistic approach might forestall some of those undesirable outcomes from eventuating. However, balancing the desires of the individuals against the those of the collective, it was argued, might significantly erode the number and kind of HETs that might plausibly be pursued under the atomistic approach. Yet, the turn to the social perspective emphasised the need for a proper accounting of status quo. This, again, will prove valuable in the next chapter, constituting a possible metric on which the atomistic account can be improve upon.

However, accepting the amendments to the atomistic approach the scenarios considered highlighted a need for is likely to prove far too constricting than advocates of HETs would be prepared to accept. However, the reason such a limiting account resulted was from an effort to hold onto (at all costs) the key tenets of the atomistic approach. There is, of course, an obvious alternative. Specifically, I mean that there is a way in which all the HETs advocated in the debate could be realised *and* be consistent with HEP—namely, if the world we lived in were very different to how it presently is. It is this fact, perhaps more than anything else, that highlights the crucial way that the atomistic approach misses the mark. All of the troubles highlighted in this chapter arise from the non-ideal circumstances (to put it euphemistically) of the obtaining world. However, I contend, that in Utopia, where human lives were different in almost every way to ours

presently—e.g. their needs and wants were catered for and they were each already flourishing such that they were considerable further along in having realised the ambitions of HEP)—that the liberalist hopes for HETs captured by the atomistic approach could prevail. Specifically, everyone could have and use any of the HETs that satisfy the atomistic account they found most consistent with their continued flourishing. This suggests that the problem resides not with HETs per se, but with the broader features of the world we live in. Consequently, it seems prudent that one at least seeks to understand what features of our lives presently hinder HEP and to ascertain what might be required to correct these (noting that these might have rather little to do without abilities as individuals). Indeed, in Chapter Three it will be argued that since we must contend with the non-ideal realities of the world, that this represent the best starting point for developing HEP (and the tools that will facilitate its arrival).

In sum, this chapter provided a *prima facie* case for challenging the character of the atomistic approach by raising doubts over the kinds of outcomes might result from them and suggesting that these would run contrary to the spirit of HEP. The more constructive element of the chapter, then, concerns the extent to which it highlighted the need to introduce robust contextual elements into the consideration of mechanisms seeking to advance HEP. In other words, it suggested that if the enhancing of human lives is the primary ambition then, rather than focus solely on the enhancement of isolated individuals, it might prove more beneficial to focus on the obtaining features of the broader social context such individuals presently find themselves in. This of course raises significant doubts over any claim that the kinds of things with which HEP ought to primarily concern itself are confined to the amplification of human bodies. Together this provide considerable fertile ground on which to develop an improved approach to HEP. This is the task with which Chapter Three will concern itself.





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## Chapter Three

# THE EMBEDDED APPROACH

*The “socially embedded” character of human life and  
why social context matters for enhancing it*

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### 1. Introduction

Before proceeding with this chapter in earnest, it is absolutely vital that one keep the primary concern of this inquiry: namely, that there is an apparent ‘gap’ between the promise of particular human enhancement technologies (HETs), on the one hand, and the idea that world resulting from the use of those HETs might rightfully be called an “enhanced world”, on the other. The discrepancy, of course, is that it is not obvious that the world realised through HETs would be better in a meaningful way (at least in the broad sense).<sup>1</sup> Concretely, it was posited, that should the world look largely as it does now, albeit that humans now have variously amplified abilities—where the prevailing likeness to the present produces variations in the ‘potency’ of those HETs that track existing

differential access to goods—that this drastically undersells the initial promise of enhancing humanity; that is, *even if everyone* obtains enhanced *abilities* relative to the present.

Plausibly, this (enhanced) world might suffer from the same kinds of ailments that presently plague this one; possibly because, as Young (1990) has educated us, many of its evils are not reducible to individuals (and therefore not touched upon by HETs). For example, should HETs have no impact on the inegalitarian global structures and distributions of power and influence, then the enhanced future does not appear to be a more just place (at least on these metrics) and would, presumed, permit one to challenge the status of that future as “enhanced”. It is for this reason that the pursuit of HETs be explicitly connected to an ambition that they help produce a world that one has greater cause to label as “enhanced” in a robust sense. Accordingly, it was argued that “the human enhancement project” (HEP) adopt an ambition to bring about a state of affairs wherein the *lives* of humans are enhanced (and not their bodies). In other words, were one to look again at that future enhanced world filled with the super-abled, that one would also recognise that its inhabitants are “flourishing” (i.e. as espoused by Kitcher (2017)). One would do so, for example, if it appeared that they were no longer shackled by those same variously oppressive regimes.

Of course, it may be the case that HETs played a decisive role in this outcome. This is certainly what advocates of HETs seem to presume will transpire: i.e. that HETs are directly able to help enhance human lives in that way. It was this gambit that gave rise to the atomistic approach explored in the previous chapter. To test this theory, Chapter Two considered a case (i.e. *Gift Scenario*) whereby those HETs presently advocated in the existing debate became practicable. Yet, it was demonstrated that a range of undesirable outcomes (i.e. *Restricted Access Scenarios*) were able to satisfy the full criteria of atomistic approach—and, therefore, cohere with reasoning that has resulted in most existing proposals for HETs. Such suboptimal outcomes followed from the relative simplicity of meeting the defining requirements of the atomistic approach that HETs need only amplify

those abilities the recipient would conceivably benefit from (and would, therefore, consent to). This inherent individualism, which gave the atomistic approach its name, greatly restricts the possibilities for meaningfully enhancing human life. In particular, because the atomistic approach lacks any requirements to investigate, and situate, HETs in the broader social context of their use. As such, the atomistic approach appears *descriptively* weak, since, the kinds of things it chooses to focus on, taken together, are not able to consistently *describe* what is involved in the legitimate realisation of HEP. Ultimately, the chapter concluded by positing the need to add a “social” caveat to offset the rampant individualism of the atomistic approach, one which would direct it to consider those relevant contextual features that might be embroiled in HETs producing undesirable social outcomes.

In particular, it was argued that adherents to the atomistic approach look to overcome what was called the “social inducement critique” (SIC). In short, SIC demands that—in articulating the value of a given HET—the atomistic approach aim to illustrate not only why *specific* individuals would benefit (which the transhumanist literature, for example, has done an excellent job of) but why there might be *collective* reasons to endorse the arrival of such HETs. Consequently, one was directed to look beyond what the HETs in question *do* for a given individual and to reflect on how they relate to broader *context* in which they would operate. Of course, the ethical debate concerning HETs (particularly those generally against the idea) has substantially occupied itself with spelling out the potential complications of those HETs for the broader social community—what Buchanan (2011) refers to as “unintended bad consequences”. Yet, as shall become clear throughout this chapter, this represents only *part* of what it means to consider the context. Moreover, the conclusions of such ethical considerations are typically merely directed back against the HETs (i.e. as the fulcrum of the ethical problem) rather than being employed to improve the ambitions of HEP (as it will here be argued they ought to).

Consequently, Chapter Two is taken to establish a *prima facie* need to identify how HETs fit into and are influenced by extant features of society. Yet, such contextualisation would seem to require an approach to HEP that is decidedly different to the atomistic approach. And, as was illustrated in Chapter Two, there is only so much manoeuvring it can endure. As such, section 2 will look first to what kind of contextualisation the atomistic approach might incorporate into itself without redefining its primary character. To this end, given that many of the features that made the explored scenarios “undesirable” involved (by design) *restricted access* to HETs, an obvious starting point is to add some reasonable distributive criterion to their number. As it represents the most robust distributive proposal in the literature to-date, the “Global Institute for Justice in Innovation” (GIJI) proposed by Buchanan et al. (2011) will be considered. Should this prove consequential, proponents of the atomistic approach may be able to avoid requiring more complex contextual considerations involving such things as the balancing of individual desires and accounting for the vast variations in individual circumstances. Section 2 will, therefore, consider whether, and to what extent, ensuring equal access to HETs will alleviate some of the concerns highlighted in Chapter Two. Noting of course that, in actuality, ensuring universal access is by and large a pipedream.<sup>2</sup>

A nuanced investigation into matters of distribution, it will become clear, highlights features that go beyond the mere division of goods and directs a consideration of the kinds of goods that are *available* for distribution in the first place; and, therefore, what it is about a particular set of circumstances that either prompts or hinders specific kinds of developmental processes and outcomes. Ultimately, it will be argued that these aspects of the distribution problem in fact serve to identify additional features of the social context that are salient for both a good faith response to distributive concerns but also for advancing HEP. As such, section 2 is primarily concerned with teasing out a possible means for the atomistic approach to account for the social context of HETs and argues why addressing distributive concerns alone are insufficient to rectify the deep shortcoming of the atomistic approach. However, working through these considerations will

provide invaluable insight for developing an altogether different (and improved) approach to HEP: namely, “the embedded approach”. Consequently, those interested only in what the “embedded approach” has to offer can skip direction to section 3 (starting on p. **Error! Bookmark not defined.** below).

The embedded approach overhauls most of the tenets on the atomistic approach. Primarily, it challenges the pre-reflective idea that merely overcoming the functional limitations of individuals will improve their lives. Rather, it starts from a desire to understand the details of a human life in the fullest sense possible, so as to uncover the *particular* needs of a given human life, which are to direct how one might best cater to them. This guides the embedded approach in two ways. First, it sets out—in pragmatic fashion—from the notion of specific problems. In other words, it looks at the actual experience of people (“on the ground”, as it were) in order to ascertain what about their lives can be improved on such that doing so would enhance their lives in some particular way. Second, and from which the approach derives its name, it proceeds on the idea that both the way in which human lives go poorly (i.e. has “problems”) or well (i.e. is “enhanced”) as well as the kinds of choices such individuals make (e.g. whether or not to use a particular HET) are the result of how that they are *embedded* in a fuller and organic social ecology. This notion will be spelt out by drawing on a range of sources; from Dewey’s social psychology (particularly his notion of “habit”)<sup>3</sup> to Bourdieu’s “reflexive sociology”,<sup>4</sup> as well as more recent literature in public health ethics expounding the importance of the “social determinants of health”. Once one vacates the idea that human flourishing can be reduced to individual functioning and substitutes in a more robust appreciation that “no person is an island”—meaning each individual is constituted not primarily by their particular genetic make-up but, rather, by their *relations* with others and how they are situated in a particular social community—the entire idea of what is to be done to enhance a human life necessarily shifts.

## 2. The Issue of Distribution

### 2.1. An *ad hoc* concern for distribution

Recall (from Chapter Two) that on the basis of the atomistic approach it was possible to include deeply problematic ‘enhanced’ future scenarios—e.g. those *Restricted Access Scenarios* wherein some benefit only indirectly from an ‘elite’ faction of society gaining actual possession of HETs—as consistent with HEP.<sup>5</sup> In fact, under the atomistic approach such an outcomes could legitimately be *actively* pursued. At best, one ought to consider such outcomes lacklustre or underwhelming conclusions to HEP (despite their likeliness in practice). Although, more accurately, one should treat any approach that results in such outcomes as highly suspect, since it suggests that it has washed its hands of the issue of whether HETs might perpetuate existing unjust social arrangements. Perhaps one might write this off as some form of realist defeatism, whereby it assumed the world would always be unjust and, therefore, one might as well add those things to it that do some good. However, it seems that it is not yet the time for such placations or concession as there are surely more ambitious enhanced futures one might still pursue.

It was with this in mind that the need to look beyond the specifics of the given HET themselves and out to the broader social landscape in which they might arise appears prudent. In the very least out of a hope that this might help keep the atomistic pursuit of HETs “on track”—i.e. vis-à-vis bringing about a world consistent with the ambitions of HEP. Yet, even in accepting this argument, some confusion over what is supposed to follow therefrom might remain. One might, for example, draw the quick (and reasonable) deduction that since the concerning thing about those undesirable scenarios was the distributive issues, that the supposed troubles of the atomistic approach might dissipate once those distributive worries are alleviated. As such, one might be tempted to think that taking the argued for social context seriously merely (and only) means to be aware

of issues of distribution or to install mechanisms that address them. Clearly, advocates of the atomistic approach are likely to be drawn to this tactic as it poses the smallest threat to the other features of their account. As shall become clear, however, merely “tacking on” a distribution-sensitive criterion—as it were “after the fact”—does not sufficiently appreciate the social context and, as result, fails to rescue the atomistic approach.

Nevertheless, distributive issues are, indubitably, important. Anxiety over distribution in an enhanced world is clearly warranted and represents a foundational pillar of the ethical debate on HETs. If HETs are accessible only to the wealthy then they are likely to drastically exacerbate inequalities in a wide number of social, economic, and political spheres is a well-trodden path.<sup>6</sup> This fear is only compounded when one reflects on how HETs might arise in practice (i.e. as the result of existing practices in technological research and development), where it is likely to be the already well-off who will exert influence over the development and distribution of HETs that would, as a result, likely cater to their needs and means.<sup>7</sup> Given that no existing nation-state (even the wealthiest) could, in reality, possibly secure complete equal access to HETs, such inegalitarian outcome favouring the existing elite are highly likely—indeed, the present economic environment may even actively incentivising it’s exclusivity.<sup>8</sup> Finally, as HETs are of a different ‘kind’ to other existing marketable goods—i.e. they are not merely ‘possessions’ but amplify abilities, perceptions, and capacities—they could further be used to not only categorically distinguish the Haves from the Have-nots but also to equip the Haves with the necessary tools to cement existing power hierarchies and “perfect domination” (Lilley, 2012, p. 27).<sup>9</sup> While this may sound dystopian, it echoes existing (and indeed routine) inegalitarian practices evident in most societies today.<sup>10</sup>

The just distribution of HETs is, it is worth reiterating, important. For some, these “egalitarian concerns” suffice to abandon the idea that HETs will prove a net positive innovation. However, rather than viewing them as grounds for prohibiting the development of HETs, Savulescu (2006, p. 335) argues that the best way to protect the disadvantaged from these kinds of inequalities is “to ensure that the social institutions

we use to distribute enhancement technologies work to protect the least well off and to provide everyone with a fair go.”<sup>11</sup> Which is to say that failures of distribution are viewed as the *cause* of such injustices, rather than HETs themselves. Indeed, many in the enhancement debate are of the view that there is nothing *especially* morally salient about HETs themselves, which are seen as merely particularly vibrant manifestations of a ubiquitous human endeavour to develop technologies of varying utility (e.g. Buchanan, 2011).<sup>12</sup> As such, if there are any ethical issue concerning HETs they arise only in the context of who do and who do not gain those goods and whether one has reason to be worried about such differentiations (Buchanan et al., 2001). Buchanan (2011, p. 245), for example, argues that problems of justice arise “not because a valuable innovation is an enhancement [...] but because some lack access to it and their lack of access deprives them of benefits they are entitled to or makes them vulnerable to domination or exploitation.” All of which suggests that the possible ‘goods’ or ‘harms’ of HETs depend substantially on the social circumstances wherein they arise and frequently concern their distribution.<sup>13</sup> There is, as such, an obvious need for the atomistic approach to account for issues of distribution.

However, before seeking to include a distributive mechanism, advocates of the atomistic approach who recognise full well the ethical issue of inegalitarian distributions might first make a different argument. Namely, that serious as such concerns are, they are not a concern *specifically* of those looking to make HETs that improve the lives of individuals. In other words, it is not something the atomistic approach must *especially* concern itself with. Rather, the issue of just distributions is a general societal concern, which society as a whole must be geared towards resolving (i.e. not simply the atomistic approach). In other words, the atomistic approach need only concern itself with which HETs might possibly aid HEP, without taking it upon itself to address *all* the issues involved. As such, the conceptual question of whether or not HETs are *capable* of advancing HEP (i.e. their primary claim) ought to be kept separate from the empirical question of whether, in every given social arrangement, they would in fact do so. This issue they leave



to those societies to resolve in whatever way coheres best with their particular values and objectives. As such, the argument is that the atomistic approach need not alter its main features rather than stipulate that operate under the assumption that the HEP pursued via the atomistic approach is best suited to societies that already have sufficient mechanisms for distributing valuable goods throughout their population. Such mechanisms, they might even argue further, are *always* crucial to a just society and should generally be present in order to regulate all sorts of goods and can, therefore, be assumed. Consequently, since HETs are likely to exacerbate injustices in unjust societies, the idea is that HEP is only open to just societies (i.e. those with adequate distributive mechanism). Such a perspective, however, should be met with considerable apprehension.

To start, proclaiming that HEP should only proceed in just societies condemns it entirely to the flames. If there is an existing example of a just society appropriately organised to deal with the advent of HETs, I have been unable to locate it. Indeed, it is likely to appear only on Oscar Wilde's map.<sup>14</sup> Yet, even in the case that there were some such places, it is likely to prove impossible to restrict (given global interdependence) the flow of HETs from just societies to unjust ones—indeed the attempt to do so might itself constitute a form of injustice. Yet, the biggest point against this line of thought is precisely that the intention of HEP—which HETs are thought to aid—is to help *transition* the world from an unsatisfactory state of affairs into an enhanced state. The fact of social injustice is not, therefore, a call to retire HEP but an outcry for its *need*; and, as such, establishes a vested interest in proponents of HETs to bring about the kind of world where HETs can presumably do some good. Accordingly, the atomistic approach ought to directly concern itself with the role it might play in bringing such outcome to fruition; in the least, acknowledging that it cannot simply concern itself with HETs and abstain completely from considerations of their broader social context and likely consequences. To the extent that the atomistic approach fails to spell this out in a meaningful way, is therefore to simultaneously demarcates itself as a poor approach to HEP.

Consequently, the atomistic approach might look to add a distributive concern onto its existing criteria (see p. 34 above). For example, by adding the following normative criterion at the end:

- (9) Given (8) it is, therefore, necessary to ensure reasonably equitable distributions of HETs; and *only* where this is the case will the HETs in question be considered a legitimate contributor to HEP.

Such a criterion, however, is simultaneously too demanding and yet also inadequate. On the one hand, it has the implication that where such just distribution is not possible (as might prove the case for many HETs) that those HETs are—by that fact—to be considered illegitimate contributors to HEP. That is, even if it is the case that, could they be justly distributed, they might be rather *crucial* contributors to it. Perhaps, the idea here then is that the atomistic approach will thereby be motivated to amend those circumstances that inhibit such distributions (so as to maximise the HETs that can be employed). This, however, is likely to get it into quite demanding territory as it may be no small feat to realise as much. Moreover, it might also send it down a concerning path. In particular, since there are more and less concerning ways in which distribution can be ensured (e.g. the oft-cited “benevolent dictator” might make it so). Especially if criterion (9) is interpreted as an *imperative* to distribute those HETs. In that case all those HETs that many have reason to want (and which would help them in discreet ways) are bull-headedly distributed—siphoning off considerable amounts of available resources—only so that their value to HEP can be legitimised.

Conversely, the atomistic approach might of course head in the complete opposite direction and renege entirely on those distributively troublesome HETs—i.e. write them off as non-options. Adopting this tactic, it would then proceed only to work with those HETs that require the least effort to distribute and, in so doing, possibly produce a comparatively bland HEP than may otherwise have been the case. It is at this point that the

inadequacies of such a criterion applied in this *ad hoc* fashion start to emerge. Primarily, it appears that the concern for distribution here remains almost completely a concern for HETs, when it ought to be a concern for the *persons* who experience the variations in distribution and how this might impact the organic situations in which HETs are actually being employed. The concern for the *context* (i.e. the encompassing whole in which people live) in question is, as such, extremely limited: it overlooks arguably its most significant aspect (i.e. the people using HETs and being impacted by their use). The application of some formulaic and bureaucratic distributive “machine” with a singular aim—distribute, distribute, distribute—does not require that it care for the consequences people will have to endure as a result. It therefore cares little for context in any meaningful way.

However, the turn to distribution was initiated *not* just because equitable distribution appears a plausible ethical maxim, but also (I contend) out of a desire to *improve* the context of HETs.<sup>15</sup> Consequently, this suggests a need to reframe the inclusion of distribution as a means for improving the overall contextual sensitivity of the atomistic approach, rather than as seeking directly to address a single feature of those undesirable future scenarios outlined in Chapter Two. To wit, it might be added as the pre-criterion to the criteria originally enumerate:

- (x) Distributive considerations must shape the very proposal of HETs considered by the atomistic approach.

The idea here is that applying a robust distributive mechanism from the outset might highlight salient contextual issues that can shape the unfolding of the atomistic approach for the better. The implication being that thus far we have merely done a poor job in thinking about distribution and HETs. The coming section will, therefore, explore the distributive account provided by Buchanan et al. (2011), which I take to be the strongest and most developed of its kind in the existing enhancement literature. Ultimately, a review of

the strengths (in section 2.2.) and weakness (in section 2.3.) of their proposal will lay valuable groundwork for the embedded approach expounded in section 3, and elucidates the complexity entailed in properly contextualising HEP. However, as a result of that same exploration, it will become apparent that the flaws of the atomistic approach run too deep to be “rescued” by merely making a distributive turn.

## 2.2. Buchanan and the “diffusion of innovation”

Buchanan et al. (2011) set out from the idea that if the wide-ranging distribution of valuable and beneficial innovations such as HETs could be ensured then much of the “bite” of arguments against their development will be soothed—particularly, given their view that it is hard to deny the genuine goods such technologies could provide (e.g. they focus on the economically skewed sense in which HETs could improve such things as productivity and collective human output). They are also highly critical of any argument that either HETs themselves or their related benefits will “trickle down” in an acceptable manner to all strata of society (as was captured in the *Beneficent Scenarios* explored in Chapter Two<sup>16</sup>) nor that the enduring social shortcomings highlighted by HETs (such as those concerning distribution) can be suitably dealt with in the *ad hoc*—and typically *ex-post*—fashion currently standard with technological innovation (as was attempted in section 2.1. above). Rather, they champion the need to be both proactive and pre-emptive in attempting to resolve those issues one can already predict (on the basis of existing harms) *before* HETs arise and to install replacement mechanisms that explicitly seeks to ensure that people will benefit from HETs. In short, all good advice to follow *regardless* of whether HETs of the kind articulated in the literature ever eventuate.

To wit, they argue for the creation of a new international organisation called the “The Global Institute for Justice in Innovation” (GIJI). They go to some lengths to explain how such an institution could feasibly fit into existing international legal structures and how it would relate to them in terms of having the requisite degree of authority to

function.<sup>17</sup> For our purposes the accuracy of their argument concerning these points is assumed and not investigated further. Nonetheless, the function of GIJI is to counter the possibility that HETs result in various forms of domination and exclusion (at a global level) by monitoring and incentivising the *diffusion* of such innovative and beneficial technologies—specifically, it motivates the development of technologies that will benefit the most peoples and grants rewards relative to the success of getting those innovations to the people who require them.<sup>18</sup> In this way, it varies from the kind of distribution considered above by requiring it to actually investigate the consequences of particular innovation and having the *needs* of people factor into their development.

Their account is noteworthy because it grounds the legitimate concerns regarding HETs in specific features of our *existing* society. As such, they emphasise the need for moral inquiry regarding HETs to grapple with obtaining social context and marks an important shift away from the bulk of the debate that tend to lay ethical concerns at the feet of HETs (as if they—the technologies—are the cause of those problems). Specifically, Buchanan and his colleagues recognise that if HETs do not appropriately diffuse in the future it is as a result of an *already* failing distributive system, namely, they pinpoint the existing international intellectual property regime (IPR). In this way, they root the kind of “egalitarian concerns” outlined in section 2.1. to already flawed social institutions<sup>19</sup> On these grounds, Buchanan and his colleagues advocate for a *structural* change that would overcome the deficiencies of the existing IPR, which presently prevents both the wide distribution of greatly beneficial, and much needed, technologies from the Global North to the Global South as well as undermines the development of urgently needed technologies in the first place.

As originally conceived, the atomistic approach echoes (to a degree) the existing IPR, in that it too is not designed with the benefitting of the broader society as its primary aim. Whereas IPR is designed to protect the supposed ‘rights’ of propriety owners so that they reap the greatest rewards, the atomistic approach is primarily concerned with grounding the permissibility of HETs in the desires of individuals. As such, the first insight

gained from Buchanan and his colleagues applies to the atomistic approach as well. Specifically, that if it is to rectify its focus so that it does seek the betterment of human lives (i.e. truly prioritises HEP), then it makes sense that it instigates institutional changes explicitly designed and developed to support such an endeavour.

Such a mechanism, Buchanan argues in a separate publication, ought aim to not only get available goods to those who most need them but should also bolster innovative efforts such that they are increasingly directed towards their causes and their particular needs—specifically that efforts be made to “shape the innovation process: to influence which innovations will occur” (2011, pp. 245-6). They are therefore aware of the problem highlighted in the previous section regarding mechanistic distribution. It is one thing for a HETs which has clear value to a developer whose worth she is then able to “sell” to a wider audience (even as it overlooks the more pressing needs of those in the community) and to then have a mechanism that would distribute this non-essential good to those needy members. It is another thing to have the needs of those members shape the HETs that are developed and only *then* to have an effective distributive machine.

As such, Buchanan et al. (2011) recognise that distributive concerns are not way-laid simply by dividing goods across a population after the fact (even when prioritising the people who actually need them) but that it also requires stimulating the *development* of the right kind of goods in the first place (i.e. so that they are available for distribution and have a positive impact when they are distributed). Although not explicitly stated, Buchanan and his colleagues therefore, pick up on Iris Marion Young’s first criticism of the “distributive paradigm,” as having a tendency “to ignore the social structure and institutional context that often help determine distributive patterns.” (1990, p. 16).<sup>20</sup> As such, two important “strengths” of their account have been noted: not only is GIJI an attempt to rectify *existing* social institutions thereby recognising that features of the societies we presently inhabit can have a profound impact on the overall future outcomes resulting from the development of HETs but it also acknowledges the influence of obtaining (and

possibly morally suspect) socio-economic-political circumstances on the *development* process itself.

These strengths highlight an important aspect of the *point* of distributive concerns that escaped the first distributive proposal attempted by the atomistic approach. Ultimately, one cares about distribution not for its own sake (i.e. for the joy of dividing things amongst people or the wish that everyone has what everyone else has) but because one *cares* about the lives of people. That is, unjust distributions cause those people harms or just distribution will help them. In recognising the aforementioned importance of distribution, the pure task of division should not come to substitute that motivating concern that drives it. Such a mentality can produce rather worrying circumstances, such as when foreign ‘aid’ to a struggling community seeks only to overcome a distributive lack yet carries out this task in isolation from that community’s needs—or even any appreciation for their conditions of their life. For example, providing laptops to a village to improve education not only amounts to naught if the fact that they have no reliable (or affordable) electricity is overlooked, but demonstrates the superficiality of the concern, arguably indicating a certain moral callousness (to say nothing of the waste of resources). It is worth keeping this point in mind, as, in the coming section, the extent to which even a well-meaning and nuanced concern for distribution overlooks important contextual elements is considered.

### 2.3. The inadequacy of ensuring access

The previous section provided much food for thought. Indeed, the core strengths underwriting the distributive proposal by Buchanan et al. (2011) will considerably influence the shape of the embedded approach proposed in the next section. These were, to recap, that (1) one must think both proactively and pre-emptively in advancing HEP (i.e. there are things we can and must already start doing), (2) that one’s critical gaze must fall

primarily on existing social structures as potential hindrances to HEP, and (3) that one must account for the influence those structure might have on the *development* of HETs. These are, to be clear, all important ways of “contextualising” those HETs proposed by the atomistic approach. However, despite being positive steps in the right direction, they do not capture fully the pervasive character of context and its influence on HEP and the would-be users of HETs; a consequence primarily stemming from the primary features of the atomistic approach. A robust appreciation of the deeply social nature of HEP is, as a result, still lacking. It is for reasons flowing from this that even an idealised form of GIJI (i.e. that ensures adequate distribution), it will be here shown, is unable to rectify the shortcomings of the atomistic approach. Distribution alone does not suffice to convert the various *Restricted Access Scenarios* (now no longer “restricted”) into legitimate “better world” contenders. HEP does not simply emerge from the mass proliferation of existing proposals for HETs because—in being fastened to the atomistic conception of the individual (and indeed depending on it)—they are *themselves* underdeveloped. Crucially, what is absent in all of this, is evidence of a requisite degree of *care* for the people transitioning from the status quo in which they are embedded to an enhanced state of affairs.

To start then, let’s assume not only that GIJI functions as intended but that universal access is in fact ensured. As such, via GIJI, those HETs that are judged to have the most (impactful) utility are distributed to those people who need and want them. As Buchanan et al. (2011) explain, in many cases this will simply mean those HETs that service the most people. However, only when this is consistent with those HETs addressing the issues that generate the greatest *need*. In other words, where the minority of people have a need that is more *dire*, then the development and distribution of HETs that address their particular circumstances are to be favoured over the comparatively trivial needs of a much larger group. Yet, as it is presently the case that the truly needy in the world today represent such a massive segment of the global population, what is good for them is also likely to be what is good for the most people.<sup>21</sup> However, it seems that one would not doing such people any favours if we thought of them as the atomistic approach suggests—



i.e. as abstracted and isolated individuals. Which is to say, that if one *first* sought to ascertain what an individual may need in the context of their own life without also situating those needs alongside others (and their respective abilities to have those needs met), then it seems that far from ideal outcomes might result.

To clarify, imagine that one took each person and ‘boxed’ them off from the world with the information they currently had about their station, and then proceeded to identify what they thought would improve their lives—as this is what the atomistic approach seems to suggest is appropriate.<sup>22</sup> One could then be quite diligent about this task—e.g. one might really question their choices and investigate them so as work out what would actually be good for them (so stretching criteria (4) somewhat by reasoning with individuals for them to make informed choices)—but nevertheless still only considers that individual in an isolated way, divorced from their peers. Consequently, one would be able to say that—given circumstances as they are—a particular set of HETs will be greatly beneficial to that person’s life. This captures criteria (1) – (4) of the atomistic approach. One would then be able to replicate this process with any number of people and—let’s assume further—it turns out they *all* have similar needs and, therefore, similar sets of HETs will benefit them. One then—introducing GIJI into the mix—judges that *these* are important HETs and that GIJI should resolve to distribute them to all in need (i.e. inside their little “boxes”). This, seemingly, satisfies the remaining criteria of the atomistic approach. For simplicity lets call this entire process “Box Scenario”. I propose that when one removes those individuals from their isolation “boxes” and reintroduces their now enhanced selves into the world at large, the result will be thoroughly underwhelming (to say the least).

In particular, despite ensuring distribution, one may find that following the “unboxing” HETs nevertheless fail HEP in some of the ways identified in Chapter Two (see p. 29 above). For clarity, lets refer to these as “fail-points”. The most obvious fail-point, for the present purposes, is fail-point (3): namely, that those HETs do not provide the “good” they promised (or at least not in the way or to the end that the ‘boxed’ individual initially

found promising). In other words, the benefits that were so obvious in the abstract appraisal do not eventuate in practice for some reason or another. Of course, the extent to which those benefits fail to arise and the particular reason they do not might mean that Box Scenario ultimately triggers some of the other fail-points as well. For example, should the particular HETs now make it impossible for the enhanced person/s to make a living then possibility the fail-point (1) might be the case (i.e. the HETs has made matters worse for the individual in question). Additionally, if the collective attainments of these HETs simply meant that all those newly enhanced had to return to the lives they had before but with some new abilities which, for example, their workplaces simply “absorb” by tailoring work expectations to match those new abilities, then possibility fail-point (5) might be the case (i.e. that, all things considered, the use of HETs was of little consequence).

I propose that each of these possibilities of *Box Scenario* are a consequence of it having failed to properly account for social context (even when it has satisfied distributive concerns). In particular, it has overlooked the very features that influence the ‘boxed’ individuals reasoning and the fact that those individuals are themselves to wade into a shared space considerably defines outcomes that might follow. The isolated individuals considering the possibility of HETs is not required by the atomistic approach to trace the ramifications of their choices against the possible choices of others and vice versa (like a chess player attempting to think several moves ahead). Consider, for example, the possibility of cognitive neuroenhancement (CNE) as a HETs likely to both be highly desirable as well as to satisfy the requirements of GIJI for development and distribution. Specifically, when assessing the individual circumstances of the ‘boxed’ it eventuates that a large enough proportion of people suffer from some cognitive limitations which, if improved, would considerably benefit them in the context of their lives. Checking in with them, it becomes clear they too recognise the value of such an improvement and come to desire it for what it offers them. GIJI then proceeds to grant all the ‘boxed’ with CNE. Note then that the questions the atomistic approach poses are as clear as they are simple, and the ‘boxed’ are able to check them off one by one: CNE would enhance their cognitive abilities

(check); CNE would improve an aspect of their life—e.g. by improving their work, or allowing them to learn valuable skills, or enabling them to solve problems in their lives—(check); the gains of CNE render it individually quite desirable (and indeed desired by the ‘boxed’) (check); this is true for all those ‘boxed’ (check); them all having gaining CNE will improve all of their lives (*check?*).

It is with respect to the last point that there arises considerable doubt. Divorced from the collective context, distribution here appears to be carried out simply from wanting to ‘spread’ the individual level benefits that obtain from HETs. Yet this proceeds on the flawed idea that if HETs are desirable for individuals that distribution enters only to facilitate the extension of that benefit to all. Moreover, it assumes that what is good for individuals is also good for collectives. Medicine provides an abundance of evidence to the contrary: for example, while it might be incredible valuable that my diabetic grandmother take insulin, it does not mean that it is valuable for all of us to do so. Of course, it might be valuable for all similarly placed persons (i.e. diabetics). Alternatively, consider then that it is valuable that some people both desire and have the ability to be a surgeon (and that society should take an interest in facilitating this), yet this does not mean it should be universalised (i.e. that everyone should have an interest in and be provided the ability to be surgeons). Such thinking is guilty of a concerning reductivism, that reduces all individuals to a singular individual or, inversely conceived, builds the social out of the individual—thereby, homogenising them. However, this mistakenly conflates the sum with its parts (and vice versa).<sup>23</sup>

To return to CNE in *Box Scenario*, the clarity with which ones sees CNE as being able to improve one’s life obtains only from the condition of being ‘boxed’. But what are the *actual* reasons this might be in play in this case? If the conditions in the world outside of the “box” imitate ours, then the value something like CNE has for improving the individual in question’s life are likely to connect to some aspect of how they are to survive in the highly demanding and competitive work environments of global capitalism. In short, they will—in some form or other—concern how one will be able to improve the use of

their time while also having that time result in greater financial rewards (which usually permit one to live more comfortably). Consequently, the 'boxed' see in CNE all sorts of productivity gains, shortened work weeks, promotions, and financially rewarding innovations. In fact, it is for just such reasons—i.e. concerning productivity and economic gains—that Buchanan (2011) views such HETs as likely to be amongst the first to arise. He explains that governments have historically “shown a keen interest in increasing productivity” (Buchanan, 2011, p. 37) and that ‘big players’ such as nation-states will certainly have an interest in endorsing HETs which promise such advances and investing in both their development and extensive distribution. He therefore sees something like *Box Scenario* as rather likely.

Moreover, he argues that these exhibit what he calls “network effects” whereby the extent of the benefit of having the intervention will “depend upon, or at least be greatly augmented by others having the enhancement as well” (Ibid.). He, therefore, resists the idea that they might be “zero-sum” (i.e. where benefits depend on exclusivity). By which he means that the goods of CNE are consistent with everyone getting them. However, he is only correct if he means that the “network” gains arise for the those who already own, for example, the means of production and therefore why *they* will have an interest in the diffusion of such HETs. Certainly, from an economic viewpoint one can appreciate why governments would want people all to enthusiastically seek out CNE (this is, after all, some of the logic behind compulsory education). However, this is *not* the perspective of the ‘boxed’ individuals nor that advocated by the atomistic approach. Rather, their hope is that such HETs will be good *for them* (i.e., the individual). Yet, it does not seem that network effects obtain for the individuals concerned.

Of course, one can concede that, for the kinds of gains they desire as individuals, enhanced cognition is both *necessary* and, other things equal, usually likely to produce such outcomes. That is, in individual cases. However, it does not appear that they are *sufficient* for such individual-level goods to transpire following the ‘unboxing’. Rather, this depends on other obtaining circumstances: such as the abilities of others with whom one

is in competition (e.g. for a promotion) or the response of the industry to the newly ‘unboxed’ (e.g. will they maintain existing production demands such that increased cognition will allow for significantly shorter work hours—and will they compensate employees for the same output albeit in significantly less time?).

What follows from this is that it seems possible that that specific features of one’s life can be greatly amplified through HETs without it actually making one’s life much better; the magnitudes of improvements are not—to borrow briefly from quantum physics—‘entangled.’ CNE (and indeed most HETs) are—at least from the individual perspective—largely what the literature tends to refer to as “positional goods”, which are those goods that benefit an individual only so long as others do not also have access to them (noting that it is possible to be both positionally advantageous and exhibit network effects). In other words, they grant such individuals a competitive advantage. Consequently, as a result of all the ‘boxed’ seeking such individual gains they will not in fact eventuate. Rather, they may have simply elevated the collective playing field without also providing relative gains between individuals—which is what Buchanan (2011) seems to have in mind when he speaks of “network effects”.<sup>24</sup> The fact that the ‘boxed’ live in a highly competitive society is therefore part of what drives them to desire particular HETs, yet the conditions of that same society are what inhibit the predicted value of those HETs eventuating. None of this seems to have overly much to do with the individual nor the abilities provided by the enhanced. They are *contextual concerns*. As such, the benefits are assumed based on the assumption that society will continue in its same flawed way (i.e. where people are thought to be differently able and rewarded differently as a result) and therefore requires that that remains the case after the unboxing.<sup>25</sup>

The point here, however, is not to say that such HETs (e.g. CNE) are therefore *not* somehow valuable. Indeed, nothing about the arguments presented in the entirety of this work are meant as knock-down arguments against HETs or their (particularly instrumental) worth. Rather, the point being made here is simply that *context matters* if one wants to make claims about HETs as “tools” in HEP. The value of all HETs is incredible

contingent (Hauskeller, 2013). Similarly, however, it should not also be concluded here that the turn to context is important only to assess the ultimate “prudential value” (Stoner, 2020) of particular HETs—or for their failure to evidence as much to ground some case against their utility or value.<sup>26</sup> One should not be misled into thinking that we turn to context to ascertain what is needed to make a HETs a “smart choice”. Rather it highlights that pinning the value of HETs to discreet individuals is a highly fraught endeavour. As such, the idea is that the entire enterprise of developing and considered HETs or attempting to realise HEP ought to be grounded in the obtaining contextual reality in which we find ourselves. Without the details of the existing social milieu one is never able to find firm footing for articulating the value of a given HET. As such, it is not just the fact that those circumstances provide the setting in which a given HET will “play out” but it is that context that will ultimately birth those HETs. To appreciate context, therefore, is to acknowledge the influence it has on the shape of HETs that will be proposed in the atomistic approach and also the individual desire to possess or endorse it. This is not addressed merely by ensuring equality of access to the HETs already “in circulation” (so to speak).

The failure to properly account for the depth and variety of contextual influences on HETs represents a major shortcoming in the otherwise highly commendable distributive proposal by (Buchanan et al., 2011). It seems to me, however, that this obtains as a result of Buchanan and his colleagues attempting to “play the game” (as it were), which was constructed by that dominant faction of the enhancement debate that more or less adhere to the atomistic view. In this way, it is a method that seeks to “right the ship” (to switch metaphors) of the atomistic approach so that, despite a leaky hull one might yet make the best speed, in the right direction, and even possibly arrive—if not at the intended harbour—then at least on the right archipelago. To this end, their proposal does help in many clear ways. In the very least, it “cages” somewhat the previous “free for all” evident in the atomistic approach. The kinds of HETs to be considered are still those that benefit individuals, but now the seriousness of the need and the relative neediness of the

individual are brought into bear. A leak is plugged. From this HEP learns that it might be necessary to change some existing structures to help prevent HETs overlooking the needs of those typically disregarded members of society, who will nevertheless be impacted by HETs that otherwise would have catered to the needs of the dominating social group. A second leak is plugged. As a result, more people are likely to be interested in such a HEP and more people will both more likely benefit and to benefit in a more direct way from such changes that tailor HETs to their needs. A third leak plugged. As such, some of the major features of the “egalitarian concern” highlighted in section 2.1. are stymied. This is progress. Yet, one can only get so far shackled to the same ship—i.e. one where the focus remains solely on HETs and their value for individuals. Ultimately, distribution is considered only a subcategory of contextual concerns. It cannot be abandoned, yet, it should not breed complacency, becoming a substitute for genuinely caring about other people

A genuine care for people involves, in the least, knowing about their particular circumstances and understanding what is involved in them. Crucially then, while Buchanan et al. (2011) do acknowledge that existing social circumstances influence both which HETs are developed, for whom they are likely to be developed, and the fact they will likely face immense distributive barriers, this does not go far enough. In particular, it does not appreciate the pervasive influence obtaining social circumstances have on the individual the atomistic approach seeks to enhance. Their choices, desires, and needs are shaped by their obtaining social reality. Hence why it is likely that the Have-nots *today*, would rationally ‘choose’ to be the Have-nots in something like *Beneficent Scenario*. Or why those in *Boxed Scenario* are likely to want the kinds of HETs typically proposed in the debate, and that these will not enhance their lives in the ways sought by HEP. If one is to properly cater to the flourishing of an individual then there is a need to recognise that they are *themselves* constituted by their social ecology. As such, there it is vital that this is poised to give them the appropriate space to lead enhanced lives sought. This is the primary insight the embedded approach will build on: in particular, the idea that there is a need to account for the individual as “socially embedded”.

Consequently, if HETs “make sense” in a given set of circumstances but are to little avail (*vis-à-vis* HEP) then this is a signal to review those circumstances. Accordingly, properly realising HEP demands that one question the status quo and challenges its influences on the individual who is to flourish in the enhanced future as they are very much reliant on it. This, I contend, is the fatal flaw that the rather *limited* inclusion of context illustrated in a brute concern for distribution evidences. Namely, an overall failure to *care* sufficiently about the agents involved in HEP as embedded being. By which I mean that the in failing to appreciate the individuals so exalted in the atomistic approach as *significantly socially constituted*, they do not thereby care for *all* of what is involved in being a living, breathing, and engaged human and, therefore, what is involved in leading a flourishing (or “enhanced”) human life. Perhaps the atomistic approach was formulated out of desire to ascribe to such individuals some form of supreme liberalist authority, yet, as a consequence, the individual is in fact reduced to some mechanistic (and apparently deterministic) entity to be acted upon—abstracted and isolated from the details that make up so much of who they are and shape how their lives unfold. Consequently, one might think of the individuals in the atomistic approach as somehow “over-individualised” and “under-socialised”. This calls out for corrections. Illustrating what is entailed in the requisite kind of care for human life and how it can help (re)shape HEP is where the crucial work in advancing HEP needs to take place—and what the remainder of this text seeks to contribute to.

In sum, I postulate that there is a need to care primarily for agents in this ‘full’ sense—to appreciate the messy, situated, and *embedded* human being—if HEP is to be anything worth pursuing. This, the next section will make clear, will have drastic implications for the atomistic approach. Indeed, it will entirely call for its replacement. However, from its ashes there will arise an approach to HEP that might genuinely advance the lives of humans. The hope, echoing Marx’s sentiment, is not just to respond to the world as the atomistic approach does, “the point is to change is” (Marx, 1978, p. 145). And, as such, it might prove pertinent that one not only “jump ship” but seek out an entirely different



harbour. This new harbour is to view HEP not just be a placeholder for realising goods in the obtaining world but as the opportunity for realising the good in the shape of the world itself—a space actively perpetuating the enhanced world anew.

The aim, as such, is that HEP be a rigorously emancipatory endeavour and is, therefore, to be “invested in constructing an alien future” that resists and confronts those “images in which futurity is reduced to the *replication of the same* via the social reproduction of today’s hegemonic values”—and of which the atomistic approach appears entirely guilty (Hester, 2018, p. 33, my emphasis).<sup>27</sup> It is clear how the atomistic approach, with its limited contextualisation, falls entirely short in this regard. In so doing it can only produce a malnourished version (amongst possible versions) of the enhanced future. The embedded approach, the next section will argue, promises more.

### 3. Mapping out the Embedded Approach

Where Chapter Two concluded that there was a critical need to incorporate social context into the atomistic approach, the previous section argued that it would not be sufficient that it do so merely by implementing a distributive mechanism—even as well-developed and sensitive a one as that provided by Buchanan et al. (2011). Although it is a credit to their account that it did manage to capture several dimensions of the social context that would likely bear on positive *outcomes* that follow from the atomistic approach. In other words, it managed to reign in or mitigate some of the more problematic possibilities that may have legitimately eventuated from the atomistic approach. However, by being tied to the mast (to continue the ship metaphor) of the atomistic approach, such distributive concerns seem wholly inept in terms of being able to direct or guarantee HEP (i.e. a future wherein human lives are meaningfully enhanced). It has been suggested time and again

that this is because of an inability to properly account for “social context”—which might at this point prove rather exasperating to the reader.

Let’s start then by stating in a forthright a way as possible what this “social context” is and is not and how and to what ends it is supposed to be relied upon. First, if anything follows from section 2 above, it is that one does *not* look to context in an *ex post* way—as a method for validating or correcting the use of HETs (i.e. to simply advance the atomistic approach). Nor in a ‘fact finding’ capacity to improve the same activity. Accordingly, and emphatically, the turn to context is not done simply to *correct* the shortcomings so far illustrated—i.e. not just to improve “business as usual” (which it might very well do<sup>28</sup>). The atomistic approach cannot hope to succeed in the proper emancipatory ambition that underscores the HEP (see p. 98 above) if it is not completely rebuilt from the “ground-up”. Consequently, social context is not simply a key element in the on-going discussion between HETs and individuals. Rather, once its pervasive influence is appreciated, it will become clear that social context must itself define and be the focus of a more ambitious conversation. In this ‘talk’ there must remain the possibility for insights about social context to fundamentally change *every* aspect of the atomistic approach lest a fixed compact with it unduly influences what ultimately results. As such, the idea is that not *just* about thinking a little bit further about the lives of people as we proceed with a “technosolutionist” agenda.<sup>29</sup>

One *does*, therefore, recognise that the entire activity of HEP is a contextual one. It seeks to enhance the very context—that is, the complex milieu in which people’s lives might be considered “enhanced”—and does so by recognising that the points of focus (i.e. the people who are supposed to benefit from an enhanced state of affairs) are themselves contextual entities. In short, they are constituted in significant measure by exogenous features (i.e. the environments through which they wade). This is meant here in a very literal way, such that the world around individuals are not just what individuals are engaged with and respond to but that it in significant measure constitute the individual *such as they are*. They are, of course, not the *same* thing. They are simply highly and intimately

*entwined* such the individuals and their social environments indelibly and reciprocally influences on one another in ways that make them difficult to fully disentangle.

In this way, one's obtaining ecology is considered a *part* of oneself, not merely the location in which one is oneself and upon which one enacts. Moving forward, it will make sense to speak of the individual so situated and constituted as *socially embedded*. Spelling out the origins and nuances of this conception of the individual will be the first task of this section, which as the title suggests is the key feature of the *embedded* approach. Immediately, however, it ought to be clear that this is a drastically opposing conception of the individual than is assumed by the atomistic approach (i.e., which posits the individual as isolated and abstract). This will make all this difference. Indeed, as the reader is already like to have realised, it will force one to rethink entirely the claim that HETs are able to significantly enhance a person who is in meaningful ways socially diffuse. Consequently, the second (and also opposing) feature of the embedded approach is that those "human enhancement interventions" or "enhancing activities"—since it now in doubt whether one should refer to HETs—might rightly have very different kinds of formulations than the restricted character of HETs. In short, there is a need for an embedded concept of human enhancements. Spelling out these two primary features of the embedded account is the aim of this section.

### 3.1. The socially embedded self

The specific notion of social "embeddedness" has its origins in sociology, particularly being deployed in economic sociology to demonstrate the social character of economic life (Granovetter, 1985). In that economic context it captures the idea that consumer actions are not *purely* guided by reasoned thought originating in a particular agent in a one-directional manner advancing outward from the consumer and onto the exterior world. It is not a simple matter of applying isolated individuals onto a specific set of choice circumstances; one's reasoning is rarely so untainted. Certainly, one is capable of rational

reflection on one's purchasing choice, but it is not an exercise in 'pure reason,' isolated from one's lived experience. What one values, how one values it, and why one values it, all have *roots* in the social circumstances of one's life that hold considerable sway over ones processing in a given purchasing opportunity and, in fact, generate the (legitimate) buying options available in respect of which one can employ one's agency. Yet, as we shall see, it's usage here is more nuanced still.

While the term "embeddedness" might be relatively recent, an appreciation for the influence of the social on the individual can be found much earlier. For example, it is evident (indeed it is a central tenet) already in Dewey's aptly named "social psychology"<sup>30</sup> in which "[the] mind represents something acquired [...] a reorganization of original activities through their operation in a given environment. It is a formation, not a datum; a product, and a cause only after it has been produced" (2017b, p, 270-1). This conception would then serve to underscore the important Deweyan notion of "habit" (1922), which—more than anything—exemplifies the extent to which individual behaviour is socially constituted. In short, the idea is that, through lived experience (i.e. engaging and interacting with the world around us), one develops a consistent and more or less dependable character that shapes how one moves through the world. This movement is largely "habitual" (in the Deweyan sense), meaning that one's processing of the world is routine and typically uninterrupted. That is, unless, something (an event of some sorts) transpires that gives one cause to pause in that routine gliding.

Dewey refers to these 'interruptions' as "indeterminate situations" (1938) and they are crucial to moral activity. They represent the moment wherein something has been noticed as "having gone wrong" and which prompts one to make a choice or perform some activity to amend the matter. It is this movement from noticing a problem to resolving it that, according to Dewey's pragmatist view, is that activity of moral inquiry.<sup>31</sup> While, the details here are not important, this scenario implies something that is. Specifically, the very *recognition* of something having gone astray in the world—the 'problem' that 'calls out' for attention and which is subsequently 'heard' by a particular individual—can

only transpire if the individual is already of a particular mind about the world. Which is to say, they are already a particular kind of individual that has been shaped by a world they are otherwise, and routinely, *in step with*. If this were not the case either nothing would strike them as problematic or everything would. The self has been habituated by the social—and is therefore considerably defined by it. As LaFollette (2000, p. 403) clarifies, “[s]ince habits are shaped by prior experience, our cultures play a central role in forming our habits, in forming who we are”. Which Fesmire echoes:

“Just as plants are not independent of interactions within biotic communities requiring soil, water, air, and sun, people are born into communities and traditions that cannot be detached from their individual characters.” (2013, p. 26)

However, this idea that ‘the social’ holds considerable sway over ‘the individual’ would, after Dewey, be radicalised in the ‘structuralist’ accounts of human agency that were prevalent in sociology and anthropology during the 1960’s and 70’s—exemplified by people like Lévi-Strauss (1963, 1966). While the structuralist move to resist the individualism that dominated the intellectual circles at the time—something Dewey (1917b) extolled the “need” for half century earlier (apparently to little avail)—they failed to appreciate the nuances of Dewey’s request for a social psychology of the socialised self. Consequently, while they built on the right insight, they ran too far with it, resulting in an ‘overcorrection’ of sorts.

As such, the valuable recognition of the socialisation of individuals produced, through structuralist accounts, an overemphasis on social structures that, beyond merely remedying the absence of the social dimension in earlier theorising, served to ‘flip’ it completely. It thereby replaced (or sought to) the earlier view that the agent is the prime ‘determiner’ of action with the inverse view whereby the supra-agential structures of society occupy this role. Such an emphasis on structures, however, resulted in an equally overdeterminate conceptualisation of human activity—albeit in the other direction

(Lewandowski, 2000). Individuals went from fully determining to fully determined. In other words, where once the rational agent was detached from the social, the emergent view risked nullifying the agent entirely; divesting them of proper agency and, thereby, reducing them to some kind of “automatons” (Honneth, Kocyba, & Schwibs, 1986, p. 41). As Lewandowski (2000, p. 65) explains, this went too far, “replacing undersocialized agents with overly socialized ones”.

Of course, there *are* important ways in which individuals are “determined” by their social environments. This much has been illustrated by the now well documented idea of the “social determinants of health” popular in public health ethics and epidemiology. These refer to those social features which help explain differences in health outcomes across and between populations. The collection edited by Marmot and Wilkinson (2005), for example, demonstrates that discrepancies in terms of how long people live, how prone they are to illness, the severity of sicknesses, and the ultimate consequences of any given health challenges, are all hugely dependent on the social environment of those in question and can even have compounding effects (particularly when tracked across generations). For example, amongst the various social determinants of health, poverty is considered a (arguably *the*) key contributor in inferior health outcomes.<sup>32</sup> Which is to say that it forms part of the causal matrix that explains why poorer people tend to suffer from health issues not equally spread amongst and experienced by the rich.

Without getting into the precise details of this very illuminating field of inquiry, the important point to derive from it is that, when caring about the health of individuals, it is often not only unhelpful to focus on only the ailments people present with in attempting to help or treat them (itself a poor diagnostic practice) but that considering the environment in which the patient find themselves is likely to aid both proper treatment and the identification of the root causes to be addressed. For example, in some circumstances it is not sufficient to simply give Pepto-Bismol to someone experiencing diarrhoea it is also necessary to address their lack of clean drinking water. Moreover,

someone repeatedly in need of medical attention is not just prone to sickness, they may live in an environment that makes them so (e.g. due to a lack of nourishing food or sufficient shelter).<sup>33</sup> Ultimately, this provides a clear illustration of why thinking of the individual ‘in isolation’ is likely to overlook features that are important to their well-being, but it also shows that people *are* shaped by environmental factors.

Accordingly, the notion of ‘social embeddedness’ seeks to strike a balance between these views and, according to Lewandowski (2000) finds an affinity in the “reflexive sociology” of Bourdieu (1986) who, in exploring the matter of personal taste, introduced the concept of “habitus”—which demonstrates such a balancing act and stresses the dynamic interplay between individual and social.<sup>34</sup> Accordingly, the idea of the “socially embedded self”—to borrow Kitcher’s (Forthcoming) phrasing—that underscores the embedded approach, attempts to capture just such a nuanced way in which an individual is socially constituted.

To reiterate, the notion seeks to ‘straddle’ a position between that adopted by the atomistic approach whereby the individual is entirely self-constituted and constituting and the idea that individuals are *entirely* determined by their social environment.<sup>35</sup> Rather, it suggests that both are the case but also that it is perhaps not helpful to think of the two poles as distinct; rather, they are part of an *embedded* whole. One wherein the individual is clearly influenced—and (in some ways) determined—by a society but also uniquely situated and able to exert an influence by acting in a critical and creative fashion.<sup>36</sup> It is this ‘exerting’ feature of self that is the nexus of social change (the individual is not merely a passive ‘bystander’ or recipient of such changes). It is this conception of the distinctly human life that, for example, Jaeggi (Forthcoming), appears to gesture at when she remarks that the states of an individual’s life (and therefore the possibility of making “progress” therein) do not depend entirely on “endogenous” features (i.e. those “originating inside the individual”) yet that they are neither “wholly exogenous” either. (i.e. dictated by features divorced from the individual).

Moreover, there is indubitably a clear sense in which individuals and society are distinct entities—they are not the same things (i.e. I am not literally the city of Munich). However, they are themselves not *entirely* discreet and unrelated. There are features of the city that are in some form reliant on me, and I am only able to express myself through the ways in which I am in a given city—indeed *how* I am (and therefore *who* I am) might change considerable depending on *where* I am. Accordingly, it does make sense to think of myself as an individual—i.e. the individual who wrote this text. It is, after all, a distinct “me” carrying out this actual task, pressing the keys and making decisions about what (and what not) to include—and certainly no one else wrote it. Yet, there is also a meaningful way in which it is *socially* written. As Srinivasan (2019, p. 127) explains with her usual finesse and clarity:

“Each of us finds himself not just already in the world, but already in a particular world: a particular moment in history, a particular culture, a particular family, a particular language, a particular body. What is more, our representations of the world—our beliefs, values and concepts—are radically shaped by these contingent facts about where we find ourselves in the space of possibility.”

As such, this work is the result of an entire history of my individual thought and experience that has shaped the ideas presented in it (indeed the contributions of a great many thinkers have been explicitly incorporated here) as well as a near endless array of externalities such as the funding body of the project, the university and supervisor prepared to support this work, an intellectual community that recognises its value, and a society that is prepared to endorse such activities (to say nothing of the friends and loved ones who endure it). Failure of any of these elements to eventuate is, in likelihood, to have resulted in this text never having been written. Consequently, while I may firmly state that it is ‘my’ work—the ‘me’ that wrote it is entirely an embedded being. As such, this



product—that is so indictive of myself—is something that reflects an interplay between my particular socialisation but also my particular imaginative self.

What Lewandowski refers to as his “hermeneutical rehabilitation of the conception of embeddedness” (2000, p.51) is helpful for the understanding of the notion of ‘self’ advocated for here because it adequately socialises individual actions by identifying and incorporating both the “context sensitive” feature of embeddedness, on the one hand, and the more reflexive “context-transforming” component on the other.<sup>37</sup> Through these two aspects, one recognises that influence and response do not perfectly replicate one another—nor are they so easily disassociated. In other words, the social-to-individual/individual-to-social traverse is neither “lossless” nor unidirectional (in any instance). To the extent that it makes any sense to speak of particular circumstances ‘causing’ an individual to act (or concretely shaping their action), their activity is no mere mirror of their environment (they are not “automatons”). To think as much would be to give far too much weight to the circumstances them seems plausible (in much the same way as the reverse case would overly venerate the detached individual) and risks abdicating—or at least minimising—the entirety of *both* person and place. Afterall, rarely can influences and choices be so binarily identified. It is in this way that talk of ‘embeddedness’ is intuitive, signalling not only an inseparability but also the limitations of attempts to separate.

As such, this view of social embeddedness is thought to more fully capture human action and introduces a contextual dynamism that neither neglects the individual nor reifies the social—i.e. “without denigrating agents or hypostatizing structures” (Lewandowski, 2000, p. 51). On this account, the importance of social context on human agency is maintained yet, rather than amounting to a static causal relationship, becomes a central constituent element in a fluid and perpetual interchange. It is this vision of social embeddedness that is employed in the remainder of this text. Enough has been presented about it to serve as a solid basis for developing a more nuanced approach to HEP (i.e. the reason for turning to the notion in the first place).<sup>38</sup> As such, although there is still

considerable discussion on the exact implications of social embeddedness on human action and what it means for ‘enhancing’ it to be had, the concept itself remains a useful one for the present inquiry.

To reiterate then, the core ‘thread’ extracted from the notion of social embeddedness is that one should be wary of any attempt to isolate the actions and desires, of human beings from their social contexts. It also serves as a counterweight to the idea that people are wholly socially determined. As such, ‘embeddedness’ is intended to capture the need to be sensitive in our inquiry to the social structures in which the behaviours of individual people are *embedded* (e.g. how they act consciously and unconsciously in dialogue with their lived environment) and into which any attempt to improve their circumstance will have to fit (and contend against). It is, as such, in direct opposition to the view assumed by the atomistic approach. In the next segment, the implications of adopting the ‘socially embedded self’ for *enhancing* human life will be explored.

### 3.2. Toward ‘embedded’ enhancement activities

The shift from an approach to HEP based on an “isolated and abstract individual” to one founded on the “socially embedded self” outlined in the previous section marks the first, and primary, distinctive feature of the embedded approach. Indeed, it is on the basis of this shift that the second feature of the embedded approach also obtains—as well as each of the further implications that will be spelled out in the chapters to come. It is, in a word, *key*. The second feature, then, concerns the kinds of ‘tools’ that are to be used to realise HEP for embedded beings. In other words, whatever it is that will do the work for the embedded approaches that HETs are thought to do for the atomistic approach. In fact (and perhaps not unsurprisingly), as a result of the nature of the socially embedded self, that the embedded approach sees substantially less value in (if not quite outrightly rejects) HETs as a meaningful means of enhancing the lives of individuals. Rather, in order to respond to the particular characteristics of the socially embedded individual, it will be

argued that a much more diverse array of ‘mechanisms’, ‘institutions’, or ‘activities’ ought to be explored. Specifically, catering fully to the various aspects of the embedded self suggests that these ‘means’ need not—and ought not—be restrained to acting *on* or *in* specific individuals at all. Rather, given that the individual is in a sense ‘spread’ across their social ecology, it will be argued that it may prove most effective to enact changes at the social and societal level (i.e. at the spaces in which the individual is embedded).<sup>39</sup> Together, these two shifts in perspective define the embedded approach—and demarcate it as directly opposing the atomistic approach.

To start, it is worthwhile to first explore the consequences of adopting the socially embedded self for those tools of enhanced that have occupied the bulk of the preceding pages: namely, HETs. While HETs made obvious sense when one thought of the individual as containing *all* that was of import to their lives going well, this is less clear in the case of the socially embedded self. This, of course, is because so much about what makes of the individual in a robust sense in this new view is not located in the individual *per se*. As such, they are not obviously amenable to intervention by HETs. However, recognising this limitation of HETs is revealing in other ways. For example, once one accepts that the individual is in some sense socially diffuse, then the difficulties that arose in the earlier discussion start to make more sense. Specifically, that those HETs did not do what was required (or hoped) of them—vis-à-vis realising HEP—because they were only responding to one limited part of the issue. To use a rudimentary example, they were akin to fixing a broken car by only replacing the engine (while *everything* else about the car might in fact be falling apart).

This, of course, is not to say they HETs are utterly without value. Certainly, they could be *useful* in a variety of circumstances. For example, for the person wanting to solve some complex equations CNE has great utility, or—a more problematic example—for the Mayor seeking to reduce violence in their city the use of ME also has great utility. Nor does the criticism of HETs that they are (at best) part answers to the problem of HEP assert that HETs might not aid some shared collective *goods* or that in the right

circumstances they might instigate real *improvements* in people's lives. For example, the enhancement to memory and attention might prove greatly beneficial to people's personal relationships. And, of course, for those factions of the global society who presently live rather exclusive, pampered and catered to lives<sup>40</sup>—i.e. those with an ability to 'escape' from the obtaining social pressures and requirements—HETs might grant them all sorts of neat abilities that bring them considerable joy. In sum, HETs might therefore be useful, individually beneficially, and fun. However, in terms of HETs *themselves* being able to make the world enhanced—i.e. to take us collectively into a new and prosperous future where all human lives flourish—then the world itself proves the biggest obstacle to their effectiveness. This is what the idea of the 'socially embedded self' reveals. As such, it is to the world writ large where changes must be made in order to make meaningful strides toward HEP.

However, advocates of HETs (and the atomistic approach) might look at this socially embedded self and take from it the realisation that the problem with their approach (i.e. HETs) is that they have only dealt with one 'half' of the equation (so to speak). Specifically, that they have focused only on the *endogenous* parts of catering to individuals and not the *exogenous* parts. Consequently, particularly in noting the passages on the social determinants above, they may have the idea that they are to act on the individual *externally*; and make environmental changes that will "determine" enhanced outcomes for the individual. In short, to add different kinds of 'enhancements' that 'hitch a ride' on existing social influences and exploit the idea that individuals can be influenced from without. However, I contend, this would simply be to commit to the same kind of individualism (and overly reductive determinism) as before—albeit with a new hat.

To illustrate, this appears to be (at least in part) what is going on with Cabrera's (2015) novel idea for "social enhancements". Cabrera's defines social enhancement as "any intervention that augments or improves an individual's capabilities set with the aim to enable and empower them as active members of society, *without* directly changing the biological reality of individuals" (2015, p. 93, my emphasis). As such, she defends an array

of environmental technological gadgets: such things as “smart sensors, textiles and buildings” (2015, p. 166). Undoubtedly, this is a much needed and promising redirect for the debate and allows it to look beyond HETs to other means of improving human lives. However, it remains, by and large, tied to the atomistic view—even as she expounds at great length the need to adopt a “relational view” and to overcome the individualism evidenced by the dominant “transhumanist and biomedical paradigms”. Almost *all* of her points on this need, it is worth emphasising, I am in agreement with. Which is to say, we appeared to be very much on the same page about human beings being “relational” creatures and that ““we cannot keep reducing our overall well-being to what happens to us as isolated individuals” (2015, p. 161). That is, until the exact proposal for “social enhancements”.

To be clear, much about her proposal has great merit. The kinds of environmental technologies she proposes are likely to offer considerable help at improving human lives and supporting them in their existing activities in important ways. In particular, they will allow for empowering typically overlooked segments of society—in the least helping them to be ‘seen’ and ‘heard’. However, they should not be taken as definitive illustrations of what kinds of enhancing activities are to aid the “socially embedded self”. Nor, I contend, are they (even when paired with HETs) likely to result in HEP. The main issue I see with Cabrera’s “social enhancements”—and the reason they appear to be not so divorced from the atomistic approach (to which her two dominant “paradigms” are adherents)—is the extent to which social enhancements are nevertheless to act directly *on* individuals.

Even though they are to act in a more general way—so not directed to *specific* individuals—the idea is that they nevertheless aid particular individuals as they move through the same kind of world. In seeking to augment the individuals “capabilities set” (p. 93), the worry is that it might overlook the need for more robust social changes and thereby (again) errs on the side of individuals as the appropriate point of focus for producing an enhanced state of affairs. What appears to be involved here is not the embedded self but rather the recognition of a ‘situated’ self (i.e. that the individual is

surrounded by a world which it is prudent to take note of). Consequently, the individual is seen as sitting in the middle of a single chain where on one end they are influenced by their biological constitution (i.e. that which HETs might enhance) and on the other end they are influenced by their external environment (i.e. which “social enhancements” might enhance). Clearly, this is not the view of the ‘socially embedded self’ explored above.

The portrayal of “Moral Shangri-la” provided by Frank (2020) illustrates, I think, rather nicely the kinds of “social enhancements” Cabrera has in mind. As well as the point I am here trying to make. In “Moral Shangri-la”, society has been equipped with—and the detailed and thoughtful portrayal of these is much to Frank’s credit—a vast array of different mechanisms that permit individuals to largely “offload” their moral agency. As a result, one rarely has to make hard moral decisions because the world is ordered in such a way that one is constantly guided to the right moral actions. Sensors let one know when one is drifting toward a moral *faux pas*, shops and buildings are organised so that the choices best suited to one’s well-being are the easiest and most intuitive to make, reminders and alerts keep one’s moral obligations in order, etc. In short, as a result of various “nudges” (Thaler & Sunstein, 2008) and the manipulation of one’s “choice architecture” (Sunstein, 2016), the moral life has been made easy. This all suggests that the external environment has been catered exactly to have people act in ways that will make their lives go (collectively) well. What then is the problem?

To start, it seems that the individual has, here, been lost. Out of a supposed desire to ‘help’ them they no longer have to be moral agents. However, this means that they have lost, at least if we follow Dewey (and the socially embedded self does), a *key* element of being a properly embedded self. Arguably the clearest (if not only) way in which one meaningfully contributes to the world, which, one must recall, is itself actively and continuously constituting one’s own self. In particular, it is through this activity that one is able to exert an influence over who one (ultimately) is and change the world. It is how one gets to shape the world that will shape them and how one demonstrates that one is a

particular kind of person. However, this has now been overtaken—offloaded to social enhancements. Moreover—as if this wasn’t *enough*—it seems that this situation could be used to keep people on “the straight and narrow” *despite* the persistence of other structural social concerns. One could, it appears, be ‘tricked’ into some semblance of the enhanced life.<sup>41</sup> As shall be illustrated in a moment, it is changes to those structures that the embedded approach views as the vital enhancing activity of HEP.<sup>42</sup>

Of course, despite this now more nuanced determinism, Cabrera’s account raises the immensely valuable point that was hinted at in the previous section: namely, that a significant part of what prevents people from leading superior lives might be environmental constraints on their existent capabilities. Which, of course, has considerable merit. However environmental enhancements—to given them a different name—will need to do more than *add* elements to existing structures, as it is not only about providing features that *enable* individuals. Rather, they must also look to undo those ‘*disabling*’ features of society—which are far more profuse and detrimental. There is, as such, a real need to alter and undermine those constraints as they already permeate existing societies. As such, to the extent that Cabrera’s “social enhancements” look to enhance lives it is only to empower individuals to navigate existing unjust arrangements (a noble endeavour no doubt). However, this they might do while leaving the status quo rather stationary. Accordingly, while “social enhancements” are clearly another step in the right direction my worry is that they are not enough and that they might hide the need for more *radical* changes to society that seem required in HEP.

Finally, we arrive at a place where it is possible to state more explicitly what the “enhancing activities” of the embedded approach are to be. Although, in the next chapter it will become clear why these must be here only vaguely gestured to. To preview, it is because their firm shape is to be derived from a pragmatic inquiry into obtaining social ‘problems’ and, as such, will depend (as they must) on the precise nature of those problems. What any would-be human enhancement interventions will need to attempt to

achieve, in the full sense, it is to enhance the *entire* space in which human lives flourish—so they are not constrained to acting only on individuals directly.

Although, they are not *prohibited* from doing so. This would, again, demonstrate a failure to consider the fullness of the socially embedded self. Depending on the circumstances there might be great merit to responding to functional limitations in individuals. However, the embedded approach remains, for example, open to the idea that such ‘limitations’ might not be the problems they appear to be. Rather, the problem might instead be an unsupportive social environment that could empower those individual. It is here also, that “social enhancements” can also have a value. For example, in much the way that improving “accessibility” to building and equipping the public arena with various features to aid persons of various impairments. More innovative responses of this kind are certainly to be commended. No means of supporting human beings in ways that will help them immediately are to be condemned. Particularly, since these have a value beyond the direct aid to the individual. Specifically, they as elements of the embedded environment have what might be thought of as a “signalling” capacity. They demonstrate that the kinds of society people inhabit and the kinds of things it values concern the well-being of others. They ‘broadcast’ that it matters that various struggles of people are accounted for and that collectively something ought to be done about them. This has a great social strength that is capable of generating considerable movement toward valuable change. As such, they might, in practice, prove an invaluable element of the kinds of changes that might, ultimately, result in HEP.

This has great potential to aid the changing of existing “habits” or the cultivation of more inclusive one. Undoubtedly, this is a significant part of ‘transitioning’ from the status quo to HEP. As such “habits” are acquired from the existing state of things, it is the status quo that, therefore, needs to change to support this shift. And, of course, a significant feature here is the actual *physical* landscape in which people are enabled to act and which confines (or liberates them) in various ways. However, it is not all that that socially constitutes individuals. Those physical landscapes, after all, are also as they are as a result



of a particular social habituation that have sprung out of, been shaped by, and serve to support, various social and cultural norms that are also a key aspect the embedded approach must consider as in need of change. This requires enhancing activities to be directed towards such features. As Lafollette (2000) rightly explains:

“Habits are changed not by private willing, but (a) by identifying and (b) then altering the conditions that make and sustain our habits, and finally, (c) by substituting a more productive habit for the old, detrimental one” (p. 404).

This, he further explains, does not mean we are slaves to our habit. Importantly, Lafollette notes:

“we do have some control, and that control depends on our understanding, and then deliberately altering, the conditions which made and sustain our habits. “Social reformers” and “social engineers” alter the environment to prompt changes in others. We can each engineer our own environments to alter our habits” (p. 405).

Such “social engineering”, however, must be understood in the broadest possible sense; so that it extends beyond acting *on* the environment and out to changing the very environment that is available to be acted upon.

As such, the embedded approach views as its prime ‘tools’ those that seek more directly to alter the shared social sphere. These various ‘interventions’ are to proceed on the idea that the existing social arrangement is exactly what it involved in—and gives rise to—the present state of ‘un-enhancedness’ (if you’ll forgive the awkward phrasing) from which HEP seeks collective respite. As such that entire social milieu must be brought under review and included in attempts to rectify the matter and make meaningful strides in the name of HEP. The ‘social’ and the ‘societal’ alike needs *as such* to change if they are to, in turn, improve the lives of human (or provide the best possible ‘arena’ in which such

flourishing lives might take place). As such the ‘enhancing activities’ of the embedded approach views the world as not only the location wherein the conversation of enhancement takes place but as a key ingredient in the conversation itself—one that has an indubitable impact on it. This, I argue, give a proper appreciation to the socially embedded self.

Consequently, ‘enhancing activities’ of the embedded approach are to be developed in light of an appreciation that the very norms and social institutions that result in individuals existing in various states of despair, and the overall structures that underscore these, are appropriate targets for change. And these are to be ascertained by appreciating the socially embedded individual as fully and deeply as is possible, so as to prevent responding only to various surface elements of the problems they face in their lives. For example, it requires not just recognising that some such individuals have some functional limitation that could be corrected, or that their day could be made easier or that they could be empowered to be *in* the community by various external changes. There is, therefore, a need to alter the very available space wherein all individuals can lead enhanced lives. Consequently—and anticipating some elements of the next chapter—‘enhancing activities’ under the embedded approach are to be understood as any instigated change that follows from a genuine inquiry into and appreciation of a collectively harming state of affairs in which individuals are embedded and that constitute their existing reality.

This bracketing of the role of HETs in HEP by the embedded approach knocks out the final remaining support beam holding up the atomistic approach. As such, substantial reason has been provided to reject the ‘common’ definition of the human enhancement that results in the prevalence of HETs and to favour the ‘broad’ definition of human enhancement argued for by Buchanan (2011). It is that ‘broad’ conception that permits Buchanan to rightly include such things as the development of “agriculture” and “literacy” as instances of human enhancements and it is in this direction that further activity under the embedded approach must head—and which, it is argued, is best suited to HEP. The

embedded approach, therefore, gives rise to the possibility that HEP be substantially realised *without utilising any HETs* and, therefore, that no one possesses any radically enhanced physical abilities. Somewhat counterintuitively, this suggests that enhanced human beings are not at all required for human beings to have an enhanced existence.

However, far from removing ways in which people are to be enhanced, as shall become clear in the next chapter, this rather *greatly* amplifies the task of human enhancement. No longer is it sufficient that one work out what sorts of functional changes to human beings are acceptable, one must now, in short, seek to change the world. As such, the embedded approach could not be any more ambitious. Yet, I argue that this should not count against it. Rather, it simply evidences the sad state of the existing world and emphasises that there is much work to be done if HEP is at all to look like an attainable possibility. The embedded approach, as such, highlights that the very constitution of the social space not only necessitate and motivate enhancing activity, but therefore suggests a plethora of ways for such enhancing activities to proceed.

## 4. Conclusion

This chapter set out from the idea that there is a need to include the collective in any meaningful enterprise seeking to bring about HEP. This was the primary point of what was referred to in Chapter Two as “the social inducement critique”. In an attempt to include ‘others’ in the atomistic approach, it was then considered how facilitating the equitable distribution of HETs might help the atomistic approach out of some of the ‘binds’ highlighted in the previous chapter. The nuanced inquiry into the “issue of distribution” that followed illustrated, in short, that the problems of the atomistic approach are *not* overcome by ensuring such distribution. Indeed, the ways in which attempts to do so failed to produce states of affairs one might recognise as consistent with HEP

reveals that the two core features of the atomistic approach are to blame: namely, the idea that individuals are best thought of as “isolated and abstract” and the resulting view that the best ‘tools’ for enhancing the lives of such individuals are HETs.<sup>43</sup>

Conceiving of the individual as isolated and abstract, it was argued, reduces the well-being of those individuals (and the entire shape of their lives) to their *endogenous* features. This both heaps too much on the individual—making them more or less the sole determiners of their well-being—it also seems to underappreciate them in a robust sense—they are simply the sum of their genetic makeup which *determines* them. Accordingly, they have simultaneously been granted all the agency in their lives and rapidly had it stripped from them entirely.

Subsequently, the embedded approach explored in section 3, sought to correct each of these features. Foremost, by shifting from the narrowly deterministic view of the individual to a “socially embedded” notion. This view, which built on the insights of Dewey, Bourdieu, and Marx, recognised individuals as deeply relational and constituted in significant measure by their social environment. Accordingly, the embedded view considered social context not just an influence on *outcomes*, nor as *only* providing the space and utensils for individual activities, rather, it in fact *defines* individual choices, desires, wants, needs, beliefs, ambitions, etc. Consequently, if HEP is to involve the enhancement of people as flourishing ‘wholes’ (i.e. as having enhanced *lives*) then the embedded approach argues that ‘enhancing activity’ must consider the social ecology of individual as a crucial and ineliminable location for progressive changes. This is because those external features are, on the socially embedded conception of self, active ingredients in the enhanced life that, ultimately, shape the individuals in HEP.

Indeed, it suggests that it may ultimately prove far more consequential to HEP that changes be made here rather than that they are made to the functional abilities of individuals—to the extent that HEP might even be realised *without* any such augmentations. The atomistic approach is therefore turned on its head. No long can one proceed in HEP under the assumption that the individual *qua* individual is the primary judge of value and

the target for enhancement, nor can HETs be the sole—or even the *primary*—means of making enhancements. As a result of endorsing the ‘socially embedded self’, the embedded approach overhauls not just the idea of the self as isolated and abstract, but also the kinds of ‘tools’ (i.e. HETs) that fitted with that view.

The embedded approach then arises and is able to, for the first time, properly ask what it is that is involved in an enhanced human life. And, subsequently, to begin in earnest to answer that question. In particular, it suggests that the kinds of changes that are likely to enhance human lives will be those that are able to respond to the deep-seated issues that pervade and define human society; and which cause present day human lives to appear in need of ‘enhancement’. This, as will be illustrated further in Chapter Four, provides an entirely new field of play in which to consider the idea of enhancing human lives.

In particular, it will be argued that, in order to construct appropriate “human enhancement interventions” on the embedded approach, one must start by investigating those diverse and pervasive features of the social ecology that continuously shape the character of the socially embedded individual life such. In short, to identify what pragmatists such as Kitcher (2017, Forthcoming) refer to as “problems”. Subsequently, Chapter Four will investigate the nature of those “problems”, explicate how one is to go about identifying them, and illustrate the extent to which they drastically (but importantly) ‘balloon’ the array of issues with which HEP must (on the embedded view) concern itself.



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## Chapter Four

# ENHANCING HUMAN LIFE

*The pragmatism of the human enhancement project  
and why concrete problems in human lives must drive  
attempts to enhance them*

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### 1. Introduction

In latching a relational egalitarian commitment onto HETs—the prototypical means for enhancing humanity—Chapter One eschews the original jurisdiction of such technologies. This is unabashedly the case: it redirects the old purview so that the it is *not* foremost to alter human *bodies* but, rather, to improve human *life*. In so doing, it calls into question whether ‘enhancement’ requires any such physiological manipulations. The HETs advocate might decry this attempted hijacking, which imposes what will surely prove to be a more demanding task for those pursuing an enhanced state of affairs. Of course, their protestation is that such a move circumvents the very issue they were supposedly engaged with—i.e. to entertain possibilities for making functionally superior individuals by

employing a range of biomedical instruments that directly modify the human body. It is only in the context of *this kind of activity* that they subsequently would look to demonstrate its individual/social value. The role of ethical inquiry on this view is merely to flag where the use of HETs might go asunder so that measures can be implemented to forestall harmful outcomes. Accordingly, the ambition is, first and foremost, to refashion humans and contention arises only concerning the nature and extent of such changes. Their charge, as such, is that the proposed account of HEP warps such inquiry into something it is not—and *need not be*.

Yet, if such is the extent of HETs's remit then, as Chapter Two illustrated, they seek primarily to amplify individual experiences of the world vis-à-vis the status quo. As such, HETs need not substantially *change* it. However, this neglects the possibility that HETs could play a meaningful role in *liberating* humanity from existing features of the status quo that shackle it in harmful ways. As a result, one witnesses what Helen Hester aptly refers to as “the politically tone-deaf imaginaries of some forms of transhumanism” (2018, p. 5) that overlook the real needs of a time and place by favouring socially obtuse visions of the future. Similarly, Greenfield (2017, p. 26) laments that such “allegedly disruptive technologies leave existing modes of domination mostly intact, asking if they can ever truly be turned to liberatory ends.” However, this inquiry has sought to demonstrate that not only *can* human enhancement interventions do as much, indeed they *must* if they are to represent ‘enhancements’ in any meaningful sense. Yet, this task is hindered by the fixation on the many ways in which *individuals* (and one is forced to admit that the relevant party here is almost certainly to first be the exorbitantly wealthy given the non-medical nature of the kinds of HETs presently under consideration) will “win-out” as a result of HETs (i.e. as individuals in individual settings), while gesturing only in a general way to a desire to rid the world of its present shortcomings (read: *injustices*).<sup>1</sup>

Consequently, potential gains that could (and ought to) be their most motivating selling point appear, rather, as a mere afterthought of HETs: the headline is that *you* will be *enhanced* and the subtitle (if it even arises) is that some morally commendable



consequences will follow as a result. However, contrary to the HETs advocate's earlier claim that the emphasis on the more ambitious hope for radically improving human life somehow misappropriates these technologies, it is the assignment of such potentially striking transformations of the world to a secondary status that, I contend, "warps" the proper task of human enhancement interventions.<sup>2</sup> It prematurely limits the still largely *speculative* concept of 'human enhancement' to a narrow, impoverished, range of possibilities built only on existent (and constraining) visions of success that neglect changes of a more radical and fully emancipatory kind— thereby reneging on the grander (utopian) hope that underscored early portrayals of human enhancement. Ultimately, HETs that succeed in ridding human bodies of various so-called limitations, while theoretically capable of producing an array of legitimate goods many of us might have good reason to seek out, seem to pale in comparison to those which might rid human existence of various forms of injustice. For this reason, it was argued that there is need to transition from the mere consideration of HETs to the development of HEP—a shift that forces the "enhancement enterprise" (Buchanan, 2011) to be *more* ambitious, and, ultimately, influences both the *scope* and *character* of possible forms of human enhancement interventions.<sup>3</sup> There appears to be ample room to demand considerably more of them. After all, why aim to merely do some *constrained* 'good' when a more *robust* and socially penetrating kind of 'good' is potentially within reach? In the very least this possibility merits consideration.

The new focus, as such, is on what specific measures claiming to 'enhance' humanity might achieve with respect to salient features of human life and, subsequently, to articulate the desirability of such instruments in terms of their ability to overcome the many *social* problems that arise therein. Through Chapters Two and Three, it was argued that the individualism of the atomistic approach neglects the social and contextual elements that are crucial to this task, and that the consideration of human enhancement interventions needs to be anchored to a "socially embedded" conception of such progressive shifts. The objective, as such, is to identify which steps are to be taken once one endorses such a relational, embedded, conception of human life (and human flourishing).

Section 2 below, will outline that the embedded approach offers a broader perspective for reflecting on the idea of enhancement, that emphasises a new array of pressing social problems that inhibit human flourishing and ought to motivate HEP. It is only *following* a bona fide engagement with such issues, it is argued, that one might posit and reflect on the ability of specific HETs to be of assistance. However, should those HETs be found wanting, then the problems they were directed toward remain important to HEP and their ongoing persistence *precludes* any legitimate determination that an ‘enhanced’ state of affairs has been realised.<sup>4</sup>

Building on these two commitments—i.e. both to HEP (over HETs) and to the embedded approach (over the atomistic approach)<sup>5</sup>—this chapter explores how one might go about identifying such pertinent problems and defends why they mark the proper starting point for developing and advancing HEP. Subsequently, it is the character of such problems that drives the kinds of human enhancement interventions to be deployed against them. Here it is the identified problems themselves that are to steer the development of appropriate responses that, if successful, ought to be labelled ‘enhancements’. Consequently, ascertaining their embedded character is vital for advocates of HEP. With this much established, section 3 outlines the thoroughly Deweyan task that ought to occupy the HEP moving forward—one subtly but significantly different to what has occupied the development of HETs to date. By the end of this chapter, the path will be laid for those seeking to bring about a new breed of human enhancements concerned centrally with advancing human life.

## 2. Working from Problems

On a pragmatic account of progress, progress claims are made with respect to transitions *away from* existing and identifiable problems (Kitcher, 2015, 2017). It is, as such, a

*backward-looking* account (Roduit et al., 2014). While this is a simplified retelling, the point is that states of affairs *progress* when they no longer exhibit the problems of an earlier time. In the context of HEP, this implies that ‘enhancement’ takes place when one is no longer encumbered by a previously obtaining limitation. This pairs well with Hauskeller’s (2013a) critical exploration of what it means for HETs to make humans “better”, which implies that HEP faces an incredibly difficult task if it adopts a *teleological* rather than a *pragmatic* conception of progress—i.e. should HEP seek to realise some preconceived idea of the ‘perfect’ human being that directs the deployment of various HETs. It is difficult enough, Hauskeller illustrates, to spell out what ought to count as making a human “better” in rather narrow settings (i.e. with respect to particular functions), let alone what would count as improvements to humans “*qua human*” or that doing so would constitute a defensible *endpoint* of improvement (i.e. the perfect human).<sup>6</sup> Fortunately, barring some notable exceptions<sup>7</sup>, most contributions to the debate stakes no such claims. Rather, they tend to set the highest attained measure on a given human function as the “standard to beat” (and thereby demarcates a limit that is, *ipso facto*, deemed a problem) and identifies human enhancement in the surpassing of these.<sup>8</sup> We are, as such, to rejoice over HETs to the extent that they push back the previously thought of limits of the human being—and this then (re)sets the board for further progress (and so on).

However, if HEP is to be in any way successful it will be on the grounds that it solves problems we want solved—that is, problems that *matter* to us. Rather than simply overcome any old arbitrary limit. To this end, human enhancement interventions are, as the Xenofeminists rightly espouse, best viewed by way of their “emancipatory potential” (Cuboniks, 2018)—as they relieve us from particular ailments or allow us to gain something of value that we are presently deprived of. Yet, the embedded approach suggests that focusing on problems such as enhancing individual functionality (of pushing the envelope in this particular way) somehow misses the mark, and that rather different sorts of problems (i.e. those that concern how well human lives go) ought to be brought under review.<sup>9</sup> Clearly, understanding which problems are legitimate and when they can be

deemed to be resolved is, therefore, key to the entire endeavour. As such, the following section aims to highlight those problems that can (and ought to) occupy HEP.

## 2.1. The more expansive jurisdiction of the embedded approach

To start then, recall that the embedded approach provides a more nuanced, suitably complex, accounting of human activity. This, then, sheds new light on the extent to which HETs can be said to *enhance* human life. Specifically, it suggests that as long as HETs act on only *one* aspect of human life<sup>10</sup>—i.e. the individual (or, more accurately, only one part thereof: their physiology)—that their claims to enhancement can only be rather limited.<sup>11</sup> This is because the embedded approach challenges the idea that human life (and the ways in which it goes well or poorly) can be properly explained purely in terms of ‘the individual’ (as the atomistic approach is wont to do) or that it can be reduced to some functional capacity resulting from a person’s particular constitution. Accordingly, one does not get far in terms of explicating the value of HETs when such technologies are conceived of as applying to wholly discrete individuals and analysed only in the abstract. In order to bring about robust positive changes to human life, would-be human enhancement interventions need to operate on, or in the least be mindful of the myriad ways in which individuals are “socially embedded” (see pp. 101ff. above). Without displacing the individual, the embedded approach *situates* them in their contextual reality in order to gain a better idea of their needs and motivations. Clearly, the kinds of problems that human enhancement interventions are to be engaged with do, therefore, vary significantly depending on the ‘approach’ adopted. Where the atomistic approach looks only to features of the human body, the embedded approach looks to a given state of affairs through each of the three pillars of social embeddedness in order to understand and then respond to it—so that it can be improved upon.

Consequently, the embedded approach identifies a more expansive array of issues as “of concern” for HEP than does the atomistic approach. Even if one excludes the possibility that human enhancement interventions might permit entirely *novel* forms of human activity<sup>12</sup> (and possibly facilitate untried forms of human organisation<sup>13</sup>), and focuses only on the amelioration of *existing* problems, it seems that the proposed shift of perspective will still vastly increase the number and kind of concerns that ought to occupy HEP. In fact, even the limited focus on (so-called) genetic ‘problems’ that draw the present focus of HETs will need to be reconsidered—but this is to anticipate. By way of the embedded approach, a greater and more expansive array of ‘places’ wherein problems can be identified is recognised: for example, aspects of the social environment as diverse as social norms, formal laws, and institutions that influence or regulate the distribution of resources that influence the spaces between persons. As a result, the ways in which one thinks about (and might go about) their resolution is also expanded (e.g. through *legal* rather than *genetic* reform). Ultimately, *every* instance of suffering and struggle experienced by human beings (and contributing factor thereto) now becomes a potential target for ‘enhancement’ and the opportunities for engaging with them are (in theory) equally as broad. For example, eradicating poverty without making a single change directly to a human body can potentially be identified as a legitimate instance of human enhancement.

Allow me to linger briefly on this idea, as it may or may not be obvious to all that such a mammoth event in the context of human history ought to count as an instance of successful *human enhancement*. While few would deny (at least not publicly) that the eradication of poverty is a praiseworthy moral achievement, they might nevertheless view it as involving a different ‘kind’ of thing over which to get excited than that which portrayals of “superhumans” suggest is entailed in human enhancement. In other words, the two are thought to be exciting in distinct ways that can and ought to be appreciated in isolation of one another. Indeed, if we recall, it is a benefit of the pragmatic account of progress that progress claims need be neither “global” nor “complete” (Kitcher, 2017). As

such one can recognise the value of one instance of progress without it needing to bear on another—for example, the achievement of superintelligence *might* count as an instance of progress even if, say, intranational inequalities persist (although probably not if they are exacerbated in a way that was a foreseeable result of gaining such superintelligence). However, the idea is not for this to permit actively turning a blind eye to such features. Nor, does the fact that such progress claims can be made mean that it is not possible to weigh instances of progress against one another. Particularly, when what is in question is the value of distinct forms of progress as exemplars of a specific category of changes—i.e. *progress events constituting human enhancement*. As such, the claim that the two possible kinds of goods realised under the banner of ‘enhancement’ ought not be compared, and that they can be pursued wholly independently (of one another), is rejected.

Note, however, that it is *not* thereby also claimed that making humans “super” ought *not* to count as ‘enhancements’ (assuming, of course, that they can overcome the concerns identified in Chapter Two). Their inclusion has considerable intuitive appeal and is well established in the literature on the matter. As such, an effort to dispel this faces a considerable uphill battle, and is a task I do not take upon myself here.<sup>14</sup> The point, rather, is that such cases do not *exhaustively* capture those transitions that ought to be labelled ‘enhancements’ and, once one recognises this fact, that they do not even *best* capture them (i.e. vis-à-vis HEP). At least not in the present moment. Despite the genuine thrill and fervour that is likely to accompany HETs, when considered in view of obtaining socio-political landscape, many “super” enhancements appear as rather obtuse and (morally) impotent forms of enhancement.<sup>15</sup> And certainly, one can concede that not *everything* that is worthwhile doing needs to be about addressing injustice in the world—as much as some might wish that it were so. People are entitled to put their efforts towards other ends. However, if the ambition is to enhance humanity, then the arguments presented so far raise doubt over whether the focus evidenced by HETs is best suited to the task. Especially if other kinds of changes to society are also rightly to be considered

forms of human enhancement. Consequently, a focus on HETs must either (1) be explicitly divorced from issues of justice in favour of maintaining the narrow focus on human body amplification as a ‘pure’ intellectual pursuit (and therefore absent any grander ethical and moral claims one might wish to advance regarding the advancement of the human condition), or else, (2) accept the ethical and moral nature of HEP and, as a consequence, have to consider the extent to which other possible human enhancement interventions might be a better focus.

To wit, the eradication of poverty does seem to satisfy the various standards that have thus far been set for identifying cases of enhancement. Poverty clearly results in a great many, exceedingly well-documented, harms (R. Sapolsky (2005) & Mullainathan and Shafir (2013)), such that if anything were to count as a legitimate social problem on which we could make social progress, poverty would indubitably be amongst the top contenders. Poverty undermines a person’s capacity to lead a “flourishing life” (see p.17 above) and its eradication would go a substantial way toward facilitating such flourishing. It also effects a large number of people and is recognised as deeply concerning by many more: recent studies estimate that roughly 10% of the global population—or 734 million people—live in *extreme* poverty (i.e. on less than US\$1.90 a day<sup>16</sup>) and, if one uses the “Millennium Development Goals” of the United Nations as a rough indicator, there is a globally shared (or at least *stated*) commitment to the cause.<sup>17</sup> Together, these points satisfy the requirements of the social inducement critique (SIC) (see p. 69 above), which demands that would-be enhancements satisfy a collective view-point and do so on issues of moral importance. But perhaps most telling, in terms of the achievement of eradicating poverty counting as an enhancement, is simply what such a world would look like—i.e. the sheer reduction in the harshness of the lives experienced by so many people and the freedom it promises to grant them. To properly appreciate the severity of their lives today and to envision with sincerity what such improvement would mean for them, is surely to conjure up so vivid an image as to make its qualification as ‘enhanced’ obvious and render such things as, for example, being able to outrun Usain Bolt (an exciting

achievement for humankind no doubt) comparatively trivial. To fail in this respect, I suggest, is to demonstrate the sheer and entrenched character of one's own relative privilege (i.e. their circumstances make them incapable of grasping such suffering or else have desensitised them to it).

This 'gap' might be what underscores the HETs advocate's earlier idea that such changes neither look nor feel like the same kind of thing as is captured by HETs. On their view, those lifted out of poverty do not appear *enhanced* in the same way that those who are, for example, able to suddenly lift a car or solve complex equations do. And, in a simple sense, they are right. Yet, what grants the latter group its obvious surface appeal is, I contend, its unfamiliarity (i.e. the novelty of such an ability), while—sadly—the plight of the poor is all too routine a phenomenon (as is not being poor for those most likely to receive HETs). Yet, that the more novel event be confused with better illustrating an enhanced life is, again, revealing of the beholder, and it merits asking whether the persons now out of poverty would agree with such an assessment. In witnessing a previously impoverished community, now flourishing, and knowing first-hand what the transition means, it strikes me that they would have genuine cause to account of the situation as indubitably an instance of enhancement (at both the individual and collective levels). Why is the billionaire who is now able to life a car more indicative of human enhancement? Or the tech whizzes and bankers of Palo Alto and Wall Street who are now able to crunch huge amounts of data? If such cases are thought to grasp something grand, then the momentous nature of eliminating something like poverty has been severely underappreciated.

If the embedded approach is capable (as is claimed here) of identifying events such as the eradication of poverty as instances of human enhancement—and, therefore, the mechanisms that brought about such outcomes as legitimate human enhancement interventions—while also being able to delineate them from other instances of enhancement it recognises—such as those brought about by HETs (e.g. superintelligence)—then it has a superior explanatory power than does the atomistic approach and is, therefore, to be preferred. Moreover, it also provides a morally salient metric that permits the



comparison of such cases (namely by being able to consider the nature of any changes in concrete and fleshed out circumstances). Accordingly, while the radical expansion of human abilities can be celebrated, this needs to be checked against the social context of the time, which may or may not reveal those enhancements as particularly noteworthy—or, possibly, as morally suspect.

## 2.2. Problems abound: focusing the human enhancement project

The example of poverty just explored illustrates the kind of social problem it is argued could rightfully occupy HEP. By which I mean that one can, in wanting to advance HEP, seek to eradicate poverty and, in so doing, claim that an enhanced state of affairs has been achieved—even if no HETs are employed nor any changes made directly to human beings (e.g. an effective redistributive or pre-distributive<sup>18</sup> mechanism was installed instead). HEP can, as such, be advanced further by identifying *all* such candidate problems and by ascertaining which particular measures need to be developed and/or implemented in order to rectify them. In other words, a serious commitment to addressing the many problems that are abound in the world can be taken up, and their resolution set as indicative of an enhanced state of affairs existing. Of course, as already mentioned, the project of enhancing human life balloons as a result, growing to encompasses all forms of injustice and human strife.

While this drastically enlarges the workload of HEP, two points are worth noting. First, it is perfectly appropriate that HEP take up this vast task and seeks to bring as much of it under its belt as possible. After all, what has been revealed thereby is only what would in any case need to be overcome for a future state to count as meaningfully enhanced. Indeed, the fact that various HETs could prove ‘non-events’ is one of the main arguments raised against the atomistic approach in Chapter Two. We are, as such, better off for knowing the enormity of the task. It can now be approached in earnest. Second, in light

of the pragmatic account of progress, it is not necessary for HEP to succeed in resolving *all* of these problems (particularly not *all at once*). Rather, each successful resolution is capable of denoting an instance of enhancement and, therefore, advances HEP. It therefore matters that a new field of possibilities has been opened.

Nonetheless, the consequences of accepting this new task are significant. What it means is that the legitimate starting point for developing human enhancement interventions is no longer the human individual *per se* but, rather, a more general and critical exploration of the status quo, undertaken with the explicit aim of identifying existing social problems. Sadly, the state of the world being as it is, this means that there are an immense number of issues with which HEP need now concern itself. As such, there is a need to narrow down the focus, to identify particular ‘targets’ as apt candidates for HEP. In the very least if only to demonstrate concretely the character of robust human enhancement interventions.

Expectedly, the HETs advocate might rear their head at this. Was it not the case that at the onset of this whole inquiry there was already an established field exploring a rather narrow focus for HEP? Was it not then argued—at length—why this focus needed to be expanded?<sup>19</sup> And now there is a call to narrow the field of view again. To forestall what the HETs advocate is getting at, this newly sought-after narrowing does not return us to the same starting point—nor could it. Not while maintaining the argued for commitments of HEP and the embedded approach. To be clear, the HETs advocate might at this stage seek to present HETs as merely a particular way of reducing the number of things that concern HEP (i.e. by focusing only on issues of human functionality). Further, they might argue that their doing so would be no less arbitrary than any other method one might employ. However, this tactic can be rejected out of hand as it is incapable of proceeding on the grounds of a full consideration of the embedded approach—as, by necessity, doing so would bracket out those aspects that do not concern the genetic make-up of individuals and therefore reinforce an malnourished conception of the individual

inquestion. This is, in important respects, different to selecting from a range of issues identified after full consideration of the way in which they are embedded.

Does this last point give the HETs advocate a leg to stand on? Could they not proceed on the basis of a bona fide consideration of the embedded dimensions of the functional gains they wish to achieve via HETs? Or single out such functional concerns *post hoc*? In theory, yes. However, this would both produce a substantial amount of work (which the HETs advocate seems to want to avoid) as well as, ultimately, illustrate the arbitrariness of their particular form of delineation. Particularly, as it would entail that they had explored and acknowledged the various problems embedded in the mesh of human life, and, having properly understood the nature of these problems, elected to focus on only those elements of those issues that concern functional capacity. What this amounts to is doing all the work necessary for making meaningful strides toward resolving genuine problems and then deciding to engage only with what HETs are supposedly able to do—a decision that, more than anything, indicates a bull-headed commitment to the technologies in question rather than to those serious problems and realising an enhanced state of affairs for humans. As such, the onus falls to those seeking to stipulate that the continued focus on such HETs, while bracketing such other concerns, is warranted.<sup>20</sup> Further, at this stage I remain open to the possibility that upon a diligent inquiry into human life that features of human functionality might emerge as legitimately in need of augmentation so that they might *assist* more robust social changes—but this is also to anticipate.

What then are some of the (legitimate) alternative ways one might go about narrowing the focus?<sup>21</sup> An obvious method is to place this activity in the hands of individual agents who will, unavoidably, be involved as enactors or actuators of any measures seeking to enhance human life. As Kitcher explains, “[a] situation is *prima facie* morally problematic if there is some individual, or group of individuals, who resent the fact that the accepted moral framework permits it” (Forthcoming). Accordingly, an individual might reduce the number of candidates by proposing those problems that are near or

dear to them. In the first instance, they could simply look to their surroundings, focus their attention on the lives of others, and recognise in what ways the people they encounter struggle. Better yet, they might engage directly with their neighbours and peers and ask, in earnest and with genuine concern, after their lives and the difficulties they face. This will rapidly produce a list of problems that will prove more than sufficient to get going with. Alternatively, they might look inward, to set out from those states of affairs they are capable of identifying in the wider world that do not sit well with their own particular moral, philosophical, or cultural commitments (what Rawls (2001) calls their “comprehensive doctrine”). To this end, they might also turn to the swaths of literature in philosophy and other humanities that have made such issues of injustice their focus and, in pouring over these, single out issues that strike them as particularly salient.

Each of these ways in which an individual might pick-out an issue as concerning are important and touch on a vital insight of Dewey’s concerning moral inquiry: namely, that moral inquiry is initiated by such a sense of wrongness in one surroundings. Events that ‘jar’ with one’s ordinary perception of how matters ought to be are what Dewey refers to as “indeterminate situations” (Dewey, 1938)—events that break with one’s usual comings and goings and force an admission that something has gone awry or is need of resolution. However, such occurrences serve only to direct us to a situation’s candidacy for sustained moral inquiry; they reveal points of concern that are presumed serious but are still in need of review. Afterall, some issues so raised might be more deserving of attention than others. Moral inquiry has only been set in motion.

To reduce the arbitrariness of the collected issues, such problems ought to be paired with valid arguments/reasons outlining why those problems are important or particularly deserving of attention. For example, had one bolstered their initial inquiry into problems by turning to philosophy, then such reasoning is likely to have been built into the exploration of the given problem (or, at least, this ought to be the case). Such arguments can take a variety of forms: for example, it might impact a particular feature of life deemed to be fundamental to human well-being or flourishing (as evidenced in, for

example, research endorsing the “capabilities approach”<sup>22</sup>), or breach some strong philosophical principle (for example, one of Kant’s maxims). Such arguments reduce arbitrariness by demonstrating why the issue matters for more than simply the person raising it.

Given that this is the ambition, it seems that the best tactic for reducing arbitrariness would be to collate a diverse range of perspectives on any matter, representative of which would work cooperatively to produce a list of candidate problems therefrom. This is precisely the kind of activity Kitcher (Forthcoming) advocates as he seeks to develop a neo-democratic method for moral inquiry that is capable of delineating the “urgency” of various social problems and identifying when suitable resolutions to them have been realised. His project is a complex one, and its nuances cannot be spelled out in detail here. However, three of the *eleven* features of his proposed method for moral inquiry are worth highlighting, as they demonstrate clearly the project Kitcher has in mind:

“(3) Properly pursued moral inquiry initiated by a *prima facie* problematic situation consists in an ideal conversation appropriate to that situation.”

“(4) If a challenge is brought to members of a particular group, then it counts as urgent just in case a fully inclusive, optimally informed deliberation among representatives of the different perspectives within the group, committed to presumptive sympathy with the challengers, would endorse that challenge as one of the urgent candidates for moral inquiry.”

“(7) An ideal conversation appropriate to a *prima facie* problematic situation is a discussion in which the perspectives of all the stakeholders (with respect to that situation) are represented, in which proposals for responding to the situation are only considered if they, and the judgments put forward in their support, are consistent with the best information available in that situation, and in which the participants are mutually engaged.”

Through these it is clear how Kitcher's Dewey-inspired methodology seeks to pool together the views of all interested parties ("stakeholders"<sup>23</sup>) and outlines the conditions under which views are to be brought to the table (so to speak) and the inclusive discourse entailed in their consideration, so that claims and proposed solutions can be fairly adjudicated. In sum, Kitcher's proposal (that is, including the features not quoted above) is as thorough and well-reasoned a method for dealing with the array of problems that ought to concern HEP as has been articulated to-date. At this point, it is possible to outline the path forward for champions of the human enhancement project (persons we might, for simplicity, refer to as 'Enhancers').

### **3. The (Deweyan) Task of the Human Enhancement Project**

The features thus far highlighted lay out the task that ought to occupy Enhancers moving forward. In particular, they reveal that Enhancers are to execute an adumbration of Dewey's theory of inquiry (1938). In other words, they are to be 'problem-solvers' of a particular order (i.e. one concerned with amplifying human flourishing by resolving those issues that undermine it). Dewey's theory of inquiry has five phases: (1) an "indeterminate situation" (a problem), is (2) properly formulated (stated in detail), and (3) investigated in order to understand what features of the problem can and need to be acted on and what such action would look like, which (4) produces the outline of a solution that is to be tested and refined (where failures return one to earlier stages of the inquiry that, thereby, highlight overlooked aspects of the problem that are to be accounted for), and (5) the solution is acted out as to make the situation "determinate." Similarly, each of these are to be traversed in the development of human enhancement interventions.

In order to bring about an enhanced state of affairs, Enhancers need to first recognise those aspects of human life that inhibit people in a range of ways they should

detest—and produce an enhanced world through the resolution of those problems. Kitcher’s (Forthcoming) aforementioned methodology represents the most developed account of its kind and sets out the activity that ought to be carried out. It is a diversity and inclusivity promoting illustration of how to collate pressing social problems, investigate them, and seek to resolve them to collective satisfaction. However, it is not yet clear how it is to be realised in practice (i.e. to convert the various elements Kitcher enumerates into concrete activities and/or social institutions)—and it is well beyond the scope of my present inquiry to adapt Kitcher’s account into such a living, breathing, reality. Yet, I do not feel that it is crucial for Enhancers to await the day that someone succeeds in doing so. The comparatively simple task described earlier—i.e. of just exercising the degree of genuine *care* for the well-being of others needed to recognise the hardships they face—is sufficient to get going with. At least, that is, for identifying in a general way those problems that create the requisite space for human enhancement (and would constitute an improvement on the narrow starting point presently evidenced by adherents of the atomistic approach). In sum, the first step for Enhancers is to amass a list of candidate problems. Recognising that part and parcel of exercising such ‘care’ is to also care about the extent to which the given problem is understood and appreciated in an embedded sense.

Taking this task seriously marks the first positive stride toward overcoming the hasty recognition of problems that has resulted in the overemphasis on—and overstatement of—HETs as (equally hasty) *solutions*. Yet, recognising problems is not itself sufficient—it is possible to maintain a narrow and reductive appreciation of the now greater number of recognised problems that, as a result, fails to advance the development of meaningful solutions.<sup>24</sup> Rather, each problem needs to be investigated in light of the complex social context in which it arises (i.e. as per the embedded approach). It is, after all, one thing (an important thing no doubt) to see a problem and another to *understand it*—and another thing still to solve it. Indeed, tracing the full embedded dimensions of even seemingly simple problems (e.g. my own fluctuating commitment to vegetarianism)

is no simple matter. It is due to Dewey's sophisticated appreciation of the various (and complex) influences on human activity that he rightly identifies this task as representing the lion's share of the work involved in dealing with problems (cf. Dewey (1938)).

This might strike many as counterintuitive: surely, recognising that a problem exists and identifying what it entails is easier than developing a solution to it. The first requires only 'attention' while the second involves 'action' (and therefore introduces barriers thereto<sup>25</sup>). Most of us are, after all, painfully aware of a great number of problems (e.g. various issues of global injustice) that still persist—and, presumedly, these do so because their resolution is a difficult and complicated matter. Hence, it is the *solution* that is the hard part.

However, consider, for example, the problem of global warming, a phenomenon largely propelled by carbon producing human activity (or at least severely exacerbated by it). Recognising global warming as a problem is easy, however, as someone might claim, positing *effective* solutions to it is not so easily done or implemented. They are, of course, correct. Yet, oftentimes the difficulty arises not for want of possible solutions but because of *barriers* to their implementation. Crucially then, according to Dewey, these are not difficulties *of the solution* but, rather, *part of the problem*. To clarify Dewey's thought, recognise that the solution "reduce greenhouse emissions" is, relatively speaking, also a simple one (and easily identified).<sup>26</sup> Yet, reflection on its execution illuminates additional concerns that undermine the extent to which the idea itself can be considered legitimate or promising. Consequently, rather than illustrate the difficulty only of constructing solutions, this highlights an inadequate grasp of the given problem. Certainly, in the context of global warming, there are feasibility issues (e.g. collective action problems at the individual, social, and political levels) to be reckoned with that must inform any would-be solution (whose implantation will by no means be straightforward). However, that a solution faces such a range of obstacles, which inhibit its implementation, represents only a further *part* of the problem. Global warming is not, as such, simply a problem of excessive carbon emissions but also one of capitalism, consumerism, and the structure of the



global marketplace and international legal regime (to list only a few of the intersecting issues). As illustrated in this case, a problem is not just what it appeared on the surface to be, but also includes those features that allow it to exist, actively perpetuate at, and prevent it from being resolved. These are not separate concerns from the problem but, in fact, *constitute it* and form part of what makes the situation as a whole “indeterminate” (and prevents it from being made “determinate”).

It is, therefore, crucial to understand a problem in all of its embedded multiplicity. Note then, that in the process of understanding these problems one is then able to see how various issues sit alongside each other or are connected to one other and can be grouped together; or result from other ‘root’ problems they share or have in common. For example, in the case of global warming it was noted that issues concerning consumer norms and global political and economic structures are part of the problem. These might underscore a range of other social problems. Consequently, where an Enhancer might start off with a substantial list (in terms of quantity) of problems, reflection on those problems might group them into a distilled list of more substantial (in terms of impact) problems. Moreover, through such an investigation, an Enhancer is also likely to unearth the full extent of the consequences of those problems—e.g. the gravity of the harms caused, the degree to which they obtain, and the number of persons they effect—that might ground the differentiation and ranking of problems. Each of these pools of information gained from seeking to understand problems can serve to hone the focus of Enhancers and permit making judgments about where to direct their efforts.

Ultimately, any worthwhile solution can only follow from having a firm grasp on the problem in an embedded sense—rather than simply identifying a path between an abstract problem and it no longer obtaining (again, abstractly). Certainly, one might jump the gun, so to speak, and propose a solution to the problem one deems to have understood—as in the case of a simple determination to reduce greenhouse emissions or, as I have argued, with positing genetic augmentation as a means for improving human flourishing. Where a problem has not been properly grasped, then attempts to execute a

proposed solution will fall short, illuminating previously unnoticed issues that will further inform ones understanding of the problem and guide future proposals. If the problem has not been resolved then, logically, it persists. From this it is clear that a solution (deserving of the title) in fact only arises at the very moment that one has suitably understood the problem. Yet, while a solution is paired with the proper understanding of the problem, it is not the same thing as it. A solution still needs to be implemented. It is a thing *to be done*. Something made and imposed on the circumstances that constitute the problem. It must face up to the world at large.

The final aspect of the Enhancers task, therefore, involve the development and implementation of solutions. On the basis of the previous description that a solution, by its nature, occupies what one might think of as a *transitory* role. By which I mean that it connects the state where a problem existed to one where it does not. As a consequence, it is not something that can be divorced from the status quo (i.e. with the problem), rather it must in some way reconcile with it. Put differently, for a solution to work it must, to some extent, work with what is already there. Accordingly, solutions (like problems) are to be embedded. Enhancers are, therefore, to develop human enhancement interventions that *fit*, which means that in their development it cannot be overlooked that solutions will need to be applied and that the world at large continues around them unabated. As such, not only are they to be aware of the extent to which the status quo influences the development process (as was demonstrated earlier<sup>27</sup>), but also that any would-be solution must be implemented into that emerging status quo that retains by necessity elements of the old. As a consequence, solutions which appear strong in theory (and in ideal circumstances) might be found wanting in practice (i.e. non-ideal settings). Later, it will be argued that the presence of many forms of inegalitarian injustice serve in this way to diminish the potential of HETs. Yet, Enhancers will need to engage with such matters should they ever wish to produce meaningful human enhancement interventions.

## 4. Conclusion

In summary form: Working from specific urgent social problems to lasting and meaningful solutions that amplify human flourishing is the advocated activity of HEP (and the task of Enhancers). As such, it was argued that effective human enhancement interventions will need to be built on a detailed inquiry into such problems if they are to have a chance of resolving them (and not only treating their symptoms or helping in a superficial way). This shifts takes seriously the possibility of improving human life and demonstrates a genuine care for it by setting out from those place it is possible to identify that something has gone wrong—and inhibits human life from flourishing—which opens up the requisite space for positive change or calls out for improvement. However, carrying out this task with even the minimally required detail and diligence—even if I were to focus on only *one* specific ‘root’ problem—remains too large a task to carry out now at this late stage in the inquiry. Alas, it is a task that must be resigned to future research—but which nevertheless represents *the defining* activity I have argued is to occupy HEP moving forward. To reiterate, it is precisely this difficult and complex task that must be carried out to produce an enhanced state of affairs. The outcome of this is the development of human enhancement interventions and the realisation of instances of human enhancement. I have only, therefore, succeeded in setting the stage, as it were—the act is still to be written and performed. It is to this end that future research on the topic ought to be directed.

Nonetheless, I will not simply leave matters as they are—with the directive merely stipulated. Rather, in the coming sections, I will reconnect with that category of human enhancement interventions that has so far been the recipient of our ire (i.e. HETs). This will be done in order to demonstrate that they are able to serve as a helpful *heuristic*—or diagnostic tool—for highlighting problems that HETs themselves are embroiled with (or rely on) and that ought to occupy HEP directly. In other words, that they will be shown to

track meaningful problems, which could become legitimate focus points for sustained inquiry and, subsequently, human enhancing interventions.

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## Chapter Five

# USING HUMAN ENHANCEMENT TECHNOLOGIES AS A HEURISTIC

*Considering human enhancement technologies as  
potential indicators of morally salient social chal-  
lenges*

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### **1. Introduction**

The chapters so far have largely been critical of HETs. More accurately, they have been critical of the overall project the particular HETs explored in the debate seems to be embroiled in. Which is to say that the ultimate value of existing proposals for realising the ambition of HEP to enhance human life has, as such, been brought into question. In particular, doubt have been raised as to whether, as a result of such HETs, human life will be improved in ways that permit people to better relate with each other and to *flourish* together. As such, their utility in the narrow settings they are typically discussed was not

rejected outright. After all, if one assumes everything else about human social existence remains the same as it is now—and therefore exercises only a rather limited imagination vis-à-vis the possibilities for an enhanced future—there are obvious reasons to want HETs and recognise their worth. At the individual level HETs will be desired for rather obvious reasons: they promise (at least in theory) a better version of yourself. Not only would this appear the “smart” choice if nothing else changed in your life as result, but it is easy to imagine that such augmentations will simply allow one to better realise one’s goals. HETs will, therefore, be desired in the same way and for the same reasons that novel technologies presently are. And for *the same people*. For the “elite”—i.e. the well off and ambitious operating at the cutting edge—there are benefits aplenty to be accrued. But if one assumes existing power and resource distribution—and this, it has been argued, is the only context wherein many proposed HETs evidence their value—then what is sought is only an “amplified sameness.” Herein lies the crux of the criticism. Even assuming such individual windfalls eventuate from HETs (a big assumption to be sure), it is far from clear that anything approaching a Utopia of co-flourishing human lives would have been achieved. For all the good that could potentially come from such HETs (which, again, may very well grant sufficient reason to pursue their development in non-ideal circumstances and is likely to continue to enthrall and motivate the tech industry), that they therefore appear (at least in my eyes) unambitious.

As such, the nagging doubt concerning the ultimate value of HETs is that, when all was said and done, a comparison of the post- and pre-HETs would evidence some notable improvements but would mark no *revolution* in the human condition. The potential of HEP would have been sold short. However, such a grand hope for HEP, this project maintains, need not be abandoned. Rather, it has been argued that this lacklustre outcome is rooted in a failure on behalf of those proposing HETs to sufficiently embed these technologies in the world as it is presently experienced. Correcting this requires that one looks past the immediate changes wrought by specific HETs and the reasons to endorse them at the individual level. It requires that one appreciate the complexity of human life as an

*embedded* phenomenon—and that the character of this whole at present demonstrates significant room for growth that should occupy HEP. In so doing, one is tasked to acknowledge a world of complex failures that undermine the co-flourishing of the human species and, in seeing their negation in the post-HETs world, to grapple directly with how those problematic features can be overcome. For it would only be as a result of such successes that steps towards a properly revolutionary enhanced future will be taken.

Accordingly, the previous chapter outlined what remains the argued for path forward for HEP (i.e. its directive holds despite the claims of sections to come<sup>1</sup>). Generally speaking, ‘Enhancers’ are to set out from a position of care regarding the trials people encounter in their lives, that generates an earnest investigation into the contours of those problem areas, on the basis of which solutions to those issues can be developed that account for the complexity involved in instigating meaningful social change. In terms of moral activity, it, therefore, asks nothing new: these are rather routine steps in moral agency. It is only when considered in the context of the constricted idea of human enhancement evidenced by the atomistic approach that it appears novel. Consequently, this ‘new’ directive establishes HEP as a sweeping and ambitious moral endeavour, founded only on a fundamental concern for how well people’s lives go and a commitment to improving them. Moreover, it permits that the particular shape of any ‘solution’ (i.e. any ‘human enhancement intervention’) developed is contingent solely on the specific profile of the given problem under review and its ability to enact meaningful change.

Accordingly, other than maintaining the ineliminable need to include and consider others<sup>2</sup>, it is *open-ended* and stakes no initial claims with respect to form and focus. These are, as it were, ‘*to-be-discovered*’. In this way such an enhancement project avoids both the “problem bias” (i.e. to fixate on the pre-reflective notion that the issue concerns individual functionality) and the “solution bias” (i.e. to focus only on what gene-therapy-like tools can do and that this warps which problems are considered) that constricts the development of HETs in the atomistic approach. In sum, what has been achieved is a

plausible formulation of the steps that are to be taken to produce circumstances worthy of being called ‘enhanced’.

Note that none of this precludes the use of HETs—even though it suggests rather strongly that the examples typically advanced in the debate leave much to be desired. HEP must remain—truly—open-ended. Accordingly, should HETs be shown to constitute meaningful avenues for resolving existing barriers to human co-flourishing, their use will then have to be seriously (re)considered. As such, this chapter, will revisit the idea of HETs in order to ascertain how they might be of value to HEP. This value, as shall become clear, is radically different to that likely envisioned by their adherents. In particular, rather than have a direct applied value, it will be argued that they in fact track deep-seated social problems which their usual presentation appears to largely overlook; problems that ought to occupy HEP. An exploration of these ‘missed’ problems, it will be illustrated, lends support to the initial disquiet that, even in amplifying valued functions, HETs might not matter for improving the conditions of human life. Particular, it reveals that what has gone wrong in the development and appraisal of these HETs is that they have failed to appreciate the nuances of why those features they target are valued, the contexts in which they are, and the signally power of their use. The outright dismissal of such HETs would, therefore, have been epistemically costly.

Illustrating as much will occupy both this and the next chapters. As such, it will be helpful to be clear, from the outset, what part of the argument will be carried out here. To wit, the first task will be to expand on the reasons for—and the value of—this line of inquiry that returns our attention to specific forms of HETs. Subsequently, in Section 3, the idea that HETs can serve as a “heuristic” for identifying pertinent problems will be explained. Section 4 then, will introduce the three target types of HETs to be investigated—namely, cognitive neuroenhancement (CNE), mood enhancement (ME), and moral bioenhancement (MBE). In so doing the first, most cursory, way in which these HETs direct our gaze to particular problems will be explored. Finally, Section 5, will set the stage for Chapter 6 by arguing that the problems highlighted in Section 4 represent only the “surface”



of the matter those particular HETs are actually engaged with. As such, it suggests that there is a need to dig deeper into the “background conditions” into which those problems are embedded. In sum then this chapter will illustrate how a consideration of HETs built on the “embedded approach” allows one to appreciate HETs as part of a whole and to recognise that, as such, it *reflects* that whole and can instruct us on it. The actual “suspect” features of our existing reality will, therefore, only be explored in Chapter 6.

## 2. Why Return to Human Enhancement Technologies?

With this much set out, it is legitimate to first question the return to specific HETs (so late in the game as it were). Especially, as the point hammered home in the previous chapter was that proponents of HEP need to bracket their fixation on HETs and, instead, focus on particular obstacles to human flourishing from the ground up. Yet, here I promptly return to HETs. It is, as such, a move that risks muddying the only just cleared waters. Even more so since the just stated intention of this apparent backwards step is to illustrate how HETs can be used as a *heuristic* for identifying and reflecting on specific problems that ought to occupy HEP (i.e. something the previous chapter already spelt out in several variants) rather than promises some new insight that would return to HETs their prime position in HEP.

The first reason to return to HETs is that the previous chapter managed to largely side-step them—a move that, while warranted, undersells, in its own way, the existing debate. While it remains the case that many existing engagements with HETs have forced the inquiry in directions the previous chapters have sought to resist (or decouple HEP from)—and that it makes sense to illustrate what it is that such a focus misses out on by actually looking *beyond* HETs—the academic inquiry into HETs is indubitably not without value.<sup>3</sup> Indeed, as shall become clear, it has value even when one adopts the

embedded approach and seeks to shift the concern to those kinds of problems HETs have largely failed to respond to. As such, the embedded approach does not reject the value of HETs outright; in fact, it would go against its own grain to deny the (social) relevance of such emerging phenomena. Rather, it suggests that HETs to-date have only be grappling with *part* of the picture and, therefore, that much is potentially being overlooked. In particular, the previous chapter noted that what was being overlooked was a whole range of important problems divorced from the constitution of individual. Conversely, by reconsidering HETs, one is able to explore what issues might have been overlooked with respect to the precise ambitions of particular HETs (i.e. the very problems they have been concocted to respond to). The embedded approach can, consequently, be employed even in such narrow confines to broaden the focus beyond the atomistic (and functionalist) conception of individuals and the one-dimensional HETs produced as a result. As such, it breathes new life into the existing debate, providing a new lens through which to appreciate those commonly argued for HETs, the issues they engage, and the arguments made with respect to them.

Second, in so doing, an important (and recurring) objection to the directive advocated in the previous chapter can (finally) be snuffed out: namely, that the proposed agenda for HEP ropes the already existing notion of human enhancement into a fight in need neither wage nor participate in. In other words, that the embedded approach needlessly broadens the scope of human enhancement concerns. On this point the cry of the HETs advocate/purist is clear: “Yes! The world is plagued by problems, serious ones, but it does not fall to human enhancement interventions to solve them all. This asks too much.” While such a claim has already been challenged,<sup>4</sup> the explicit connection to established HETs in this chapter bolsters this rejection. This is because the problems picked out in this chapter will be derived *directly* from those HETs advocated in the debate, and, therefore, it considers only such problems as the existing debate has *already* (by their own admission) stipulated are of concern to it—even if they do so largely only implicitly (and likely unaware of its true size). The point here, however, is that existing portrayals

of HETs evidence a poorly executed attempt to understand the intricacies of the problems they purport to resolve, which the embedded approach illuminates and looks to correct. In this way, the line of inquiry (initiated in this chapter and varnished in the next) hopes to serve as a further bridge between the established debate and the radically different agenda I have given HEP.

Third, this consideration of HETs demonstrates more clearly the contribution of the embedded approach. Not only does it direct us to a greater number of problems than presently occupies HETs on the basis that it recognises a multiplicity of interrelated dimensions of human activity often underappreciated in the debate (as the previous chapters have outlined). It also allows existing HETs proposals to be revisited, with a mind to link their primary points of focus (that tend to overemphasise one feature of human life) to the other aspects of human life they touch upon. Concretely, it recognises that such tools (i.e. HETs) are themselves features of (or products of) an environment in which they are embedded—and, therefore, that they are *indicative* of it. To anticipate slightly, the desire for increased cognition via CNE might, for example, be a problematic response to the competitiveness of the modern workplace. This is because the reasons why particular HETs generate excitement depend on how they relate to the status quo. Ultimately, this inquiry illustrates what transpires when HETs are appreciated as embedded phenomena.

Finally, had I proceeded directly to such a consideration of HETs it may have given the wrong impression vis-à-vis the academic task I want to argue is required to aid and develop HEP—i.e. that summarised at the end of the previous chapter. Conversely, what eventuates from this inquiry is an alternative route of sorts for arriving at the more diffuse problems hindering human flourishing—one that it is hoped will strike a chord with champions of HETs and allow them to see the error of narrowly focusing on HETs as exemplars of human enhancement (to the exclusion of other considerations). At least, that is, in the present social climate we find ourselves in. For those still drawn to HETs-style interventions, it highlights in more detail what considerations they will nevertheless

need to include in making and strengthening their case for HETs. Such a task, it will become clear, inevitably pushes them a considerable distance away from the kinds of explorations that dominate the existing debate and towards the form of inquiry argued for here.

This section has outlined what I take to be plausible reasons for exploring HETs in more detail. However, as they say, “the proof is in the pudding.” The next section demonstrates first what it means for HETs to serve as a heuristic for identifying salient problems and, in the subsequent sections, illustrates how they do so.

### **3. Using Human Enhancement Technologies as a Heuristic**

For HETs to serve as a *heuristic* in this context means for them to act as a kind of rough (i.e. imperfect) *diagnostic tool* that gestures to problems one can accept as *prima facie* meaningful. This assumed importance is derived from the very fact that HETs have been extolled as responses to them; HETs are, after all, not trivial proposals. It also stems from the fact that their possibility has generated considerable interest, which again suggests that they touch on something valuable (or that they are at least perceived as doing so). If anything, the state of the debate as it stands (several decades on) indicates that a substantial number of people recognise the potential value of HETs for the human species and harbour some appreciation that they could, in the right circumstances, help improve human lives. Finally, as shall become clear, they appear to *resonate* in important ways with the present moment. As such, the debate is granted the benefit of any doubt that HETs track important social issues (a generosity which will, ultimately, prove justified).

An everyday example of how something can be employed as heuristic for identifying what people value can be found in the idea of ‘insurance’. The kinds of things people consistently purchase insurance for offers guidance because there are few circumstances

where people are prepared to spend money in advance in order to secure themselves against only potential losses. As such it provides a rough indication of a thing treasured: e.g. one's car, house, income, or even one's life (should one have dependents). In purchasing car insurance, for example, one recognises that damages to one's car would incur not only a substantial monetary cost— at (typically) an unexpected time—but that it would also constitute a significant problem in one's life (e.g. by limiting one's mobility). Accordingly, one would like to be protected against such an event. As such, where one is prepared to put one's money (at least in terms of insurance) provides a fairly reliable indicator of the things one values and the problems one considers important.

Similarly, *prima facie* legitimate problems can be isolated by investigating what a given HET 'touches' (i.e. those problems they respond to or are motivated by). The possibility of CNE or MBE, for example, illustrates (generally) that there is either a presumed inadequacy with our present cognitive or moral functioning or, else, that there is something valuable to be gained from their amplification. The status quo on these matters is, as such, deemed to be *prima facie* "of concern." While the intricacies of such claims require further investigation, their recognition as reasonable targets for change is accepted *tout court*. The upshot of this is that it permits one to bypass, at least temporarily, the issue of extricating a specific "focus-group" of problems from the immense array that batters the astute concerned observer. A task which, it was already noted in Chapter Four, requires weighing various problems against one another to determine legitimacy and/or relative urgency—and therefore a suitable method for doing so. Rather, it resorts only to those problems that the enhancement debate has opened the door to—both explicitly and implicitly—by its own admission.

Note, however, that identifying the problems targeted by HETs as *prima facie legitimate* in this way is not simply a matter of charity. Nor is it a mere short-cut, circumventing the need to grapple with those many social problems the previous chapter hinted at from the ground up—a task which, emphatically, cannot be waylaid. Rather, it stems from, and reiterates, the insight of the embedded approach that the various items

that make up a given social milieu intimately relate to one another. Accordingly, each feature is able to be understood as indicative in some way of the whole.<sup>5</sup> HETs are in this sense a product of a particular state of affairs that constitute a given set of (organic) social circumstances (i.e. a 'society'). HETs can, therefore, be recognised as both forming part of a whole—that they identify with and represent—but also as existing because of it (having come into being because of external features into which they must subsequently be placed). All of which means, simply, that were it not for certain obtaining events, HETs would not have arisen as a promising idea let alone as potentially required for advancing human life (a view which some influential HETs advocates subscribe to<sup>6</sup>). HETs are, in this way, *responses*—and, therefore, they gesture to what it is they are responding to. For example, the presence of CNE suggest the (perceived) need and/or desire for heightened cognition. Had there been no (intrinsic or instrumental) value associated with increased cognitive ability, CNE as a proposal would make little sense and would unlikely have been put forth let alone have garnered such support. Further, that HETs actively seek to achieve something with respect to the status quo means that they also *propagate some aspect of it*. Increased cognition, to continue the example, is associated with a particular gain *at the present time* and this marks CNE as a valuable possibility. Subsequently, this both motivates its development and use but also, in the process, revalidates that perceived value.<sup>7</sup> HETs are, as such, intimately engaged with the status quo in which they are embedded.

To illustrate in a different context, consider the fact of urbanisation. By living in large cities—a move often spurred on by the availability of employment there—one's home and workplace are often geographically quite separated, which often necessitates a not negligible commute between them.<sup>8</sup> However, their separation is often interrupted by the density of the city, which hinders that commute. Of course, this is compounded by the fact that many workplaces benefitting from being in a central shared location (so as to draw in consumers/clients), the desire of which elevates the value of those properties (beyond the means of most to utilise as residential rather than commercial properties).

Accordingly, people are often forced to live further away from the areas where they work. As the residences drift further from the centre, and the number of people needing to make such commutes increases the need for a better form of transportation arises, typically, in the form of an underground train network (or “metro”) that can bypass above ground traffic. Such a system helps overcome the issue of the home/work commute but also solidifies it and can even exacerbate it: the better the metro system the further people are able to live from work and the more reliant they are on the network in their day-to-day. It is, as such, both solution and propagant. The metro is both its own entity, with its own pros and cons and concerns, but also an element of a particular kind of developed and sprawling urban environment (noting that they are not found in small towns). Moreover, by looking at a metro system, one is able to appreciate that it stems from a bustling metropolis whose inhabitants have a considerable need to move around in order to realise their goals. Subsequently, in investigating a metro system one can of course focus solely on it in isolation, assessing how it succeeds in carrying out the task of moving people around, but it ought also be recognised that it constitutes part of the urban landscape such that, for example, the addition of new ‘stops’ will have an impact beyond the metro itself (e.g. beyond having to recalculate timetables); either by granting those parts of the city new access to other parts or by drawing a new collection of persons to that suburb, ultimately reshaping it. A robust consideration of the metro includes all of this (and more). So too must a robust consideration of HETs.

HETs can, as such, be understood as both a product of a given way of being, perceiving, and acting, but also as a tool that perpetuates as much (or augments an already accepted end in view). In the coming sections two ways in which HETs can serve as a useful heuristic are identified and explored. First, Section 4 will argue that they act immediately as a form of *triage* by designating particular problems *as problems*. Second, Section 5 will argue that an embedded exploration of the ‘background conditions’ of those same problems can reveal further underlying problems or causes that merit consideration. Part of this “layer” of the problem (that will be revealed only in Chapter Six) is that

the character of the particular response to the problem (i.e. the *means* employed by HETs to resolve it) itself reveals possibly concerning characteristic of the society from whence they arise. In sum they direct our gaze to various ‘roots’ of a given concern, then weed out into the broad social fabric. The primary assumption moving forward, therefore, is that it is pertinent to investigate these in order to better understand and assess HETs as candidates for advancing HEP; indeed, a strong assertion in either direction cannot be made without such an exploration. What these different layers of heuristic showcase is that an embedded reflection of the *same kinds of tools* and the *same kinds of problems* evidenced in the enhancement debate can reveal each in a different light that brings into question both the problems HETs are concerned with and (in the next chapter) their nature as solutions thereto.

## 4. Triage

The most obvious way that HETs ‘diagnose’ problems is simply by drawing our focus to those issues to which they are themselves directed. They serve as a means of *triage* by singling out, from all other possible problems, those issues particular HETs explicitly seek (or are stated) to address and, in so doing, provide a *starting point* for further inquiry.

The intended target and function of most HETs is typically no mystery—they usually appear right in the name. Of course, the precise nature of the problems and how exactly HETs are supposed to resolve them, as well as the consequences of doing so, is still very much up for debate. Indeed, these are the primary preoccupations of this saturated field of inquiry—and, as such, is *not* water I look to wade into here nor add to.<sup>9</sup> Nevertheless, their (i.e. specific HETs) general ambition can be stated with relative clarity that will suffice for the purposes to come. Particularly, given that the second (and more revealing) ‘layer’ of the heuristic considered later will explore the *perception* of ‘lack’ and



the *desire* for ‘more’ driving such technologies and, therefore, takes a step away from the specifics of those technologies. Nevertheless, restating the descriptions of the HETs being considered (i.e. CNE, ME, and MBE) alongside their supposed value may offer clarity when it comes to exploring the social motivations and drives underpinning such technologies.

To wit, CNE seek to either amend a perceived lack in cognitive ability or, more positively, meet a desire for it to be improved (to whatever end). In seeking to amplify cognitive functioning, CNE are here taken to group together an array of parameters on which one might excel cognitively (e.g. intelligence, problem solving, critical thinking, and memory). While the biological, physiological, and chemical mechanisms involved in each of these are rather distinct—an exploration of which goes well beyond my own expertise—they nevertheless represent recurring measures of desirable cognitive ability that tend to overlap in presentations of CNE advanced in the literature (Cf. Blank (2015) and Savulescu, Ter Meulen, et al. (2011)). Together, these are widely considered to be both intrinsically and instrumentally valuable. On the one hand, they are thought to help people to better recognise and achieve their personal goals and to prevent the making of poor choices that undermine these (Savulescu, Sandberg, et al., 2011). On the other hand, they are also conceivably conducive to helping bolster positive social change by stimulating innovation (e.g. by applying such invigorated thinking to the development of further useful technologies). As such, it is thought that we *all*, even those not directly ‘enhanced’, will benefit from the outputs of the cognitively enhanced.<sup>10</sup> In sum, the value of CNE identifies a shortcoming in cognitive functioning as *prima facie* problematic, and their amelioration as *prima facie* valuable.

ME, then, seek to augment moods; either by tempering harmful feelings and bolstering good ones or by improving emotional control or responsiveness (Kahane, 2011)—so as not to be bombarded or overwhelmed by unwanted, debilitating or harmful feelings and reactions. As such, they are not typically portrayed as installing a permanent state of happiness/content (a highly fraught idea<sup>11</sup>) but as the gaining of greater control over one’s emotions or moods—where this might entail some artificial up- or

down-regulation of particular characteristic feelings. Evidently, a primary objective with ME is to curtail those troublesome features of human character—e.g. aggression, distrust, apathy, fear, and jealousy—which tend to produce harms (both for the individuals experiencing them and those on the receiving end of actions spurred on thereby). However, given the complexity of these emotions and their intricate interactions and co-dependencies, existing science suggests that exercising any bulk control over them with the requisite finesse is largely a pipedream.<sup>12</sup> Consequently, recent, and more realistic, conceptions of ME tend to focus on the reduction of singular socially problematic moods—e.g. improving resistance to aggressive impulses toward others by, say, making people generally feel more at ease with others and more “fair-minded” through such things as ‘selective serotonin reuptake inhibitors’ (SSRI), which are generally thought to help people approach their lives more positively and to live more harmoniously and cooperatively with others (Frank, 2020). As such, having engrained, weakly controllable, emotional dispositions are diagnosed as *prima facie* problematic and, therefore, that being able to change or control these as *prima facie* valuable.

Lastly, we have the most ambiguous (and contentious) of the three HETs considered—given the not obvious match-up between the proposed physiological changes and the target: i.e. the still incredible (philosophically, psychologically, and biologically) murky notion that is “morality” (Hauskeller & Coyne, 2018). Most succinctly, MBE seek to create ‘good’ people—i.e. people who are more *moral*. To this end, they aim to help people better recognise the morally right action and to feel compelled to abide by it.<sup>13</sup> As such, it comprises some amount of moral reasoning that includes the ability to assess a given set of situations to recognise the morally correct option, where this is typically thought to also involve some form of empathy, sympathy, and altruism—and is, therefore, understood as both a cognitive and affective task.<sup>14</sup> This would combat such things as xenophobia, distrust, and moral apathy by, for example, regulating oxytocin levels/production (Persson & Savulescu, 2012).<sup>15</sup> Additionally, MBE would ideally also influence moral *resolve*—understood more as a motivation to act morally or follow through on

what one perceives as the proper moral action (Rakić & Wiseman, 2018) rather than the more problematic strengthening of moral *convictions* (a concern poignantly illustrated by the actions of fanatics and extremists). Again, existing science indicates that such fine-grained tweaking of individuals is unlikely to prove tenable.<sup>16</sup> Nevertheless, the hope underscoring MBE is that one day through the right balance of interventions we can produce significantly more consistent and reliable moral agents.<sup>17</sup> As such, MBE identifies an inconsistent or unreliable moral ability or capacity as *prima facie* concerning and the ability to improve thereon as *prime facie* worthwhile.

Via these three HETs, three *prima facie* “problem areas” are stipulated: human cognitive, emotive, and moral ability. Whether rightly earmarked as ‘problems’ or not, the very fact that HETs are proposed give us cause to take them seriously as they are embedded in a reality where such proposals were not only birthed but, for many, make a considerable amount of sense. Accordingly, to all intents and purposes, we collectively (in the societies we presently inhabit) *do* have and must face up to problems concerning our individual cognition, mood, and morality. They call out to be grappled with. Yet, while these problems areas are accepted *tout court*, their presentation and characterisation are *not*; rather, they will be rearticulated with particular attention being paid to how they are socially embedded<sup>18</sup>—a shift intended to help address the fact these problems are *inherited* from HETs largely developed from within the atomistic view. Which is to say, that while we proceed in light of the insights of the embedded approach, the formulations of the HETs just articulated—and therefore the kinds of problems extracted therefrom—originated by way of an atomistic conception of human enhancement and, therefore, rearticulation.

Accordingly, the pressing question is how these problems sit *as problems* in a given social milieu. For example, why is more of X desirable or the existing amount of Y deemed inadequate? Where ‘X’ and ‘Y’ represent any of the just delineated capacities. What motivates such perspectives on the matter and how would their amelioration (as brought about by a given HET) fit into the rest of our social reality? What is actually being

advanced by such interventions and what do they signal about the direction of human sociality? Through such questioning the embedded approach promises to expose where the stipulated or inherited problems driving HETs represent only the “*surface*” of deeper issues in society or are to be considered symptoms obscuring the root causes that effective human enhancement interventions would need to respond to in order to advance HEP.

Note, however, that in carrying out such appraisals the idea is not to uncover *new* problems *per se* (at least not initially)—to sneak them in through the backdoor as it were. Rather, it is to acknowledge the *same* problems in great detail and with more nuance. To illustrate, consider how one might respond to an issue with one’s car: for example, it is emitting black smoke. Clearly one would want this surface problem resolved (even if only because it might be embarrassing to drive a car in such a state). In this case the perception of the black smoke as a problem is *enough* to get going with. This is what the proposal of HETs in the established debate provides: there appears to be black smoke (e.g. moral limitations in people) that calls out for resolved (e.g. by implementing MBE that secure against such moral failures). Of course, one could—at least temporarily—stop the smoke problem by blocking the exhaust (a disastrous idea no doubt). The symptom “black smoke” would have been addressed, but (likely) without rectifying the underlying root cause. The question then is whether the curtailing of immoral action or the forcing or moral action realised by MBE are a similar kind of solution. Now if one identifies that the smoke problem resides in a faulty fuel injector that needs to be replaced, then one has *not* unearthed a *new* problem but gained a nuanced appreciation of it. One has discovered that their concern for the black smoke is, in fact, a concern for the faulty fuel injector; they are causally related. Similarly, if immoral action is significantly correlated with socio-economic determinants, then treating those is not engaging with a *new* problem but a nuanced appreciation of the same problem.

Consequently, it merits ascertaining whether the problems as presented (i.e. those just identified forms of cognitive, mood, or moral limitations) capture the nuances of the

problem or if they evidence only their facade. Are HETs attempting, to continue the analogy, to address only the “black smoke” while ignoring the need to replace faulty fuel injectors? The question to be dealt with next, therefore, is whether there are, as it were, problems with the problems.

## 5. Backgrounds Conditions and “Suspect” Social Practices

To start, recall that CNE seek to amplify thinking abilities (boosting familiar and already cherished traits), ME extend the (usually rather limited) control one has over their emotions, and MBE aim to promote dependable prosocial behaviour. Accordingly, in each instance they make clear assertions about what is accepted as good and proper and what is not. They explicitly endorse particular kinds of cognition, emotion dispositions, and moral behaviours, that advocates presume will serve recipients well, which they do by cohering with those valued in the status quo. As such, each HETs is by necessity divisive, favouring one possible kind of change over another. For example, when certain forms of cognition (e.g. computational ability) are deemed praiseworthy or elicit a reward, or when particular emotions are met with derision (e.g. aggressiveness, pensiveness, or submissiveness<sup>19</sup>). It is, therefore, inescapable that HETs perpetuate established social norms. On the one hand, such norms provide the basis for designating particular states of affairs as problematic and, on the other hand, it is in accordance with such norms that HETs will appear as, and be deemed to be, desirable responses.

The fact that HETs springboard off the status quo is not, however, *per se* morally concerning. Such a determination would hinge on the character of the particular norm being relied upon or championed. For example, does the it causes foreseeable harms, or cement forms of injustice, or inhibit addressing other moral problems? It therefore is necessary to ascertain not just that, for example, a social value for a particular kind of

intelligence forms the basis for CNE, but to appreciate what the consequence of this value presently have for persons in a given society and consider whether there is reason to be concerned over its mass proliferation and if the availability of that HETs will aggravate the social pressures exuded by that norm in individually or socially harmful ways. Information of this kind forms part of background of the problems HETs seek to address but will nevertheless have considerable bearing on the value one may want to assign them. It is on the basis of such information that one may want to reject a particular HET even when it does, for example, make people smarter or more pro-social. They constitute ‘expenses’ a given HET incurs that make it, in the end, too costly.

Accordingly, the pages to come will outline and then defend the idea that exploring how HETs ‘fit’ into their social milieu is (1) an extension of the embedded approach and (2) vital for unearthing (overlooked) “layers” of the problems HETs seek to address. In particular, by revealing the extent to which they stem from or rely on background conditions (i.e. existing practices) that one has good reason to denounce. Such discoveries, it will then be argued, are both to be considered relevant to the moral assessment of HETs and, in fact, attributed as *part* of the problem such technologies seek to amend (and must respond to). They can, therefore, provide *prima facie* reason to reconsider the value of the HETs in question. That is, regardless of whether it succeeds with respect the earlier identified problem it sought explicitly to address (e.g. whether it produced measurable improvements in cognition).<sup>20</sup> This possibility suggests that, as inherited from the atomistic approach, the “surface” problems in question might not yet be sufficiently spelled out and that aspects of their context might influence their being characterised as *the* relevant feature of the problem. Consequently, when it comes to a properly ambitious conception of HEP that recognises the full promise of human enhancement interventions vis-à-vis improving human life, the aim is to develop (and advocate) only those that can be judged as valuable in the fullest sense possible—rather than those that ‘help’ in only limited ways or are “complicit” in morally concerning practices (Little, 1998). If the aim genuinely is to improve human life then this is a holistic enterprise and one should resort

only to the best possible available methods for doing so, rather than those that give with hand as the take with the other.

### 5.1. Little on “Suspect Norms”

This line of inquiry follows naturally from the embedded approach, as a direct extension of the considerations it advocated for. To recall, the embedded approach instructs one *not* to see matters of human activity in simple terms of, for example, ‘want’ satisfaction—as they are far from straightforward. Rather, one is to consider it in light of how it is *situated* in broader and organic whole. For example, it suggests that one might proceed too quickly if, in noting the social need for (and even a pervasive desire for), say, a particular kind of fruit, that one set about (unthinkingly) in satisfying that desire and granting people that good. All sorts of features about the social context might dissuade this: e.g. the fruit is desired for nefarious purposes, or the individual desire stems from a collective practice that causes suffering in excluded members, or even the fact of attempting to satisfy the need will exert an unsustainable toll on the natural environment.

The same holds in the case that there is great interest in particular kinds of cognitive ability. The embedded approach tasks one to acknowledge the social mesh such a desire is nested in rather than immediately set about relieving that need (i.e. granting such cognitive abilities *en masse*). It therefore heeds Dewey’s famous point that “[t]he fact that something is desired only raises the question of its desirability; it does not settle it.” (1929, pp. 207-208). As such, one is directed to look beyond the explicit individual want and the supplied reason for its worth to the social environment in which those needs arise and the worth recognised, so as to identify how they are socially “determined” and “situated”. In the broadest brushstrokes, the idea is to include as much of the background conditions of a given event as is possible into one’s consideration of it. From this more complex appreciation of the matter, new dimensions to the same problem being explored

are likely to emerge; and these, it may then transpire, might merit priority or generate a shift in focus moving forward.

I am not, however, the first to suggest that existing proposals for HETs proceed too hastily, or that they might be overlooking deeper aspects of the issues they are engaged with or responding to only superficial ‘faces’ of the problem they identify. In short, to be concerned that HETs amount to mere salves—responding only to a problem’s ‘symptoms’—rather than genuine solutions (as exciting and ‘rationally’ desirable as they might be<sup>21</sup>). Nor is it a novel assertion that a diligent moral assessment of HETs must situate them into the broader social fabric in which they are enmeshed, so as to identify the norms they are reliant on and to assess whether these tarnish in any way their status as solutions. By which it is meant that, even if HETs do solve the specific issue they seek to (e.g. they make people smarter, or less violent, or more charitable), they might have overlooked morally salient aspects of the problem that go unaddressed—and, possibly, *taint* that solution. In a relatively early entry into the (still relatively new) debate, Margaret Little (1998) astutely demonstrated that “beauty enhancements” and “cosmetic surgery” can simultaneously be legitimate solutions to non-trivial moral problems and yet be built on largely underappreciated but nevertheless “suspect” norms (p. 163), whose presence give cause to resist claims that such interventions are the best solution or represent the entirety of what is to be done on the matter.

Consider one of the cases Little explores: having ear-adjustment surgery for *otapostasis*. Certainly, given the impact on one’s social life (e.g. becoming the target of schoolyard bullying or being scorned by potential partners), it may very well be desirable for an individual with protruding ears to seek a medical intervention. The desire to do so is, however, completely dependent upon social norms (i.e. on expectations about normalcy and beauty), which are often enforced by means (e.g. bullying and ostracism) that generate genuine pressure and suffering (Widdows, 2018). Cosmetic surgery in such cases are able to address and alleviate such pressure and suffering, yet they do so by bending the knee to those highly volatile beauty norms from which the misery prompting



such responses originated. In other words, they solve one—indubitably important—aspect of the problem (i.e. victims may no longer suffer the insults of their peers) while leaving those concerning practices anchoring the problem largely intact.

Hence, as Little stresses, when considering the moral quality of offering or undergoing such interventions, it is important to not only reflect on the desire to do so or to identify a technology that is able to meet that desire, but to explore the underlying structures and mechanisms that gave rise to the desire in the first place and give such solutions their appeal. In neglecting this dimension, one risks—even unintentionally—perpetuating and intensifying the social origins of the problem at hand and becoming “complicit” in it. Potentially, even solidifying those “suspect” harm-inducing norms.<sup>22</sup> For example, when cosmetic surgery is considered a legitimate form of ‘treatment’ (i.e. “curing” the torment-inducing physical characteristic) or even a ‘right’ (i.e. overcoming brute luck in the genetic lottery), it engrains troubling and intolerant beauty norms and secures a way to conform to them and whose widespread acceptance can serve to compel individuals to seek them out.

Consequently, as Little argues, the “very content” of such a response can be considered morally suspect when it “reflects, flows from, and reinforces a system of beliefs, attitudes, and practices that together involve deep injustice” (p. 167). Consequently, the carrying out of such surgeries might be considered part of the problem, or even a contributor to it, “complicit” in their perpetuation (pp. 170-3). This calls into question the extent to which we might think of them as ‘solutions’ as well as the appropriateness of defining the problem to be resolved in terms of that which triggers questionable actions in others.

Yet, as Little notes, this does not mean that one ought to *not* do the surgeries as they still do succeed in addressing the immediate concern (e.g. correcting some perceived malformation) and mitigate those harms experienced as a result (they may longer suffer at the hands of the cruel and narrow-minded). Surely, it need not be the case that victims of bullying must shoulder that ire in the name of resistance—that it is them, the harmed,

who must take on this responsibility. Particularly should this be imposed on them from without (given their own social inculcation into the norms they are seeking to adhere to). There nevertheless remains a need to fight those suspect beauty norms that motivate some people to bully and tease and which push others to seek the operating table. The ambition moving forward, as such, is to ascertain whether HETs are being motivated in a similarly suspect way and, if so, whether they risk exacerbating those suspect norms. The difference with HETs is that they are still speculative in nature, and therefore the situation is not that we must compel some to suffer while we wage the appropriate battles on troubling social norms. Rather, it is the case that the *only* thing to be done now (at least in the interim before such technologies arise—assuming that they ever do) is to detail those norms they threaten to rely on so that they can be pre-emptively intervened in.

Little's great insight, to reiterate, is that a given response to a problem might be rooted in "suspect norms", which a superficially promising solution might obscure or ignore (e.g. even as it commendably seeks to resolve some other important facet of the problem in question). That is, their being conceived of as a solution (e.g. stopping bullying) can be shown to rely on an aspect of the problem they do not respond to (e.g. conceding to the standards set by bullies). In the case of cosmetic surgery, their need arises from suspect beauty norms and in functioning as a solution they maintain those troubling norms (leaving them unresolved). Similarly, HETs too might "prop up" concerning practices (even when they succeed in realising something deemed to be of immediate value given the specifics of an individual's circumstances) by emphasising one part of the problem at the expense of others. They might, as Little aptly states, be "parasitic" on a society's morally tenuous attitudes and preferences (1998, p. 165). Such that, precisely in functioning correctly, they nevertheless tacitly champion some pernicious—yet perhaps routinely accepted—aspect of the status quo; either by directly seeking to placate it (e.g. advancing some accepted, but troubling, version of individual 'success' as involving a particular form of intelligence) or even by being a direct result of it (e.g. by endorsing a worrying method of succeeding such as by excluding others or succumbing to the

pressures of the horde). Should this be the case, one would have plausible grounds to reconsider their implementation and to revisit the claim that such a HETs advances human life in a desirable way. This much can only become clear once one appreciates in a full sense the ‘roots’ of those perceived and identified problems.

## 5.2. How the social context forms *part* of the problem

Unfortunately, too few appear to have heeded Little’s important insight, as this would have undercut much of those “politically tone-deaf” (Hester, 2018, p. 5) contributions to the literature embodying the atomistic approach that came later. Generally speaking, the present work seeks to remedy this. Specifically, however, in the remainder of this chapter (and the bulk of the next) it does so by making explicit (*some of*) the background conditions that are built into each of the cases of HETs just outlined. In so doing, the aim is to unearth if there are overlooked or underappreciated features of our obtaining social reality that might be “of concern”—which here means, in the first instance, that the presence of that social phenomenon is plausibly involved in the desirability of that particular HETs, and, in the case that it is considered morally suspect, that it would bear on the question of its application. Of particular interest—to anticipate slightly—will be whether these illuminate deficiencies in HETs as a ‘kind’—e.g. that mark out the *limits* of such tools with respect to HEP. Ultimately, however, these identified features within which the HETs in question are embroiled, will be flagged as legitimate candidates for the kind of sustained inquiry outlined in Chapter Four. In short, they will be considered issues of *prima facie* relevance to HEP, such that they represent appropriate “starting points” for the development of superior human enhancement interventions.

To get a better idea of the specifics of the task envisioned, consider again the defective car emitting black smoke. Recognise that such an event likely takes places in a social environment that greatly encourages people to have and rely upon cars (e.g.

because of the requirements and/or location of most occupations). Part of the urgency of a damaged car is, as such, the fact that it is so heavily depended on (and, for many, counts among the more significant expenses incurred in their lives). Consequently, the environment in which a problem is embedded is revealing; in this case highlighting the issue (and it certainly is only one among many potential others) of individual reliance on features outside of their workplace for their jobs—something employers in many countries rarely takes responsibility for. Particularly telling are cases where people expressly utilise their cars to generate income: e.g. *Uber* drivers. Their situation is especially precarious as *Uber* does not provide an allotted financial sum dedicated to car upkeep and usage costs, meaning drivers have to dig into their own earnings in order to facilitate them being able to carry out their job. Nor are drivers protected should something (such as engine trouble) inhibit their ability to work. Add to this that no effort is made to limit the number of drivers employed in order to stabilise earnings (as this would counter *Uber's* interests in providing its users with readier and cheaper access to drivers). Finally, *Uber* also extracts a considerable commission from each 'ride' carried out by its drivers (frequently up to 40% of the total fee charged to its customers<sup>23</sup>). Accordingly, when all is said and done, this model leaves little money for many drivers to dedicate to aspects of their lives other than simply maintaining their job.

That such individuals require a car and must dip into their already meagre funds to maintain it and prepare against unforeseen issues—or else risk their livelihoods—is, therefore, a significant part of the problem they face when they first notice the black smoke. As is the fact that the very employment which sits in jeopardy may not equip them with the requisite funds to either prevent such problems or to resolve them expediently when they arise. As is the fact that it is acceptable for employers to not provide paid leave, which in this case may have allowed the individual in question to take a day off work, without losing income, to schedule a routine check on their car. As would be the issue (the last raised here) of this particular person having to work *every* day of the week to earn a liveable wage. The black smoke in this particular scenario is only the outer

representation of this now more fully dressed problem, which replaced fuel injectors or car insurance do not resolve; even though they *do* help in obvious ways of undoubted value to the individual in question (i.e. the car now runs smoothly or the full cost of the repair did not assail the struggling car-owner).

The extent to which new fuel injectors can be considered analogous to HETs is, of course, rather limited; confined only to the fact that they are a *solution* to the *problem* in question. Yet, this is not nothing. Indeed, part of what motivated the initial turn to the embedded approach was the fact that the atomistic approach was fixated on the simple question of whether HETs did what they proposed. There was a recognised problem (e.g. feeling trapped by one's depressive emotions) and whether or not the HETs was considered legitimate hinged on if it resolved the problem to the satisfaction of the individual concerned. In this case the analogue holds: a new fuel injector does resolve the problem of the black smoke and is greatly appreciated by our Uber driver. The example can, however, be strengthened: either by making the new fuel injector indestructible (so that it will never be a problem again) or, better, that the driver is provided with an fully electric vehicle (in which case neither faulty fuel injectors nor black smoke will trouble them again). In such cases the fix is of such a kind that it both resolves the problem and even reduces some of the concerns that weigh on the driver. Their situation is, therefore, more obviously *enhanced*. Yet, if it is enhanced, it nevertheless does not resolve those deeper injustices that result in the state of insecurity wherein the driver is so overworked and overstressed. In fact, having resolved the issue in the way they have, a consequence may be that there is now less reason to pay attention to those deeper issues—i.e. they no longer have social cues that trigger a concern for them. A more reliable car, in a sense, now hides those concerning arrangements as the driver's livelihood now seems to be less at risk.

Of course, the salient question now is whether those advocating novel fuel injectors or electric cars as mechanisms for improving people's lives in specific ways—particularly in a setting where people do in fact rely on cars—need to concern themselves

with those broader issues of injustice highlighted. That is, the ones they presently fail to address or rectify. Further, is the fact that they fail reason to renounce their status as valuable tools? The clear implication of this questioning, when extended to HETs, is that if particular kinds of HETs advocated for are able to meaningfully help in a given situation (where “help” refers to the ability to resolve the problem as diagnosed) does it matter if they do not similarly contribute to the resolution of the broader social problems underscoring the change they are focused on. That is, in the non-ideal setting where people will value those abilities and there is a social expectation regarding them.

Many are likely to consider it unreasonable that car and car part manufacturers ought to concern themselves overly with those deeper issues. Although some may maintain that they should nevertheless have such issues “on their radar”, so to speak, in case there is a way for them to continue their business without making matters worse (and possibly even helping them). In other words, if there is a way that they can keep producing fuel injectors—thereby helping those who require replacements—while also motivating valuable social changes from the moral point of view, then they are likely only to recognise it if they have in fact turned their attention to ways in which they are implicated in those concerning practices. Yet, even people of this mind might be hesitant to stipulate that failing in this respect would undercut the utility of the goods they produce. That is, the value of those products would remain regardless. Why might this be different in the case of HETs?

There are two crucial difference to note. The first concerns the reality of the situation and the immediacy of the need, such that harms result from failing to meet them. The second concerns the overall ambitions of the goods being produced.

On the first point, the fact that the intervention in the car example responds to a present and immediate need and that barring them—or challenging their worth on grounds secondary to the immediate need—will serve to perpetuate a harm. Those currently in need will have to go without. As such, if fuel injectors aren’t produced because of their association with some dubious practices, then this will only add to the harms

experienced by the driver. Whom, it is important to recall, is directly embroiled and presently being harmed by those very practices whose presence we apparently want to assert should override a mechanism that can in a tangible and direct way help. Such a move resigns the car-owner to suffering until an overall 'fix' to the situation can be installed. As such, they pay twice for the unjust social practices. Accordingly, the immediacy of the problem here calls for a division of concern: to deal with the present problem, on the one hand, and to fix the larger problem, on the other. However, the idea is, nevertheless, that both sets of actions receive attention and generate activity. This point directly parallels Little's (1998) argument concerning cosmetic surgery; who surmises that, where the situation is imminent, it is appropriate to "sometimes perform the surgery" yet it remains the case that other efforts must, nevertheless, "always fight the system" (p. 176). Similarly, one should supply superior cars and car parts but should not, either as a direct result or in the process of doing so, lose sight of those suspect social practices—indeed, one should be particular cautious where the provision of aid threaten to do precisely this (i.e. to displace the need to address the bigger matters). It is possible to do both.

The situation with HETs is plainly different. In the first sense it is not a mechanism that is presently available and, therefore, its none-use does not immediately deprive someone of a form of aid—which would itself constitute a harm. The HETs considered tend to have two dimensions—one positively and the other negatively valanced—such that they seek to either amplify a positive ability (thereby catering less to a need than to the possibility of added utility—e.g. in CNE) or overcome a lack of ability that is thought to result in harms (e.g. as is presumed in MBE). Yet, in both instances, given the focus in this inquiry on "radical" HETs, the failure for such speculative abilities to eventuate—particularly since literally every human to-date has managed with the available breadth of ability—does not itself perpetuate a harm. I cannot be harmed by never gaining something no human being has had access to and whose feasibility remains in doubt. HETs are, as such, *remote* possibilities.

A further difference concerns the nature of the two kinds of solutions. Specifically, where it was argued that in the car example it is possible to “do both” (i.e. to provide the car part and to fight the systemic wrongs), this might not be the case with HETs. First because of the way in which HETs rely on the concerning norms (i.e. their particular ‘closeness’ to them) and, second, because of the kind of intervention they are (i.e. they change the individual ‘make-up’ of people). What these suggest is a possibility that, unlike the car example, HETs might be more culpable in the concerning practice as well as have the potential to ‘solidify’ it. As both of these points will receive a detailed consideration in the next chapter, I will explain them in only broad brushstrokes here.

To wit, it seems possible that while the value of a given HET (e.g. CNE) is obvious, its obviousness obtains directly because of its closeness to a particular social norm (e.g. economic success) and that what it satisfies is exactly the practice one may be concerned with (e.g. because of the harms of the resulting competition this norm inspires). In other words, exactly what makes CNE desirable and what makes them look like solutions is the presence of suspect forms of competition; they might therefore be directly involved in the escalation of such competitiveness. Add to this then, that CNE alter the functionality of people in order to concede to that norm. As such, it makes that people are more strongly embroiled in the concerning practice. Consequently, their use may increasingly compelled others to participate in this form of competition. Taken to its terminus, there arises some doubt as to whether actuating such HETs leaves open the possibility to “do both”—i.e. to “help” in the way that is sought and to address the social concern—as the “helping” in this instance may exactly compound that concerning practice.

Finally, it is important to take a step back when considering the analogy, and to acknowledge (1) the *hopeful/speculative* character of HETs and what it is they *promise* to achieve and (2) the kind of criticism the analogy is in fact meant to confer. Regarding (1) note that, unlike fuel injectors and electric cars, HETs sell themselves exactly on their potential to achieve an enhanced form of human existence. The ambition, as such, is matters will be superior in important ways as a result of their development and use. An



overarching argument motivating the present inquiry is that, in a general haste to explore the specific ways in which HETs are thought to help, one should not lose sight of that grand promise to improve human life. As such, the stakes are higher and, as a result, we are able to demand more of them. A demand we can maintain so long as they are still speculative, and we are in the process of working out how best to proceed in realising the ambition of HEP. SO long as we operate in the realm of speculation—even though the hope is that this will define what results in practice—there is no need to yet pull back our ambitions such that HETs become mere forms of narrow improvements. In other words, we need not make HETs into fuel injectors, and we do ourselves a disservice if we limit their role in this way from the outset.

Regarding (2) then, recognise that the specific target in raising these concerns, is *not* the specific HETs—my primary aim is not to make the case for or against these particular HETs. Rather they are used merely to illustrate the value which one formulation of HEP might have so that it can be compared to the version argued for here. As such, the primary concern is what, at the end of the day, eventuates from HEP and how that can take on its strongest form and to identify what commitments and considerations would best help it along. The activity is, therefore, still rather ‘ideal’—as it looks for how one is able to put the best foot forward vis-à-vis HEP. Undoubtedly, realist concessions will have to be made—but *not yet*. Indeed, when the time comes to do so we will be grateful for having advocated the strongest version of HEP, for it is in doing so that one recognises what are the things that matter most to it. What the considerations of specific HETs do is simply raise some doubt that what matters most to HEP is the alteration of the internal constitution of human beings so that they function in particular, presently desirable, ways.

## 6. Conclusion

To conclude, this chapter has laid the groundwork for the investigation to be undertaken in Chapter Six. It has argued that, even when endorsing the embedded approach to a HEP that seeks principally to enhance human life, that a closer inspection of those HETs advocated for in the established debate may illuminate overlooked aspects of the problems they are engaged with. Such HETs are not, therefore, to be dismissed outright. Rather, they constitute an epistemically valuable feature of the human enhancement phenomenon. By exploring them as elements embedded in our obtaining social reality, it was argued that they offer direction for HEP. Specifically, that they are able to serve as a helpful heuristic for pinpointing areas of concern to HEP by highlighting those “suspect” social practices that HETs rely on and that it is appropriate to identify these background features as *part* of the problems HETs seek to address. Chapter Six is, as such, poised to investigate the cases of CNE, ME, and MBE in detail, with the aim of extracting any concerning social features they may be built on.

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## Chapter Six

# THREE CASES

*An embedded consideration of cognitive neuroenhancement, mood enhancement, and moral bioenhancement*

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### 1. Introduction

To recall some of the road already covered (particularly in the past few chapter), note that the embedded approach to HEP works *from the ground up*. In other words, it starts from the facts of human life and seeks to improve on them by the means most suited to the problems identified there. Accordingly, as Chapter Four made explicit, Enhancers are, therefore, to engage in a pragmatic (specifically Deweyan) form of moral inquiry that identifies and seeks to resolve specific kinds of problems in humanity's embedded social reality. Consequently, rather than fixate on and limit the inquiry to some notion of a flawed human being in need of change, it locates the appropriate 'locations' for making

enhancements on the basis of robust appreciation of the various interdependent elements of human life. Humans are not, on the embedded view, simply the sum of their individual capacities but, instead—channelling Marx—are conceived of as substantially constituted by their *relations* to others and the intricate systems and institutions in which such relations take place. The embedded approach holds that it is only in view of this social matrix that it is possible to make sense of and give meaning to such notions as “problematic” or “enhanced”. An investigation into the actual lived experience of people, therefore, reveals the appropriates ‘spaces’ to which activity seeking to bring about an enhanced state of affairs can be directed. Specifically, these would respond to a nuanced understanding of the multiplicity of problems that threaten human co-flourishing.

Generally speaking, Enhancers are granted the longest possible leash in this activity—i.e. all conceivable encumbrances on human flourishing provide the potential space for enhancement interventions and are to be resolved as the situation demands. In Chapter Five, however, it was argued that an appreciation of the embedded character of specific HETs means that it is possible to hone the focus of this activity somewhat. Specifically, it was proposed that HETs arise precisely from a sense of deficiency or inadequacy in the status quo (i.e. specific shortcomings in the existing social landscape in which they are embedded). As such, they can be considered ‘symptoms’ of some obtaining facts and, therefore, gesture (in ways still to be determined) to what Dewey may have referred to as “indeterminate situations” (i.e. those to which Enhancers then seek a resolution). Crucially, this means that one is to treat them as a warning bell—or helpful heuristic—that prompts moral inquiry. As such, rather than automatically take HETs to be legitimate solutions realising purportedly desirable outcomes, they point us to where there may be pertinent social issues. They are in this way conceived of as epistemic resources.

This contributes to the overall ambition (of this project) to replace the lacklustre illustration of an ‘enhanced future’ as simply one where humans are “super-abled’ with one in which humans lives properly flourish by identifying some plausible “problem

areas” whose amendment would contribute to such flourishing. In short, if what is sought for the enhanced future is that it be radically different to the present in an unambiguously positive way, then steps in this direction must springboard from a critical consideration of the status quo. For the enhanced future to be devoid of the existing constraints on human flourishing, it is necessary to identify those existing hindrances. HETs highlight such potential constraints, it is argued, precisely because they gain their appeal by responding to areas where people supposedly believe such gains can be made (i.e. where matters can be improved upon). This chapter will seek to defend this claim by exploring the three HETs with which we are already now well acquainted and extracting the particular social issues they bring to light.

Accordingly, each of the earlier HETs (i.e. CNE, ME, and MBE)—and the social environment in which they are embedded—will be considered in turn, with the aim of identifying whether the needs and desires they respond to or the norms and institutions they placate (i.e. the “background condition”) are “morally suspect” (Little, 1998). To illustrate, consider a simple HETs not explored in great detail thus far: strength enhancement. Examples of pertinent questions that might be explored to extract background features are: Does being stronger derive its value from a particular application which one might be morally concerned over (e.g. to hurt others)? Does the value of enhanced strength depend on certain social institutions that themselves hinder the ambitions of HEP (e.g. benefits accrue from social institutions that have differential access depending on strength, such that not having access to these intuitions inhibits one’s ability to flourish)? Does a fixation on strength follow from particular social practices or norms that produce morally problematic outcomes (e.g. only the strong have some kind of social or political status)? Or, relatedly, would people seek out strength enhancements for morally dubious reasons (e.g. they are bullied for the lack of strength)? Would satisfying the socially determined desire for strength itself curtail some element of human flourishing (e.g. by pigeonholing a person in a way that excludes them from pursuing possibilities they valued prior to HETs and whose absence now cuts away a legitimate avenue

of self-actualisation)? Or, relatedly, would a strength enhancement actually reduce possibilities for flourishing (e.g. by creating an increasingly homogenous population driven to the same kinds of ends)?

Each of these highlights in subtly different ways the kinds of background concerns that may be lurking behind a particular HET and give a general idea of the kinds of matters to be considered in this chapter. First, CNE will be considered in light of how they sit with worrying norms of competition. Next, ME will be explored in the context of concerning forms of conformity and the consequences of homogenising emotion. Last, we will reflect on MBE in view of how its need may result from inegalitarian social practices and how its use may serve to compound these.

## **2. Cognitive Neuroenhancements and Competition**

### **2.1. The desire for improved cognition**

To start, recall that CNE look to overcome a variety of currently experienced limitations in cognitive functioning. Presumably most people would not begrudge such improvements: e.g. for their thoughts to be ‘clearer’, for connections to form more rapidly, for ideas to put themselves together more intelligently and coherently, for understanding of complex concepts to come more easily, and for information to be retained with more precision. Such is the promise of CNE. As such, it some not only intrinsically valuable but also, on its face, innocent enough.<sup>1</sup> For many, these will seem “all-purpose goods” (Hauskeller, 2013a, p. 15) and, therefore, beneficial in any and all circumstances. However, this is precisely the point: their innocuousness follows only from the extent to which they already cohere with an accepted worldview and are aligned with those features of society which cast them in such a light. Since their value is entirely contingent on the status quo, this reveals much both about that given value and the general character of such a society. That

is, they aid people to “perform better in situations that involve the completion of certain cognitive tasks” in whose presence alone their status as enhancements becomes clear (Hauskeller, 2013a, p. 14).

On the one hand, the value in CNE may present as denouncing the existing standard of cognition. Such as if present levels are seen as a cause of problems in a person’s life—i.e. not being able to perform at a particular task they are expected to (or wish to). On the other hand—and characterising more clearly the notion of ‘enhancement’—CNE might seek to amplify some cognitive feature in order to exploit goods presently associated with particular forms of cognition. This might be the case where a person’s existing abilities prevent them from accessing some presumed valuable good: e.g. if they were smarter, they could occupy some role they desire (e.g. a surgeon or physicist) and gain the social and financial benefits thereof. In a general sense, cognitive ability may be associated with a broader array of options for leading a more comfortable life, such that the expectation is that great cognitive functioning will increase such options and is, *ipso facto*, valuable.<sup>2</sup> Pointedly, this might also include such things as not yet properly known—or, indeed, yet knowable (this is where the speculative promises of ‘enhancement’ properly starts to take hold). An equivalent might be something like predicting the value of quantum computing on the basis of what is already valuable in existing computing. The upper-echelon cognisers and intellects amongst us are presumed to have access to some esteemed goods we should all wish to have the pleasure of experiencing, and, in turn, their *enhanced* superiors are envisioned as swimming through valuable experiences the character of which we can scarcely yet imagine.<sup>3</sup>

In each of these cases a statement is being made about the status quo. The first implies that something people presently value is not attainable because of the obtaining level, while the second suggests—on the basis of the present value associated with the ability in question—that increases of that ability will produce increases in benefit in kind. Both of which, ultimately, perpetuate those practices, institutions, or values, that elevate, respond favourably to, or reward particular forms of cognition. This, consequently, sets

into motion a reinforcing ‘feedback loop’ that may ‘prop up’ or steadily solidify those established norms and, possibly (but not necessarily), exclude or belie other kinds of ability as worthwhile. Given the potential “doubling down” of such norms, it is vital to ascertain whether what is being buttressed is morally “suspect”, as Little (1998) notes, and, subsequently, if the coagulation of those norms being precipitated is advantageous or detrimental to HEP.<sup>4</sup>

## 2.2. Competition and the force of the market

What then are the possible social forces ‘pushing’ or ‘pulling’ persons towards CNE and the acceptance of a particular associated value thereof? An obvious candidate here is the pervasive presence of *competition* and competitive social environments. A paradigmatic case, as the previous examples already hinted, is the existing job market; structured as it is around the tenants of neoliberal capitalism.<sup>5</sup> Most attempts to reflect on not just the general value of cognitive ability but also on what particular kinds of cognition are valued, can, ultimately, be reduced to their ability to aid the individual competing for particular kinds of employment (and, by extension, the kind of contribution they make to society and how these are appreciated). While there may be an intrinsic value to many cognitive abilities—i.e. joys to be derived from the sheer possession of them—it is not obvious that these would be preeminent in motivating CNE. Not when there are also such manifest instrumental grounds—i.e. the extent to which they might advance one’s own cause. These, it is more than plausible to assume, are likely to factor heavily into the thinking of the vast majority of persons seeking out CNE.<sup>6</sup> Particularly since one’s life—at least in the world we live in—is in such large parts defined by one’s occupation, which is often both the largest draw on one’s time as well as the source of one security and social standing. To illustrate, permit me to continue in an anecdotal way; i.e. to reflect briefly on my own desires for CNE.



Naturally, there is a part of me that wishes to first resist the suggestion that the value of CNE is predominantly economic or tied to social ‘success’. I tend to think of my philosophical inclinations as constitutive of my character, on the one hand, and as capable of producing output of general social interest and value, on the other. I would, as such, accept CNE even if they offered me no positional or economic advantage. Their appeal resides purely in their assisting me with that which brings me joy and to better realise that self-identified character—and do so to more meaningful (e.g. socially beneficial) ends. This is, of course, easily proclaimed from the ivory tower. However, such an idealised conception of CNE abstracts away from the messy realities of life, whose influence cannot be ignored.

Clearly my particular interest in being a philosopher is, not so ‘pure’; rather, academia also appeals to me *as a career*. Academia represents an occupation that aligns with my just self-proclaimed personal character and might, therefore, offer me that Twainian respite.<sup>7</sup> As there is a social expectation—or, more accurately, a *requirement*—that I be gainfully employed so as to meet the costs of living, the fact that such abilities pair with such an existing profession cannot, therefore, be detached from my motivations for desiring CNE. Indeed, it likely has a central role in the future their use is envisioned to assist. The particular value I see in CNE hinges then on my being able to put it to use (I would presumably not undertake them if they were of literally no use to me) and I would likely regard the philosopher’s life (and by extension the desirability of CNE) quite differently if it coincided with abject poverty and social condemnation. Accordingly, my interest in philosophy (an activity that itself exercises and benefits from particular kinds of cognitive ability and which, in being valued and social reaffirmed, propagates those abilities as desirable), the belief in its overall worth (to society writ large), and it being a potential source of necessary income cannot be so readily prised apart in considering my particular pursuit of CNE and the problem that they are a response to. The problem, of course, being what I *could* do with CNE that I presently might not be able to. Especially since I recognise

the not inconsiderable battle I face in pursuing an academic career (appreciated with my present cognitive limitation well in view).

Identifying CNE as something beneficial or acknowledging a cognitive limitation as a problem they might overcome is, as such, done in light of their influence on my future (i.e. the one where I will have to compete against others for employment). Each of the aforementioned points, therefore, reveal much about the kind of society I have been reared in and help define the reality against which the value of CNE must ultimately be assessed (at least in my case). In other words, each of these social dimensions comprise *part of the problem that CNE is thought to address*—that is, in addition to simply improving in an empirical sense those forms of cognition we have come collectively to value. As such, my motives (‘pure’ or otherwise) cannot be detached from the facts of my life; situated as I am in a supremely competitive “knowledge society” (i.e. one economically and culturally characterised by a high degree of dependency on the creation of scientific and technological knowledge<sup>8</sup>), which, in a meaningful way, seconds the value I recognise in philosophy and supports (i.e. financially) such use of my time (even though this detracts from my being able to contribute in ways of greater utility to others). It is such a society—rather than, perhaps, a primarily agrarian one—that values the possession of particular cognitive capacities and is structured so that their possession is likely to hold one in good stead (a statement which itself hints at an underlying degree of competition).<sup>9</sup> I am, therefore, considerably defined by my external environment and my relation to it and other people in it. Accordingly, the present competitive socio-economic landscape inescapably features in actual considerations of CNE. It is indubitably involved in why CNE were first posited as desirable, but also forms part of the background that defines the limitations CNE address as problematic.

### 2.3. The troubles with competition

However, the fact that CNE responds to and perpetuates an established norm or practice is not *itself* a problem. Yielding to social norms is not automatically morally suspect or evidence that something sinister is afoot. After all, HETs would have no value if they weren't tied to social preferences and outcomes. It is, in a very definite way, inescapable. However, not all norms are made equal, which simply begs the question of whether the right norms are being followed. This depends on whether the norms relied upon are individually or socially enabling or destructive. This, of course, can only be ascertained by sufficiently tracing how those norms and the HETs they inspire are situated in the living context of a society. Why then might the presence of such competitive economic motivations in the desire for CNE be both “concerning” and “of concern” to them being developed and used?

The earlier argument that HETs with primarily “positional” value are rendered obsolete in competitive environments is clearly pertinent here: should I see in CNE a potential to advance or secure an academic career, then I must also recognise that if each applicant in the same competition pool employed such means that none of us would be competitively better off against one another and the CNE would not have helped in the way sought.<sup>10</sup> If competitive norms remain unchanged the presence of CNE, even in succeeding in improving cognitive ability, would not only *not* help in the way desired. Of course, there is realistically little hope of nullifying such advantage given the near impossibility of universal distribution and access to such goods. In such circumstance, the competitive norms paired are likely to even exacerbate the need for CNE (i.e. others would have be forced to resort to the means I have employed if they are to remain competitive), which sets into motion an “arms race” in the competition pool.<sup>11</sup> One spurred on by those overlooked competition norms. We already see evidence attesting to this: with Tokyoites literally working themselves to death<sup>12</sup> and Ivy-leaguers exploiting wakefulness drugs (or *Nootropics*) to maintain their edge.<sup>13</sup> Studies indicate that users of such cognitive boosters explicitly cite a desire to “outperform”, the need to “keep up”, or a

feeling of “deficiency” as underscoring their resorting to such rudimentary (and poorly regulated) forms of CNE.<sup>14</sup>

When broadened beyond inter-individual dynamics the problems of competition become more manifest. Competition arises also at the global scale as a defining feature of international relations and, when diplomacy fails, it is here that competition of the highest stakes ensues—i.e. *warfare*. It is in this context that Persson and Savulescu (2012) advance their argument against CNE. In particular, they argue that CNE is doomed to cause harm in societies *such as ours* because of the ends such improved cognition are most likely to be directed toward: namely, to develop increasingly momentous weapons, whose destructive power risks what they term “ultimate harm”—i.e. threatens the ability of the human species to enjoy the existence it presently does. Their point is a valid one. And it is grounded in an appreciation of the obtaining features of our social reality. As things stand, a significant proportion of human cognitive ability and intellect is already directed not to solving the deep injustices of the world but to such things as the development of superior war machines (or innovations for greasing the wheels of capitalism).<sup>15</sup> Moreover, the increasing power of modern weaponry puts heretofore unknown destructive abilities in the hands of flawed individuals. It is on this particular point that much of the weight of Persson and Savulescu’s argument against CNE rests.

Namely, their point is that, in the face of such destructive capabilities, the most pressing flaw is humanity’s relatively under-evolved moral psychology, which, they argue, is not sufficiently developed to handle and process such potentially life-ending powers.<sup>16</sup> Humans are, in a sense, too fickle. Before gaining access to greater cognitive abilities and the tools such heightened intellect might concoct, Persson and Savulescu argue that it is imperative that “moral enhancements” are developed that would amplify moral abilities, allowing them to catch up to our over-developed cognitive ones, and equip humans with the requisite moral intelligence to abstain from utilising such technologies. As such, Persson and Savulescu seemingly run (at least in part) with sociobiologist, Edward O. Wilson’s (2009) memorable comment that “the real problem of

humanity is the following: we have Palaeolithic emotions, medieval institutions, and god-like technology.” However, they also seem to view that “god-like technology” as housing both the source of concern (i.e. the self-annihilation of humanity) and its potential saviour (by amending those “Palaeolithic emotions”). Yet, notable, this seems to ignore those “medieval institutions” and, therefore, the norms they evince and uphold.

Their response, as such, evidences precisely the reductive (i.e. “atomistic”) thinking found in spades in the established debate, which pinpoints human physiology as the source of humanity’s trials, rather than questions the social environment in which they take place. Consider what is accepted—or implied—when Persson and Savulescu propose MBE as a “solution” to the problem scenario of humanity annihilating itself via technologies our supposedly too-intelligent but morally-lacking brains have produced. Specifically, this reasoning seems to take for granted that humans and human societies are fundamentally competitive (rather than cooperative) and that naught can be done about this—other than, perhaps, by implementing MBE. There are, however, other places to lay our concern. Specifically, that we keep developing such destructive weapons, that we maintain highly competitive international relations based on dubious conceptions of property and entitlement, or that we direct the top-end intellects to the development of such technologies. Accordingly, is the problem perhaps not so much that there is a mismatch between evolved cognition and morality but, rather, just the fact that the military is such a vital part of the global economy? Possibly Persson and Savulescu’s intention here is to appear ‘realistic’; to concede the world as it is, and—in a non-ideal way—speculate as to what can be brought ‘into the mix’ to help matters. Yet, this concedes too much. Indeed, each of these points obtains precisely because of being caught in a competitive rat-race and the fact that almost every aspect of the global economy is built on, and perpetuates, such competition.

As such, their logic in turning to MBE as means to address this issue akin to those who wish to deal with the problem of school shootings by arming teachers or providing students with bulletproof vests. Properly trained and armed teachers could very well

reduce the number of fatalities in such cases by definitively interceding against a would-be shooter; and less children would die. Bulletproof vest may take the brunt of the usually indiscriminate firing involved in such cases; and less children would die. The immediate value of such measures is not disputed. However, they in no way constitute solutions to the problem, as they do nothing about the circumstances that result in people gunning down their fellow students. At best, they might disincentivise. Similarly, when Persson and Savulescu say that MBE are needed so that those with their finger on the trigger, so to speak, are able to have the requisite moral wherewithal to abstain from firing weapons of mass destruction (WMD's) they fail to get to the root of the problem. Specifically, they ignore why WMD's are created and the fact that nations feel compelled to dedicate their resources to such ends, on the one hand, and why it might fall to *individuals* to deploy them, on the other hand. Both of which can be explained by extremely entrenched power struggles and, therefore, norms of competition. The brute application of MBE, as it were 'after the fact', to curb the use of WMD's represents a 'band-aid' that leaves those underlying mechanisms festering. And it would have to be a 'brute' application, since the obtaining competition makes it a near impossibility that we might convince world leaders to undergo MBE (and if we could this would seem to suggest that there is less need for them than is being supposed). It is in considering such environmental dimensions as *part* of the problem—as the embedded approach suggests—that these limitations of such responses become evident.

A further consequences of the ongoing presence of competitive norms is the fact that they will by their very nature hinder the diffusion of those technologies (e.g. CNE). In a competitive world the best competitors are those who stand out, which they do by possessing what others do not. This situation, as such, spurs on an active interest in preventing the diffusion of that which would undermine their competitive power. In the just discussed scenario, it is clear that for the 'superpowers' of the world, their war innovations remain a closely guarded secret and they cannot rest even when they have the 'best' military arsenal lest a rival nation catches up to their firepower. Moreover, it is also

prudent that they actively seek to bar other nations from developing the kinds of weapons they already possess. This is the world competition has bred. And is the world in which CNE are considered valuable and against which there may be good reason to hedge this value.

An alternative example can be seen in the routine way in which owners of patents assert intellectual property rights and the social institutions that have been developed to protect and enforce these. Particularly poignant are cases of medical or pharmaceutical innovations. Here (individual) fiscal success in a hugely competitive marketplace is elevated above the collective value of those innovations for the people who need them. And why should it not, when competition and ‘winning’ is a mainstay of social interaction? In fact, for many the mere suggestion that such companies do something wrong when they act in their own interests fails to compute; their only duty is (supposedly) to their shareholders. Indeed, in most jurisdictions this duty is legislated so as to protect the rights of shareholders. With such norms entrenched, there is no reason to expect that the path of CNE would be any different—and no intellectual Utopia resides at the end of that road.

Related, the prevalence and broad acceptance of competitive practices therefore undercuts even the intrinsic potential of CNE. This is because, as just argued, the ongoing vested interest in their instrumental value seeks to curb their proliferation. It matters not if this is not the value you or I wish to see in CNE. As long as it has the ability to provide that ‘edge’ and society is setup so that winners reap all the rewards, the instrumental value is likely to win the day. As this instrumental value derives only from those obtaining social norms and practices, they must, therefore, be considered a primary aspect of the problem with which HETs such as CNE are engaged.

#### 2.4. Parts of the *same* problem

If the argument so far is accepted, then it does not do to separate these issues; to disentangle the individual gains or the amplified outputs that stem from CNE from their complicity in such a competitive social regime. Part of the problem of limited cognition or the desirability of heightened condition—indeed their very recognition as such—hinges on the particular competitive society we live in. As such it bears on the extent to which CNE can be thought to be a solution, since they appear to concede this very state of affairs. Which, the preceding passages have provided plausible reasons to, if not denounce completely, at least treat with considerable suspicion. This holds even if one assumes and concedes that individuals might benefit directly from that improved cognition (e.g. being able to enjoy a larger range of activities previously beyond their grasp) or that, as a result of such improvements, society witnesses the birth of a range of helpful technologies that raises its overall levels of well-being. This is because the price of admission is precisely that people will fundamentally (and increasingly) be in tension with each other. A status quo that causes considerable harms throughout society and aggravates the ability of individuals to effectively cooperate and care for one another. Accordingly, those harms associated with being a ‘loser’ in any such interaction or the extent to which it undercuts other sorts of activities that may have greater social value (e.g. those that require significant degrees of cooperation and trust)<sup>17</sup> are considered part of the bargain. This is a steep cost to incur. Too steep.

This does not, however, equate with a condemnation of all HETs—or even CNE in this case. Rather, what this argument from the embedded approach suggests is that the problems to which such HETs are typically thought to be a response have either not been adequately identified or articulated. Even if the result of this is that it is prudent to *delay* the implementation of such HETs until interventions that do respond to the problem sufficiently understood—e.g. that improve those (competitive) norms that seem to spell disaster for individualistic forms of HETs—are realised. Accordingly, while this raises considerable doubt that CNE are the kind of (valuable) solution they purport to be (having been constructed to respond to only a malnourished articulation of the problem



devoid of those crucial social explanandum) it is not a criticism of the HETs *per se*; no judgement is being made on CNE *per se*. Rather, it is only *in the particular context* we find ourselves in that they do not appear to be ‘solutions’ of the sort they are thought to be—or that they are *required* to be.

In this way, the vast majority of the existing contributions to the ‘ethics of human enhancement’—which have explored a great many ways in which the use of HETs can go wrong and produce “unintended bad consequences” (Buchanan, 2011)—is cast in a rather different light. One that is at times contrary to the self-proclaimed conclusions of the various authors: who tend to utilise the harms that are predicted to coincide with the use of various HETs as grounds for admonishing those technologies and, at times, demanding their prohibition.<sup>18</sup> Rather, as a result of the shift in perspective brought about by the embedded approach, those harms are to be seen not as passing judgment on those particular HETs but as an indictment of the *existing* state of society. The problems of HETs they articulate are, as such, to be understood as part of the problem to which HETs are an inadequate response. A problem which can in the broadest sense only be labelled a problem of a particular society (and not these particular kinds of tools developed by it). What the present exploration of CNE reveals is only that the pervasive influence of *competitiveness* as a social norm has considerable bearing on its development.

Such norms are, therefore, to be considered legitimate ‘targets’ for Enhancers to explore and develop responses to (as per the earlier directive of Chapter Four). In this way, such issues are to be considered a ‘call to arms’ for society to change—and to do so preferably *before* such HETs migrate from being merely ‘speculative’ to ‘emerging’ (and certainly before they are ‘pervasive’). Moreover, even as CNE highlights the specific problem of social competitiveness, it (i.e. CNE) is clearly not the cause of the problem. Consequently, such real and existing problems identified in this way are ones we should collectively be incentivised to address—regardless of any merit we place on HETs ever arising in the forms they have so far been portrayed in the debate. The upshot, of course, is that if such problems can be sufficiently responded to we would (1) be substantially

better situated to consider the value of such HETs proposals as CNE,<sup>19</sup> but also (2) that we would have solved social problems that irk us even if such forms of HETs prove untenable. Consequently, we will find that we would have been engaged, all the while, in the business of human enhancement. Inching our way forward, with steps that support HEP. Indeed, if measures are introduced that, by reducing norms of competition, produced the same kind of goods that motivated the desire for CNE (e.g. that granted financial stability or the ability to spend one's time in a way that generates a sense that one is valued), then these would have to be considered instances of enhancement.

### 3. Mood Enhancements, Conformity, and Alienation

This section will, in similar fashion, explore the case of ME; with the intention of unearthing additional suspect social features. Of course, when repeating the exercise, many HETs are likely to reveal the same sorts of concerning social norms: e.g. the issue of competition will be relevant to any HETs that is *individually* advantageous—such as those concerning physical improvements (strength, speed, height, beauty, etc.) and health gains (imperviousness to disease and longer life/immortality). However, there may be other suspect social *features* (i.e. not just *norms*) supporting these HETs that may need to be included as relevant elements of those problems the given HET look to resolve (or are thought to). These might include, for example, the specific social institutions that exist to organise and regulate particular aspects of society (e.g. schools and law enforcement), the particular shape of its political organisations (e.g. democracies with representative government), and even the general overarching character of its socio-economic structure (e.g. capitalistic); each of which may be more or less involved and implicated in such problems and, therefore, more or less in need of review and reform.<sup>20</sup> By exploring the cases of mood enhancements (ME)—and later moral bioenhancements (MBE)—the coming section(s)

look to add to the kinds of *prima facie* concerning social phenomena that will need to be factored into the developed of HETs.

### 3.1. Conformity and “appropriate feelings”

The starting point then—reanimating the earlier concern—is to ask why individuals might seek out ME. That is, to ascertain what their *perceived* value is and, subsequently, to trace what that value reveals about the world where persons would choose ME. At the outset I wish to flag what for many might appear an obvious use for ME: namely, to treat mood disorders (e.g. depression). Without diminishing the value of such an application, recall that Chapter One bracketed issues concerning the treatment/enhancement distinction by focusing only on HETs that are “radical” in nature. As such this is *not* a possible application that will be explored here. Rather, ME that concern us are those which might allow individuals with typical emotional functioning to tweak their emotional states in ways not yet possible and which they consider desirable. In other words, to “regulate or induce certain feelings” (Liao & Roache, 2011, p. 246) in ways they deem beneficial given the various ends they may value. For example, someone who is aware that their work suffers as a result of their stress over looming deadlines might seek to reduce their general overexpression of anxiety. Or, someone prone to violent outbursts, might seek to diminish their anger expression, so as to respond in more acceptable ways to various sources of frustration (and thereby land them less frequently before the law’s gaze). Or, someone who is generally uncomfortable with their emotions and is, therefore, awkward—possibly even a hinderance—when friends are in need of emotional support, might look to increase their empathy and emotional sensitivity. Or, a last illustration, someone who struggles to make friends because of their shyness or introversion, might seek to boost their happiness and confidence so that they are more comfortable and outgoing in social settings.<sup>21</sup> Each of these can have a significant positive impact on such

person's lives: allowing them, for example, to form and maintain valuable interpersonal relationships, to be more productive, and to meet their own goals (to name only a few). Accordingly, the recipient of ME might view them as means of better revealing their authentic self—or, at least, the person they wish to be.<sup>22</sup> Yet, what is actually going on here?

It seems to be the case that ME in these situations make people “better” (socially) by “enhancing the *appropriateness* of [their] emotions” (Hauskeller, 2013a, p. 62). In other words, they allow the shaping of oneself to better fit particular situations so as to reap the rewards that come from acting appropriately. The word “appropriate,” therefore, appears to do most of the work here and captures much about what is involved in using ME: they are turned to in order to rectify being at odds with the supposedly “proper” ways of feeling. It is, as such, motivated by a disunity between a person's usual experience of the world and either (1) an image of what constitutes a preferable experience of it, (2) a (normative) belief of how it ought to be experienced, or (3) the recognition of what is socially expected regarding such experiences. The social environment is, as such, at the root of each option as it shapes those desires, beliefs, and expectations as “the very notion of what is appropriate [emotionally] is socially and culturally determined” (Hauskeller, 2013a, p. 64).

This is true in two senses: not only does a society define what is acceptable through ever-shifting social norms—and enforces these in a variety of ways (that differ in harmfulness)—but the emotions ME presently seeks to disrupt arise in the first place as responses to the particular characteristics of that society (e.g. they are reactions to the jobs a society provides, the expectations it foists on citizens, the ways it bestows praise or rewards effort, etc.). These, of course, work in tandem: when one feels a panic attack rising as a deadline approaches it is both the case that this is a result of an overtaxing occupation and particular expectations about work output—that mingle with those conceptions of success one has adopted (e.g. as a result of the earlier explored norms of competition)—and some internalised mantra that one *shouldn't* be so stressed, that it is somehow one's own fault, and that one needs to better organise oneself (in short, that

one needs to be more like someone else). Worse yet, one might feel there is no adequate space to voice this experience lest it betray the ways in which one is presently falling short—while others seem to be managing (or are doing a better job of hiding their shortcomings). In such a scenario it may appear far superior to simply seek out ME.

Part of the problem is, therefore, the fact that ME appears to be not only a legitimate but (for some) possibly the only way ‘out’ in a setting where there are only a limited range of acceptable behaviours and emotions and a fear of expressing or revealing ones expression of those that fall outside that range. The issue is, as such, ripe with inter-personal *comparison* (one that requires no actual role model but, more problematically, simply an image of a person the particular conditions of one’s life have generated to characterise what is “appropriate”). All of which are ways of saying that there are both endogenous and exogenous pressures to *conform*—but that in each case they get their ‘sting’ from the broader features of one’s social milieu. The same holds for the person wanting to be less shy, or be more (or less) emotional, or cheerier. Each of these is sought out from the individual experience that their present reactions are in some sense not performing as is either socially demanded or valued/rewarded—they are concessions to norms that “demand conformity of feelings” (Hauskeller, 2013a, p. 63).

### 3.2. Alienation and the wisdom of emotions

The need for ME, as such, highlights the presence of a narrow acceptable range of (public) feelings and its use, therefore, concedes to the demand to conform to it. What the positing of ME as a solution to this supposed problem therefore does is simply reiterate that it is the person experiencing those feeling of disconnect vis-à-vis emotional norms that is in need of change. By changing individuals, the far more difficult task of improving society so that it is better placed to accommodate such variations of experience (and possibly to even embrace them as potentially rich sources of social knowledge<sup>23</sup>) or nurture self-

development is cordoned off. One need not tackle the issue of changing social practices because there is an avenue available that can maintain them—one that, therefore, offers less resistance (and allows existing ‘winners’ to remain on the podium). Of course, the consequence is an apparent resignation to the status quo; a recognition that society is either unable or unwilling to change. As such, the same sorts of social phenomenon (e.g. norms and business practices) are to continue, producing the same kinds of emotional toll on people, yet the resulting harms will then be *negated* by simply manipulating emotional experiences. As such, those experiences will still be primed to happen but will simply be pre-emptively *managed*. Troubled outliers can simply be *corrected*. Indeed, this may even generate a shared perception favouring the coercive “correction” of others—e.g., for criminals—but this is to anticipate.

Nevertheless, by cutting directly to the persons experiencing such a frustrating disconnect to social expectations and helping them behave appropriately—a *prima facie* commendable activity since there are typically social pitfalls for standing out in such ways—ME both give into and perpetuate mechanisms of *homogenisation* and, by extension, the tools of *alienation*. In other words, they co-opt social norms to provide a means for conformity and, in the process, provides an avenue for ‘legitimate’ ostracism for failures to do so. Accordingly, already existing mechanism for alienation—in both the sense of feeling ‘cut off’ from others as well as Marx’s sense of being coerced away from one own self-authorship—are interspersed in the problem of ME. ME essentially “doubles down” on the problem of social division by essentially alienating people from their own feelings.

Yet, as briefly noted, such feelings might be fully appropriate reactions to the state of the world in which people are increasingly *alienated* from each other. One wishes to feel happier and is constantly pushed to appear happy or has it engrained that its absence is something to be corrected. Yet, one feels disconnected, apathetic, and burnt out. A brute force attack on such feelings neglects the signals they send regarding one’s situation. Such feelings may serve as legitimate sources of insight that highlight the ways in which the

status quo is failing and may be in need of change—one that would be lost with the advent of ME. If no one feels the ‘rub’—i.e. they are no longer ‘out of sorts’—then how are we to know that something is awry?<sup>24</sup> A diversity of emotions is, therefore, a valuable epistemic resource for social criticism—and, therefore, is essential to social progress.<sup>25</sup> Ultimately, there is considerable reason to resist the idea that our feelings are “getting in the way”—when they may be potentially invaluable triggers for challenging that established “way.”<sup>26</sup>

What this embedded consideration of ME reveals, therefore, is a need to treat those features of society shaped so that people might ‘benefit’ from such restricting forms of emotional mastery as suspect. In a social landscape that has generated an array of concerning social dependencies (e.g. the constant need to have ones worth affirmed in the digital sphere), there is every reason to think that ME might be employed (even self-administrated) to dampen the very feelings that are indicative of a world that frustrates individual well-being and compels certain ways of acting and being and thinking; even as it offers up little to merit such servility but the whip of the status quo. The pressure to conform to rather rigid standards of acceptable behaviour—and the increasing social enforcement of homogeneity—is, as such, recognised as a relevant background feature of the problem that ME is supposedly a response to. It is, in short, a part of the problem. The alienating pressures to conform—nested in both social norms of interactions but in the social institutions wherein such interactions take place (particularly those increasingly migrating to the digital space) —spurs on the use of ME and this use therefore aids such conformity amplifying its influence on others. Consequently, when ME is recognised as both responding to genuine needs and as representing a valuable method for resolving that identified problem, this transpires within the context of increasingly homogenising social practices that, therefore, must be considered part of the problem. However, this aspect is exploited rather than addressed by the use of ME.

### 3.3. Saving the gladiators: getting our priorities straight

Given how ME have been portrayed here, it appears that they seek less to help people thrive in a general than that they thrive in a particular way in an existing environment—one we may wish to substantially reform. If, however, the ambition is actually individual thriving in a less regimented sense (as seems the preferable objective) then it is vital that one remain open to the fact that this might require very different social settings. One last example will settle the matter: consider someone speculating on how they could best promote the flourishing of a Roman gladiator. If they were to conclude that this would be best achieved by amplifying those things valuable to the gladiator's station—e.g. increased strength, reduced pain, and (most relevant to the present discussion) stunted emotional sentiment—then we might doubt that they genuinely have the gladiators flourishing at heart. Rather, they have limited their consideration of what is best to the gladiators flourishing to what would help them be a gladiator. The empirical facts that such 'enhancements' would help their cause and would, therefore, be elected by the gladiator in question do not dispel this point. Indeed, the implantation of those proposed forms of enhancement might serve only to secure the condemnable practice: emotionally stunted gladiators might better perform as gladiators—encouraging its use in other gladiators—whose shared lack of emotion in the execution of this activity ultimately hides a crucial aspect that reveals the practice as so concerning.

Conversely, if the gladiators flourishing is the primary concern then one ought to explore changing their circumstances entirely: i.e. to challenge the existence of gladiators and all the deeply concerning social norms that go result therein. If the development of HETs did not abstract away from the present in part and consider the possibility of radical change it will be trapped by it. Certainly there is much to be said for helping people as the pressures of non-ideal circumstances permit (i.e. to make do with what is available), yet these ought not sabotage the possibilities for HEP from the outset, not while there is both room and time for it to be more ambitious. As such the possibility of human flourishing should be considered in earnest, without the caveat imposed by the obtaining social



reality whose amelioration may constitute a key feature of HEP.<sup>27</sup> Even though this social reality must be appreciated fully in order to understand the nuanced of the problem and construct meaningful solutions that can transition from the obtaining state of affair on to an enhanced version thereof. Similarly, in the case contemporary potential usages of ME, we should be at pains to avoid that the development of HETs do not merely fall victim to the obtaining circumstances of individuals living in morally suspect social arrangements.

However, as was the case with CNE earlier, this is not intended as a definitive reprimand of ME. There is still much that would need to be explored, such as how these concerns might be justifiably weighed against social needs—e.g. protecting others by preventing some forms self-expression. Indeed, in collective living situations some compromise is both inescapable and a desirable mollifying feature of learning to cohabitate. Yet, it would fall to a more sustained inquiry into the matter to identify whether many of those concerning individual expressions of emotion to potentially be curbed in the public interest result from amendable features of society. What the argument so far has done is merely illustrate the need for such inquiry by sounding some warning bells over HETs that seek to fit persons into a singular mould. Consequently, if measures are implemented that, for example, allow people to feel comfortable in their own skin and offer support for individuated emotional experience, and even reduce the emotional burden of their day to day, then these (in the same way that there was initial reason to endorse ME as such) would need to be considered instances of enhancement. Such ‘enhancements’ have the added strength that they originate from a position of genuine concern for the people involved that aims for their lives to be better, rather than merely attempting to provide some kind of shield from the harshness that arise from established practices.

## 4. Moral Bioenhancement, Moral Interference, and Systemic Inequality

### 4.1. Overview

The final HETs explored in this chapter is that of Moral Bioenhancement (MBE). As in the earlier two cases, it is prudent to first ascertain what the proposed use or value of MBE is, which one does by asking why an individual may want to use them or have them be used (either for themselves or for others) and under what conditions one might do so. Accordingly, section 4.2. will explore what kind of problem MBE are thought to be an appropriate response to. Of course, the general idea—as already highlighted in Chapter Five—is that they will help people act more morally (where this might be understood generally to mean in prosocial ways—but more specifically in the context of this inquiry to act according to an interest in collective co-flourishing). If this presumptive need for MBE is accepted, then the implication that follows is that people presently do not—or at least do not consistently or reliably—act in such ways. As such, it is suggested that MBE seek to address particular forms of *moral failure* and that we are *all* likely to benefit from correcting these.

Here three main explanations for such moral failure are identified and will be explored: (1) individuals are in some definitive sense unable to act otherwise (i.e. to do what is morally required or expected); (2) individuals are inhibited from acting in the sought after ways—either by active preventive measures or (more passively) by a lack adequate support; or (3) individuals do not recognise that the sought after behaviour is the way they should behave, which could either result from a failure to absorb such normative commitments or because of competing normative influences.

Persson and Savulescu (2012) resort to the first kind of explanation when they argue that human moral psychology is fundamentally at odds with such contemporary

moral needs. Section 4.3. will challenge this conception of the issue—i.e. that pertinent moral failures are reducible to deep-seated functional inabilities resulting from limitations in how human moral psychology is constituted. Specifically, it will be argued that features of the obtaining social ecology are likely to have a far greater influence on the occurrence of such moral failure. The remaining two explanations follow from and support this social turn. Regarding the second, section 4.4. will outline a range of cursory (yet relatable) examples where features of the obtaining social environment are involved in particular cases of moral failure. In a general way, these will suggest how social practices and institutions might directly or indirectly inhibit moral action or fail to offer the necessary support for it. After all, acting morally ought to in all circumstances be easier than not acting morally; ideally it would be automatic or “habitual” (in the Deweyan sense). The fact that this is often not the case suggests that something has gone wrong in the existing structures of society.

On the point that people might feel no impulse to act in the ways sought via MBE or fail to recognise the way they ought to behave in given settings, it will be argued that some form of communal failure to extol those moral norms has occurred. Section 4.5. will explore how this arises from “moral crosstalk” in the learning environments for morality and the implications for the implementation and value of MBE are explored. Generally speaking, this can be understood as a failure in moral education (broadly conceived); a crucial component of which is “non-formal” instruction (i.e. that dispersed through general inter-personal interaction). A consideration of how moral failures are embedded in a social ecology illustrates that there are competing moral influences emanating from various aspects in society that misdirect moral behaviour or serve to dilute the sought-after moral impulses. In particular, it will be argued that the pervasive presence of inequality—bolstered as it is by almost all social institutions and practices which influence how not just individuals interact but nations—is a potent source of such moral interference.

Finally section 4.6. will end, as in the previously cases, by arguing that such intervening social features constitute relevant parts of the problem MBE is supposedly a response to. As moral dispositions and the acts they prompt require an appropriate space to thrive, it will be argued that the presence of such inegalitarian aspects of society that interfere in moral activity will need to be resolved *even in the case of MBE*. In other words, the ways in which they currently inhibit the easy execution of moral behaviours will also threaten and undermine MBE. Moreover, it will be argued that MBE of the kind predominantly portrayed in the academic literature echoes undesirable elements of this morally incoherent status quo, which appear to have shaped their conception and are likely to skew the deployment of such technologies. In other words, the same existing arrangement that presently gives rise to (or play a meaningful role in) the “moral failures” that generate the supposed need for MBE, it will be argued, are likely to be perpetuated by those same technologies seeking to address them. As such, these obtaining inegalitarian social structure are argued to bear considerably on the problem that MBE are a response to but also limit the potential of MBE as solutions thereto.<sup>28</sup>

#### 4.2. The need for moral bioenhancements

Philosophical interest in the idea of MBE was largely piqued by Persson and Savulescu's (2012) argument that there was an imperative to develop them in order avoid what they termed “ultimate harm” (i.e. that the powers of modern technologies would render life on earth as we presently value it untenable). Their reasoning was that MBE would grant people the necessary moral fortitude to refrain from deploying such increasingly destructive technologies (see p. 182 above). However, earlier iterations of the idea of ‘moral enhancement’ viewed the ability to act morally as simply another dimension along which human beings could be enhanced (like being faster). One that seemed to hold considerable promise for improving human life.<sup>29</sup> Like with all human capacities, there appears to

be significant limits to our moral functioning that make them a candidate for augmentation. Clearly humans frequently fail to act as morality requires (i.e. even if this means only to behave as proscribed by their own particular moral commitments) and MBE promise to correct this.

The moral failures prompting MBE are obvious. For example, a great many people living today lead truly unenviable—indeed, incredibly harsh—lives, wherein they experience scarcely comprehensible (and largely preventable) forms of suffering. When paired with the plausible idea that the normative commitments of most people denounce this state of affairs, then the nature of the moral failure begins to emerge. As the vast majority of people would rather (it seems fair to presume) this lamentable state of affairs were otherwise—such that, if a magic wand could undo global suffering *surely* most would wave it—then the failure entails the inactivity to rectify those circumstances that persons jointly believe ought to be resolved. Yet, the fact of the matter is that (too) few people do overly much to improve the lives of others (myself included); even in minimal ways (e.g. people routinely ignore persons seated so obviously in their need on the street explicitly seeking aid). Overall, pitifully little is done—at either the individual, social, or global levels—to improve the unjust conditions *billions* of people around the world find themselves in. This wanton “limited [moral] responsiveness” (Kitcher, Forthcoming, p.26) to the needs and well-being of others, therefore, comprises of a general lack of ‘other-concern’ or—more generously—a *lack of action* that follows in cases where there is a genuine concern for others. It is toward moral failures so understood that MBE will be taken to be directed as a response, and whose success would have obvious appeal. The pervasive presence of such limited responsiveness is, as such, taken to demonstrate a *prima facie* need for such interventions.

Note, however, that this articulation of “the problem” differs in an important way to that noted earlier (i.e. in the initial “triage” provided earlier<sup>30</sup>): in particular, it refers to an issue of “moral *failure*” rather than there being an issue only with “moral *ability*”. As such, it leaves open the additional possibility that the problem at hand involves an

inability to exercise a capacity that both exists and would suffice but is being thwarted in some way. That is, as opposed to involving some sheer lack of moral ability that calls for some new moral capacity to be instilled, or that existing levels of expression are insufficient and in need of radical amplification. In the coming pages it will be argued that advocates of MBE generally proceed too quickly in equating the evidence of moral failure with a fundamental absence of a particular kind of moral ability that require artificial stimulation. More specifically, in targeting the individual directly to address the problem, they appear to largely overlook the background conditions of the broader social landscape that, it will be argued, seem to play a significant role in the problem in question—and which would nevertheless need to be reckoned with even if MBE were utilised.

#### 4.3. Social institutions over individual constitutions

Persson and Savulescu (2012), arguably the most influential advocates of MBE in the established philosophical debate, clearly adopt an atomistic approach to the matter (i.e. they look to change the biological constitution of human beings in order to address such moral failures). The problem, they insist, concerns a fundamental deficit in the moral constitution of human beings—an evolutionary quirk that prevents humans from doing any better. In particular they argue that humanities moral psychology has remained relatively unchanged for most of human history (particular when compared to the vast improvements to our cognitive abilities that have occurred in the same timeframe). In a simple sense, this underdeveloped moral psychology inhibits humans from feeling a natural inclination to the kind of morality our modern world requires. As such, their claim is that human moral psychology is poorly “hard-wired” for the kind of moral agency required by a highlight interdependent and hyper-technologized global community, and that targeting and amending an individual’s biological constitution (i.e. via MBE) is *required* to overcome this fact (Persson & Savulescu, 2017).<sup>31</sup> Yet, much recent scientific literature

raises considerable doubt over claims that there is a deep-seated “mismatch” between human moral psychology—which, having supposedly evolved in the Pleistocene under conditions of intergroup violence and competition, is purported to be extremely parochially prosocial—and the cosmopolitan morality thought to be required to resolve cooperation problems at the global-scale. In fact, the supposed empirical basis for both Persson and Savulescu’s account of the psychological mechanisms involved in such moral (in)activity as well the evolutionary “story” they uphold (especially their account of the conditions of early human life) should be met with a considerable degree of suspicion; as they overstate both the degree to which the science they rely upon is considered established as well as its supposed “explanatory reach” (Buchanan & Powell, 2015). In other words, there are alternative portrayals of the “environment of evolutionary adaptation”(Buchanan & Powell, 2018) that offer superior accounts of the development of human morality and the psychological mechanisms involved in present day illustrations of inclusivist moralities (prominently Kitcher (2011, Forthcoming)). To say the least, the burgeoning (and promising) field exploring the *evolution* of human morality and moral psychology is far from having reached scientific consensus on many of the pertinent points of concern.<sup>32</sup>

There is, as such, sufficient doubt over the “facts”, as it were, that it is necessary to render a judgment between competing accounts by resorting to other criteria. Specifically, by explaining either why an account appears more plausible (e.g. on the grounds that it coheres better with neighbouring academic insights that together provide a more robust picture) or that there are some additional conceptual or normative strengths that follow from it (e.g. that if acted upon would facilitate meaningful social activity). As the coming passages will illustrate, it is for just such reasons that the rival accounts emphasising the malleability of human moral psychology and its responsiveness to social cues will be shown to edge out that of Persson and Savulescu (2012). Buchanan and Powell (2018), for example, claim, in the briefest possible form, that human moral psychology has considerably more “plasticity” than Persson and Savulescu purport and, therefore,

that it may be sensitive to changes in the relevant social environment. Consequently, they suggest that that it may be substantially influenced by exogenous interferences.<sup>33</sup> In the context of “moral enhancement” this means that moral failure can potentially be addressed—or moral inabilities overcome—by making changes to the social environments of people rather than by manipulating their physiological states directly (and permanently). In fact, it will later be argued that not only is this a possibility, but it appears to be the appropriate way to proceed given the extent to which existing moral failures are influenced existing social environments.

The view that human moral activity is significantly context sensitive is inter-disciplinarily robust in several ways, finding support in an array of neighbouring scientific fields. To start, if anything has emerged from the long and divisive “nature versus nurture” debate in behavioural and developmental psychology is that, for all the ways in which genetics constitute the individual, the influence of one’s social environment *cannot* in any sense be ruled out. For example, a median position between nativist (i.e. radically “nature”) and behaviourist (i.e. radically “nurture”) accounts can be found in Winnicott (1987), who argues that the nurturing environment is *crucial* for the development of a child’s “true self”. Accordingly, even as he holds onto some core aspect of the child as pre-experiential (i.e. genetically constituted) he concedes that in this initial form it nevertheless represents a multiplicity whose definition will hinge considerable on the social experience of the child. Generally, however, very few contemporary psychologists denounce the influence of social environment on individual behaviour and development. Further supporting evidence can be found in other neighbouring fields, such as those exploring how social norms develop in response to complex environmental and social changes (e.g. Bicchieri (2016) and (Hechter & Opp, 2001)), on the one hand, and how societies evolve in response to various collective—environmental and social—challenges (e.g. Birch (2017)), on the other. Finally, and perhaps most telling, is the emerging research in the field of *epigenetics* which explores how genes and environments continually interact—to the extent that features of our lived experiences are thought to *augment*



genetics in distinct ways, adding epigenetic material to DNA structures.<sup>34</sup> Together, these offer considerable support for the idea that, even if human moral behaviour is a product of a limited moral psychology, it is heavily socially influenced and this has a dramatic impact on how it is expressed.

While these fields lend credibility to the idea that it is important to consider the obtaining social environment when reflecting on human moral activity, there are also conceptual and pragmatic reasons to proceed as *if* humanity's social environment, rather than its genetic constitution, is *the* preeminent point of focus. Even if one were to concede that human emotion and moral psychology have changed little (physiologically speaking) since the Pleistocene, both how emotions are expressed and regulated in practice and the *content* of individual and collective moralities have—*indubitably*—changed significantly since then (Cf. Kitcher (2011, Forthcoming) and Buchanan and Powell (2018)). The fact that there has occurred notable improvements (at least in the contest of an appreciation for the argued for idea of “mutual co-flourishing”) in attitudes and behaviours between people (and groups), as Kitcher (Forthcoming, p. 27) shows, need not be explained by “any sudden shift in heritable psychological tendencies”—or, for that matter, that any *lack* in such behavioural changes corresponds with the *absence* of such psychological shifts. Rather, it can be explained by the introduction and rapid refinement of what Kitcher describes as “a *social technology* for amplifying our limited pre-moral responsiveness”—by which he means that “they invented morality” (Ibid., his emphasis). Accordingly, even if one were to accept that human moral biology has remained rather unchanged over human history then this has not hindered changes to moral behaviour that have markedly improved the lives of many people. What has changed, then, is the content of moral norms and the effectiveness of social structures that support them. That Kitcher refers to morality as a “social technology” is extremely apt, for indeed parts of the actuation of this morality are further sorts of social mechanisms (such that if the morality is the bones then these add the muscle)—e.g. that people have their basic needs taken care of or that there exist legal instruments to promote individual security that makes it

both possible (and preferable) that people interact peaceably. It is plausible to assume that it is the proliferation and efficacy of such social technologies that has allowed, for example—as Pinker (2012) explains at considerable length—for violence of all sorts to be at historically low levels. Accordingly, if humans haven't fundamentally changed to produce such results then there is even more reason to think that what has changed are these kinds of social technologies. As such, it is toward these that contemporary efforts seeking to overcome existing instances of moral failure (i.e. MBE) ought to be directed. Indeed, if one follows Rorty's (1998) account, it has been possible to breed a pervasive "human rights culture" on the back of one of humanities largest atrocities—constituting a revolutionary political shift that changed substantively the shape of international law and relations as well as fundamentally altered the relationship between states and their citizens—by manipulating human "sentiment" rather than by replacing it and building an entire social infrastructure around this idea.

A practical upshot of this is that moral change can evidently be successfully advanced without having to intervene at the individual level by manipulating psychophysical states. Yet, this collective 'evidence' does more than suggest that the question of the exact constitution of humanity's moral 'makeup' is a moot point. Rather, it might also serve to issue a word of caution concerning such thinking evidenced by the atomistic approach. Concretely, if MBE had been available at earlier times illustrating such thinking—i.e. the idea that people were simply not 'built' to act better—then much that we presently value may not have eventuated.<sup>35</sup> As a consequence, rather than turning to and employing the tools available in the social environment of a given time to shift the moral tides, persons may have been resigned to their fates as moral Neanderthals trapped (morally speaking) in their prehistory—or, more worryingly, have had this 'corrected' by their oppressors. This concern that a geneticised morality may, in a sense, let us 'off the hook' is echoed by Wiseman (2018) who argues that the "worst sin" of the discourse concerning MBE is that it "serves to trivialise the evils of this world, and not only to trivialise the hard-won efforts required to diminish and overcome such evils, but to misdirect

attention away from the real hard work that needs to be done in facing such evils” (p. 35). In sum, there is a need to recognise the problems of moral failure in all their grit and complexity and tackle them head on, in a robust and sustained way. Approaching the matter in this way has, therefore, a normative strength: it instructs us that our social reality may simply be poorly constructed and that it therefore falls to us to amend those concerning features. This is, of course, something we can immediately get going with. Better to assume that we are appropriately equipped to address such moral failures and to get on with the business of doing so—as humans have always done. And, since we know that people are capable of acting supremely morally, indeed with near selfless concern for others, we can be reasonable assured in the assumption that moral failures, as they are, are not ‘complete’ or predetermined. Improved moral agency is, ipso facto, not beyond the realm of possibility for present humans.

In sum this section has challenged the evolutionary narrative provided by Persson and Savulescu, arguing that it is not only scientifically, but also conceptually weak. To the first point it was argued that there is good reason to think that human moral psychology is more plastic than they claim. To the second, it was argued that even if it were accepted (i.e. that human moral psychology has not changed substantially) then, to the extent that our concern is on the range of behaviours available to such a psychology, there is significant counter-evidence that moral behaviour is incredibly responsive to environmental influence. Never mind that examples of humans embodying the kind of selfless morality we would wish to see result from MBE are abound. Indeed, the very fact that there are *any* persons who see the value of MBE, who would volunteer to have them, or who would constitute exemplars on which such MBE are to based, is evidence enough to doubt the biological story—i.e. that there is in some sense a *sheer* biological gap between how humans are and how they should be (morally speaking). As such, it was argued that there are good reasons to explore the possibility that flaws in existing social environments play a constitutive role in such moral failures. Accordingly, if the aim, ultimately, is to improve

moral behaviour then it is vital to focus on changes to social environments rather than the biological constitution of humans.

#### 4.4. Barriers to moral activity

Emphatically, the points collected in the previous section assert no empirical claim (else I would fall victim to my own criticism). Rather, they are intended to lend *prima facie* legitimacy for my persistence in considering the social dimensions of the problem with which MBE are purportedly engaged. That is, to resist the idea that changes to human moral psychology are either *necessary* or *sufficient*. As such, they suggest—reinforcing the key elements of the embedded account of human action outlined earlier (see p. 97ff.)—that much outside of an individual’s constitution is likely involved in instances of moral failure. It is, therefore, crucial to identify how these moral failures are socially embedded as, on the proposed view, moral failures emerge from the activities of concrete beings with particular social, cultural, and historical heritages that are situated in organic lives shaped by a multiplicity of evolving and interacting institutions, ideologies, and circumstances. In short, a social web brimming with opportunities to enact meaningful change; change which the very positing of MBE as a valuable tool acknowledges as desirable.

However, if it is the case that persons are able to recognise the need for MBE—that they want to help others or want the character of social interactions to improve—then this begs the question why people do not simply act accordingly? To cut right to the chase, if moral action (and therefore moral failure) is socially constituted, then what aspects of obtaining social conditions might plausibly be running *interference* on such moral action? To wit, it will be argued that existing social structures and institutions either (1) fail to impart collective morality in a sufficiently robust way; (2) weaken moral resolve or tacitly permit such moral failures as a consequence of allowing/tolerating other kinds

of individual activities (which should, therefore, be considered suspect); or (3) that they fail in various ways to provide the requisite *support* for moral activity (i.e. the moral life is rendered too cumbersome). Ultimately, it will be argued that the turn to MBE neglects each of these cases. More specifically, in section 4.5. it will be argued that it is the inegalitarian quality of existing social features that produces the moral “crosstalk” that results in moral failure. Moreover, that the turn to MBE in such a context would appear to “double down” on such inegalitarian norms: i.e. it is as a result of inegalitarian practices that moral failures arise and by implementing MBE they both fail to address those practice as well as carry out an equality thwarting activity. But this is to anticipate. For now, the first port of call is to illustrate in a general way how various established attributes of a given society may interfere with moral action.

Consider the following explanations of why some might fail to be involved in moral activities they recognise as valuable. Simply put, despite wishing to, they are hindered by competing draws on their (limited) time and resources that consistently “win the day”. For some this might mean that they are so caught up in the demands of their lives that they are scarcely able to break away from them to acknowledge the needs of those they pass by in their hurry.<sup>36</sup> For others it may mean that they perceive their situation as not sufficiently secure enough to permit them to expend time and resources towards such moral ends. Or that their situation is, in fact, so precarious that they might jeopardise being able to satisfy their own needs should they seek to act as they believe they should. Others still, might have the time and resources, but lack an effective conduit for realising change or for helping in a meaningful way. For example, they do not have access to positions of power, or to those in power, or the formal mechanisms for action are overly burdensome or opaque. A last group may simply feel that the responsibility for addressing such moral failures—or indeed the majority of positive moral labour—does not fall to them but to others (e.g. to particular institutions or states).<sup>37</sup> For example, some of these may adhere to a kind of moral minimalism such that so long as they do not directly harm others, then their hands are clean, and they are therefore permitted to act—for the

remainder—egoistically; or what some might view as simply label abiding by classical liberalism.

In short, life gets in the way of morality. In each of these cases there resides a social shortcoming that fails to properly support moral action: labour is either insufficiently secured or compensated (a failure in legislation and public policy), persons are absorbed by career drive in a society which hails this as an important virtue to which moral activity legitimately can take the backseat (a consequence of social norms built on a neoliberal capitalist job market), positions of power are unequally distributed (a consequence of inegalitarian social organisation) or persons are unable to equally access forms of representation not designed with them in mind and which inhibit their ability to incite change or exert influence over their social circumstances (a form of structural injustice), or norms of moral responsibility allow persons to offload their action to institutional actors and bodies who subsequently fail to act but which, as a result of individuals having become accustomed to shirking their responsibility, generate no backlash that would amend the matter (after all, people have their lives to be getting on with). As obtaining institutional, social, and structural elements (tacitly) support such moral failures, institutional, social, and structural reforms could, presumedly, go a long way in mitigating all such cases of moral failure.

Of course, moral failure does not involve only *inaction* on the part of some, but also some *overt* actions by others: e.g. their actions directly or indirectly hurt others (either physically or by hindering their ability to enjoy their life). Such persons too, might detest the abundances of moral failures in their society. They might view such harmful actions (including their own) as morally wrong and would rather these kinds of things did not happen. Some of these, however, might view their actions as resulting from necessity: i.e. despite agreeing that their behaviour is harmful, that from their particular viewpoint there appear to be few *genuine* alternatives. This perception might be based on several things, for example, their circumstances might be so dire that the harmful activity represents the only way of surviving, or they may be embedded in a community wherein

special attention is paid to particular signs of strength or weakness (and increasing the perception of the former over the later requires that one carry out certain actions one would rather not). Further, there are of course those who do not recognise their actions as immoral, in fact they consider them proper (i.e. have come to embrace this form of life they find themselves in), or, with more resignation, simply the way things are. In other words, their actions cohere with regional norms that are in stark contrast to those held by the majority of society (or idealised global norms). Finally, some (likely the smallest cohort) might have harmful compulsions they cannot reign in. Or they might completely fail to recognise their actions as immoral due to some psychopathology.<sup>38</sup> It seems that only this last group may be suitable candidates for MBE—and even then it appears that they do not require interventions that *enhance* but, rather, those that *treat* (i.e. are able to correct what might be considered behavioural or personality orders).<sup>39</sup>

Nevertheless, each of these suggest that some feature of society has either failed to prevent the behaviours entailed in the moral failures in question or permitted activities that (tacitly) support them.<sup>40</sup> Even those case where there is an explicit rejection of collective morality are indicative that the community has not succeeded in instilling its values in the individual in question—or that the social mechanisms guiding appropriate behaviour produce moral uncertainty. When persons do not recognise what the “right” thing to do is (i.e. what the moral norms of a community dictate) then there has either occurred a failure of moral education or the associated social instruments do not support adherence to its tenets.

Two of these kinds of interferences in morality will be explored in greater detail in the coming section. First, the idea that moral failures evidence a social failure to instil appropriate norms (understood initially as a particular form of knowledge that is action guiding) will be considered. In particular—in keeping with the focus on ‘interference’—the extent to which various established social practices either undermine moral education or fail to support moral activity. If these prove convincing then, it will be argued, that MBE which succeeded in correcting would themselves be morally suspect as they would

constitute a concerning form of paternalism. This realisation will set the stage for the second consideration, namely, that inequalitarian social structures are indicative of discriminating institutions of care that create significant moral ‘crosstalk’—which MBE may be complicit in and perpetuate.

#### 4.5. Moral ‘crosstalk’

Recall that the overall aim of section 4, as with the earlier considered HETs, is to highlight the social—that is, the *embedded*—features that determine or give rise to the problem MBE looks to resolve (i.e. the abundance of moral failure) and to consider how MBE matches up as a solution when *situated* inside of the context wherein that problem emerges. Ultimately, however, it wishes to extract a particular aspect of existing society which can be shown to plausibly play a significant role in moral failures, and which MBE not only fails to rectify but which they may even embody (and therefore perpetuate). As has already been hinted, this feature (it will be argued) is the many ways in which inequality is routinely built into social institutions and shapes interpersonal interactions. On this point much of the groundwork has already been laid; it was argued that moral failures are a social phenomenon and that many features of society can either promote or inhibit moral behaviours. To illustrate why this has such a deep impact in terms of aggravating moral failures and frustrating moral education, a long (if revealing) path will be traversed in this section. However, for making the overall point regarding institutionalised social inequality and its role in moral failure, these sections are not crucial. Which is to say, this path is not for everyone. Accordingly, those seeking a final statement of the socially character of moral failures and the implications for MBE may wish to skip directly to section 4.5.4. Those already convinced on this point can proceed directly to section 4.6, which will outline why inequalitarian social institutions are to be considered a key part of the problem of moral failure.



However, for those interested in the journey—which will engage in nuances that bear on the ongoing debate on MBE—here is an outline of the sections immediately to come. Given that the topic at this point concerns ‘morality’ (and the enhancement thereof), a quick clarification that acknowledges the potential metaethical concerns that could arise in this kind of project is made in section 4.5.1. Specifically, it will explain that the idea of morality adopted here involves only a claim about what is required to realise the HEP advocated for in Chapter 1—in other words, it asserts a morality built on co-flourishing.<sup>41</sup> Subsequently, seeking to initiate a deep and socialised understanding of the kind of moral failure MBE look to correct, section 4.5.2. is the first of three exploring the idea of moral education. In particular, it considers the idea that moral education is primarily about acquiring knowledge of moral facts or rules, which (if accepted) would result in a very different kind of MBE than has so far been outlined. Section 4.5.3. then explores the idea that moral education is primarily about nurturing and habituating particular kinds of behaviours. Rounding out the discussion on moral education, section 4.5.4. then explains that a robust account of moral education includes not just what to do and a feeling to do it, but that it is perpetually acquired and practiced in organic situations that exert a continual influence. In short, the embedded character of morality will be shown to vital to its occurrence. As moral education is argued to be pervasive, this has the consequence that if the moral failures motivating MBE can be meaningfully articulated as resulting from issues of moral education (broadly conceived) then attention ought primarily to be paid to the social features that structure the moral life.

#### 4.5.1. A metaethical qualification

Unless one believes that people access (or fail to access) moral ‘truths’ in some independent way, then a failure to endorse or abide by the demands of collective morality is a failure of that community to instil its values in the individual in question. When persons

do not recognise what the “right” thing to do is (i.e. as is socially *proscribed*) then there has either occurred a failure of moral education or society has failed to implement the request social mechanisms to support such recognition—and have it generate normative force.

A clarificatory note is important here: the failure to extol particular morals to particular persons is a considerably complex matter; one that may hinge on the metaethical account one supports. For example, for moral realists who adhere to the idea that there are such things as mind-independent moral truths, morality is somehow separate from any given society and can, therefore, provide a universal standard to which all societies can be judged. In such a scenario, talk of a failure in moral education is simple, communities either succeed to extol the (same) moral truths to their members and to support/enforce them, or they do not.<sup>42</sup> For relativists (who are well aware of the contextual character of morality), the matter is less straightforward. For example, talk of a singular morality shared by society (i.e. in the *singular*) borders on nonsensical. Rather, it is more appropriate to refer to the particular moralities of particular societies. Here there are two difficulties: First one must do away with the idea of being able to make comparative assessments of the moralities of different societies (at least in some ultimate sense such that one has grasped the ‘truth’ and the other has not). Second, in our modern world—with its complex (and shifting) interdependent and overlapping variations in group memberships—it is difficult even to draw those hard boundaries between different moral communities that might permit making even isolated assessments of the success of moral education (where this must then be understood as the degree to which an individual adopts and embodies the moral norms of their community). As such, the idea that there even could be a failure of moral education starts to appear flimsy: people are inescapably moulded by their community and what might look like a failure of moral education to some is simple the result of having attended a different ‘school’ (so to speak).

In recalling the normative commitments outlined at the start of this inquiry (see p. 17 above), the astute reader is likely to recognise the tactic one might employ here to

escape this bind. Namely, the particular task of enhancing human lives has been described as entailing the universalizable value of *shared* human flourishing. As such, one can proceed in a constructivist way, where those engaged in HEP need treat morality as requiring inter-personal (and by extension inter-communal) concern—as a minimum. In other words, an important factor of how individual flourish (and can therefore be said to have an *enhanced* existence) is the extent to which others can flourish in like fashion (Cf. Kitcher, 2017, p. 56). This was argued to be a logical necessity of creating a coherent human enhancement project, which found its final articulation in what was earlier called the “social inducement critique” (SIC). To recall, SIC required that proposals for enhancing humanity must succeed in inducing a collective commitment to such an outcome, rather than an individual one. As such, it brackets the issue of (relative) moral truth, in favour of a particular kind of practical commitment (i.e. to HEP). Consequently, if there is a “moral clause” then it is one that arises from the particular task in which we are engaged; and which requires that the flourishing of others *must* factor into one’s own behaviours (regardless of the moral norms of one’s particular community). While minimal (in so far as providing specific moral content), this does, nevertheless, provide a stage where it does make sense to speak of failures in moral education. Namely, the extent to which individuals have been directed to reflect on how their actions impact others (and to value their perspective) and, subsequently, that the obtaining features of their social ecology support being able to exercise a generalised concern for others and to factor their well-being into one’s actions and choices.

#### 4.5.2. Moral failure as a knowledge issue

Having clarified this, the extent to which such instances of limited moral responsiveness arise, in practice, from a failure of “moral education”—i.e. as a result of failures of various social technologies to *enable* morality—will be explored. As an enabler of morality, moral

education is therefore to be understood not just as the imparting of particular forms of knowledge about morality but as securing the ability to practice and habituate such learning. There are, therefore, three kinds of related failure that might arise here: (1) that something interferes with making the content of morality known (so that people are unable to ‘follow’), (2) that people do not gain a disposition to act in particular ways which fails to result in action; and (3) that social mechanisms that equip persons to act morally (i.e. that make such moral behaviours possible in practice) are either absent, inadequate, or inconsistent. Each of these possibilities were illustrate in a general way in section 4.4. above, in the coming pages what they suggest about the ways in which moral failures are to be resolved by MBE will be explored.

To start, the particular moral failure whereby persons fail to act morally because they do not recognise what the appropriate moral choice is will be considered. Of particular interest, of course, is the extent to which this obtains as a result of a failure of the social community to effectively extol those moral norms—i.e. that the various social mechanisms involved in moral education do not succeed in making the moral requirements outlined earlier known to a given individual. It is important to note here that the broadcasting and absorbing of such norms happens naturally and continuously from interactions between people. Morality in this sense is something cultivated through living with others—and its learning is rather unavoidable. Indeed, to cautiously return to an insight from studies in human evolution, there appears to be significant evidence that suggests that humans are evolutionarily driven to fit into a group and adopt its norms. We are, in a sense, geared to work which rules to follow. This evolutionarily advantageous tendency was then fortified through the development of various, what Kitcher (Forthcoming, p. 27) refers to as, “social technologies”. Particular that of “morality”, which arose as a more or less explicit means of regulating the behaviours of in-group members and serves as another means by which the demonstrated their belonging to the group (Tomasello, 2016).<sup>43</sup> Accordingly, we are primed to adopt the moral norms of our community. Given this it makes less sense to speak of a failure to convey a moral code than a

failure to instil the “right” moral code, which in this case means to know that others should be treated with genuine dignity and concern and that their flourishing is something that should be important to you.

Nonetheless, the kind of scenario one is likely to have in mind—i.e. as a case where there has been a failure to transmute the requisite moral information—is perhaps that of a child who has had an incredible harsh upbringing whose so-called moral lessons have, say, involved primarily the use of physical force.<sup>44</sup> Yet, even in this case what has occurred is not a failure to transmute rules of appropriate conduct, but rather the transmission of a rather different set of behaviours than is sought via MBE—one that will, in any way, rub up against the lessons offered in other settings (e.g. joining a sports teams) and sources (e.g. a religious text) from which they will draw behavioural cues. In most cases of moral failure, then, what is likely to have occurred is that moral education (i.e. of content regarding how to treat others) has only succeeded in-part or has been ‘muddied’ by various—possibly inconsistent—lessons being adopted in piecemeal fashion from the various communities of which one is a member. For example, someone’s moral education may have done a fairly good job of explicating *negative* moral norms—such as to not harm others, which requires only that they refrain from committing a particular act—but does rather poorly in conveying *positive* moral norms—such as being required to help those in need, which asks that they actively participate in moral behaviour. Such an education might reduce the occurrence of some forms of moral failure (e.g. violence) yet might not prevent those that follow from a general agnosticism to others and their plight. Similarly, another person may be told by their family to act in one way but have this warped by their peers who (as a gang) instruct them that this moral code bestowed on them by their family applies only to a narrow range of other persons. In this case one might develop a rather keen sense of who not to harm and who to help, but that this is incredibly parochial.

However, if the idea is that failures in moral education are largely failures of this kind—i.e. to sufficiently instil a particular kind of knowledge *content*, then this would

suggest a rather different task for MBE than has so far been proposed. In particular, it would mean that MBE should look to somehow equip persons by ‘uploading’ the right moral data, so to speak. Clearly, MBE would want to differentiate itself from what now looks like good old-fashioned indoctrination—which is *not* something advocates of MBE appear to have in mind.<sup>45</sup> If moral failures were largely of this sort the appropriate response would be improving traditional moral education—a better job would simply need to be done of instructing people so that they know what they are supposed to know. A society seriously committed to ensuring this would build such moral fact learning more fully into their school curriculums. Yet, even this does not seem to be the right of it. For starters, success in this way would not qualify as enhancement on the definition we have been working off of, since it would require that there are people who are aware of the moral code and are then able to ‘give’ it to others in the new-fangled way. As such, if the focus is on *content* this would not constitute the gaining of something hitherto unknown to humanity.

Moreover, practically speaking, this kind of enhancement offers no guarantees. Having moral knowledge does not necessarily entail that one would act accordingly—indeed, this must be the most common of moral failures. Specifically, those scenarios where one is told that “they should know better”—and, assuredly, they did—yet they did not act as if this was the case. Clearly, then, the hope for MBE must be more than simply pushing a particular moral code on a particular person. The idea is not simply that they now possess some information of a moral hue—indeed, I would contend that MBE need seek this not at all (and nor ought they). Bracketing for now those cases of people who generally do not see or endorse the moral behaviour sought (I will return to this in the coming pages as it also illustrates a particular kind of social failure), I think it is safe to assume that most people do in fact know what the appropriate moral action in a given scenario is, and if quizzed on it publicly they would be able to tell you. The more pressing issues is, therefore, that despite that knowledge that moral failures arise—suggesting that the problem may primarily be about physical follow through. It is about acting, in

actuality, as one knows one ought to in theory. Seen in this way, the moral failure we are concerned with is a failure to *behave in a particular way*.

#### 4.5.3. Moral failure as a behavioural issue

Simply knowing (as a dictum or aphorism) that other people have moral status and worth that should not only *not* be threatened or ignored but that this should ground each of us being vested in each other's well-being—is not the same as *feeling* it and having that feeling be motivating or action-guiding. And this is different still to actually being able to act on that feeling in a meaningful and impactful way. The moral agent ought not be like someone who has (supposedly) learnt to cook by only knowing the ingredients but not the method or someone who has (supposedly) learnt to drive by memorising all of the road rules but not how to operate a vehicle. And they both need, respectively access to a kitchen and a car. As such, moral education—and by extension MBE—need include the notion that morality is a form of *actualised* behaviour.

Since MBE that turned a person into a moral encyclopaedia did not appear to be either a case of enhancement or a solution to moral failure, might MBE that focused on behaviour come closer to the mark? That is, if what eventuates from these MBE is persons who *act* more consistently in 'the moral way'—regardless of prevailing pressures on them—to the extent that they are more reliably moral in their behaviour than has hitherto been possible for our kind. In other words, that as a result of MBE people feel compelled to behave morally.

This view of MBE as being able to *force* particular behaviours (or bar others) is evidently what Savulescu and Persson (2012) have in mind with their proposal. While they explain that “to be morally enhanced is to have those dispositions which make it more likely that you will arrive at the correct judgement of what it is right to do and more likely to act on that judgment” (p. 406), on their view all of these dispositions have bio-

physically origins. That is, they appear to be members of that cohort of neuroscience “popularisers” Murphy and Brown (2007, p. 2) have described as “not only physicalists but also ardent reductionists.” In other words, that hold that all of the relevant ways of being/acting are captured entirely by obtaining features of one’s physical body (e.g. particular chemical balances regulated by the brain). Accordingly, Savulescu and Persson argue that there are distinct “traits which are *necessary* for moral behaviour” (2012, p. 411), that these traits can be manipulated, and that when they are put together and all realised that one would (supposedly) have a moral being.<sup>46</sup> To this end, they outline all sorts of discrete interventions into the requisite traits they identify, which, on their view, ought to count as moral enhancements: from more familiar pharmaceutical influences on neurotransmitters (e.g. that manipulate oxytocin and serotonin levels) involved in the regulation of particular behaviours and dispositions to their more radical proposal “the God Machine” (p. 413), which literally would intervene and prevent persons from doing immoral acts.<sup>47</sup> Accordingly, the idea is that some kinds of moral “catches” or “levers” are inserted or manipulated that will override concerning dispositions or behaviours. Ultimately, these are hoped to compel adherence—that is, stimulate behaviours—that coincide with what morality proscribes (and that these would negation moral failure).<sup>48</sup>

As such, they seek to “cut to the chase” as it were and aim to compel the appropriate behaviour without having to go the long way around of extolling the virtues of particular morals. On their view it doesn’t seem to matter if one knows what the moral thing to do is (or why it is appropriate), as long as one feels inclined towards certain behaviours that, when acted on, would be recognised by others as the right way of behaving.

Yet, if moral failures—and therefore the success of MBE—is measured in terms of behaviours *only*, then the acquiring of a moral code is entirely unnecessary. People can clearly be compelled to behave in all sorts of ways regardless of the extent of the knowledge of moral maxims. Indeed, this is what the God Machine would do. Yet, this is also quite concerning. Moral activity at gunpoint, for example, does not seem to be moral activity at all. Would it make a difference if the “gun” is internal (like in the God Machine)?



It may indeed give the impression that it has come from the self—a replacement sub-conscience as it were—but this only conceals its coercive character. As de Melo-Martin and Salles (2015) argue it is important that not only is it the case that “morally bioenhanced individuals [are] people who *are* good and *do* what is right” but that they act “for the *right* reasons” (p. 224, their emphasis). The God Machine only directs activity; it offers no explanation. As such, there needs to be an accord of sorts between one’s behaviour and it being entered into with an awareness of the moral character of that behaviour. Consequently, overcoming moral failures is not simple a question of particular actions being carried out, rather it needs to involve both a certain kind of moral knowledge (i.e. provides reasons) that is put into practice (i.e. results in behaviours).

Perhaps, however, the idea with the God Machine is not to abstain from moral education. Rather, proponents of this behavioural MBE may have a longer game in mind. Specifically, they might seek behavioural changes that are not themselves intended to constitute the entirety of the moral enhancement (or to constitute the *full* solution to moral failure), but which would, instead, improve moral education by “stacking the deck” in its favour. The idea here is that once such dispositions are secured then instruction on moral rules will prove both easier and more reliably adhered to; as it will not have to encounter those biological countertendencies toward such things as violence and egoism. The hope, therefore, is that traditional moral education would find greater purchase in such people, who, as a result of MBE, will become better students of morality. Indeed, this coheres with Savulescu and Persson’s (2012, p. 413) argument that, over time, we will discover that “the God Machine rarely intervenes”: as people will no longer think to act immorally, the God Machine will therefore have no cause to. They would have “learnt” the moral rules and habituated abiding by them. Accordingly, in this portrayal, the need for moral education is not removed and it remains the case that people would learn the reasons for their actions. The coherence between moral feeling and moral instruction is then thought to reduce moral failures.

Perhaps, on this view, such advocates then think that a clear comparison between MBE and, say, CNE can be drawn. That is, that they are both just amplifications of an ability. And that this concern over the learning of morality sneaks in something extra, whose inclusion would then require shifting the comparison to CNE as a general enhancement to articulating CNE in the context of a particular kind of use of that cognition. In advocating CNE one might say that all it does is grant an ability but does not, for example, automatically make someone a mathematician. Such a person would still have to start learning mathematics, which they might then grasp more easily and on the basis of which they might draw novel insights and innovate the field in ways that might not have been possible without CNE. Accordingly, as a result of CNE, there would be an enhanced mathematician producing enhanced mathematics (but they could not do so in the absence of mathematical knowledge). Similarly, to the extent that what is sought via MBE are enhanced moral agents, they will still need to learn about morality. MBE simply better equip them to do so and open up the possibility of being enhanced moral agents that take moral behaviour further than has thus far been possible.

This comparison, however, is misleading in several ways. To start, unlike the case of mathematical knowledge, it will be possible to gain the moral “knowledge” purely from the operation of such MBE (e.g. the God Machine).<sup>49</sup> Which is to say that, while the learning of this behaviour may come about by instruction or by mimicking others, it need not. Through the presence of the God Machine, persons would come to know moral actions as simply those they are able to do and immoral actions as those they cannot bring themselves to do. In this case, moral agency has been entirely offloaded. Their ‘learning’ is further warped by the awareness that they are being hindered by the God Machine.<sup>50</sup> That is, what they learn is a matter of theory only as they do not have a chance to do otherwise. This is no small matter, least of all because it signals that the person so ‘enhanced’ could not be trusted to act appropriately and had to be imposed upon. As shall be explored in section 4.6. below, such MBE would therefore become complicit in the very kind of problems they seek to resolve.

Second, the literature on MBE is yet to produce a convincing and sufficiently robust account of what such *general* abilities concerning morality might be—and in what they might be biologically rooted.<sup>51</sup> It is not clear that there are some distinctly moral general purpose abilities conducive to moral action/agency. At best it may be the case that some cognitive and affective abilities—which we saw earlier have their own problems—my place someone in a better frame of mind for reflecting on their actions and the needs of the given situation. Yet, this would not be the same as guaranteeing resolutions to moral failures. For example, having great intelligence and great empathy would also be a great skillset for taking advantage of others (Hauskeller, 2013a). But perhaps most pressingly, even if there were general abilities of moral agency, this does *not* seem to be what such (behavioural) MBE are actually looking to enhance. Rather, they seek only to amplify pro-social dispositions. Accordingly, such MBE should perhaps more accurately be described as “motivational enhancements” rather than “moral enhancements” (de Melo-Martin & Salles, 2015). This would of course knock much of the wind out of the sails of such proposals: demoting them from being full solutions to the problem of moral failure—and *enhancers* of human morality to boot—to only a kind of corrective technology that generates motivation for particular kinds of pro-social activity.

Yet, even having a strong compulsion to act in a particular way, does not mean that the person in question will, when having to execute it in actuality, succeed. That moral activity must be enacted, and therefore carried out in the public domain, means that it may encounter barriers (such as those illustrated in section 4.4. above). Moral action can, as such, be thwarted or negated by outside influence. By which I mean that even when carrying out the requisite actions they can be undermined by such externalities. Indeed, as Young (1990) illustrates we could all be doing the “right” thing and have far from optimal or just outcome—e.g. we might all be operating in the interest of others yet none of us flourishing due to the obtaining capitalistic structures that exploit such behaviours and bleed us dry.<sup>52</sup> In other words, there might still be *moral failure*. Clearly there is more going on than simply what individual know, are able to do, or even do in fact do. Moral

'ability' (to keep using what is increasingly becoming a strained word) does not, therefore, seem to be something that can be wholly contained in a singular individual. It is indeed, at this later stage, that the earlier shift from speaking about MBE as seeking to address "moral inability" to that of "moral failure" now demonstrates further sagacity. Simply making people morally able will not necessarily result in a solution to moral failure. Moreover, the serious moral failures that ought to most concern us are not reducible to failures in moral ability—e.g. those global injustices and inequalities mentioned in section 4.2. above. To limit moral failures to "the result of certain types of individual moral failings ignores the role played by structural—social, cultural, political, economic—forces in enabling and often promoting these evils. In this sense, proponents of moral bioenhancement seem to entertain an oversimple conception of moral evil as abstracted from the real world." (de Melo-Martin & Salles, 2015, p. 228). Accordingly, moral failures are best understood as consequences of particular, overlapping and multi-faceted circumstances that define the time and place of the moral failure. As such, the "overwhelming morally generative work", remarks Wiseman (2018, p.47), remains with "individual cultivation" combined with "social-environmental, political, developmental, and psychological encouragement of "desirable" behaviour." Stated more simply, to address moral failure most of the work must be directed toward the existing social space, which cultivates all of the above. The behaviours, dispositions, desires, needs and motivations of individuals are rooted in their social environment and so too are the consequences of these. A quick look at the existing global social structures suggests that if it is this milieu that is supposed to encourage "desirable" behaviour then it will need to be drastically different in a great many ways. It will need to undergo a veritable revolution.

All of which is to say that the idea of enhancing individuals so that they are more moral is riddled with holes. Moral failures seem neither to be fully captured by deficiencies of moral knowledge nor of moral ability, on the one hand, nor would they be resolved by mechanisms that compel behaviours, on the other. Consequently, it has been suggested that moral failures are best understood as socially embedded, which the coming

section will explore in more detail. If this is right, then moral failures will require responses tailored to those embedded features and, therefore, interventions traversing the immense variety of social structures, institutions, technologies, and mechanisms will need to be pursued. Subsequently, in section 4.6, a particular feature of our existing social reality will be targeted as especially salient to existing and prevalent moral failures. Namely, *social inequality*.

#### 4.5.4. “It takes a village”: moral failure as an embedded issue

The previous sections sought to gain a handle on the problem of moral failure by first considering it in view of common features of moral education and then exploring their implications for MBE (i.e. as solutions). In particular, it considered the extent to which moral failure stemmed from shortcoming in moral education understood as failures either in transmitting knowledge of moral norms or habituating behaviours required by those moral norms. It was, however, argued that MBE that responded to either (or even both) of these did not fully apprehend the character of the moral failure that motivated their development—and that alteration here may not even count as coherent forms of moral enhancement. The issue in each case, it was argued, was that they portrayed moral failure primarily in terms of *the individual*. Which is to say, they implied that they could be *completely* reduced to the knowledge, dispositions, and motivations of individuals. In other words, existing proposals for MBE seem to assume that the serious breakdown which such technologies would overcome or resolve “are the result of individual moral failings understood as motivational or dispositional flaws” (de Melo-Martin & Salles, 2015, p. 232).

In this section it will be argued that this misses a significant feature of moral failure. Indeed, as de Melo-Martin and Salles (2015) suggest, this betrays a poor understanding of their complexity, both in terms of what goes into their occurrence but

also regarding what will be required to resolve them.<sup>53</sup> While clearly the individualised dimensions cannot be ignored, one gets further in understanding moral failure by properly exploring how the individuals concerned arrive at the point of moral failure rather than merely accounting for what such individuals did and what that supposedly evidences about their engrained individual dispositions or awareness of morality.

Even if one wants to hold on to the notion that moral failures are perpetuated by individuals—someone did something we want to avoid in future—the exact occurrence of the moral failure does not capture the entirety of the problem. Particularly, de Melo-Martin and Salles (2015) explain—channelling the insights of Iris Marion Young (1990)—that the sources of such failures are “multiple, large scale, often long-term and resulting from public and private policies and from the actions of hundreds of individuals who might be acting according to normal rules and accepted practices rather than simply out of shabby motives and abject emotions” (p. 228). Moreover, that the actions of people—whether immoral or not—“are *constrained* or *enabled* by such structures” (p. 229, my emphasise). Specific instances of moral failure are, therefore, to be understood as resulting from larger moral failures of the social environments of those individuals. As the moral education of all is an inescapable and unceasing social enterprise, moral failures are, therefore, to be seen as consequences of this enterprise.<sup>54</sup> To adopt that well-worn proverb “it takes a village to produce a moral failure”.

As such, it is pertinent to inquire into and account for how and why such a situation came to be; where the answer will reside in its particular social embedded history. Put differently, the ongoing and perpetual moral education of such persons has somehow done less well than it might have in instilling a willingness and commitment to acting in the moral way argued for earlier (i.e. one committed to human co-flourishing). Accordingly, it is the features of this embedded moral education that must be critically reviewed and subsequently corrected if there is to be any chance of properly and long-lastingly addressing those moral failures that originally motivated the turn to MBE. To connect to the previous two sections, what this means is that moral failures involve not simply not

knowing how to act or not behaving in the right way (although these might explain singular instantiations) but the details of living in a particular kind of society. It is as a result of failing to include such considerations that the earlier consideration of MBE failed to capture the whole of the issue: specifically, they sought to amputate the nuanced characteristics of the established social technologies of those community wherein instances of moral failure arise. It is these, I argue, that offer insight as to how people have acquired and practiced their moral natures and suggest where matters might have gone differently.

How then are such moral failures—which do in obvious ways involve the knowledge, motivations, and dispositions to act of individuals—embedded in their social context? To start, it is important to recognise that moral education is by and large not of the instruction kind (like, for example, formal education)—i.e. where morals are taught (although this is part of it)—nor is it just the behavioural kind—i.e. where action is cultivated through reward or punishment (although this is part of it). The vast majority of moral education is informally acquired, or better stated, it is *absorbed*. It is a kind of learning that happens simply by being in a given environment. As such, its sources are as varied as they are encompassing—with everything ‘broadcasting’ all the time. This of course creates significant opportunities for moral ‘crosstalk’ that might generate moral failures of the kind MBE are hoped to resolve.

If morality is constantly being ‘learnt’ then wires will certainly get crossed. Let’s consider in a cursory way some commonplace sources of moral instruction that may produce what acoustic physicists refer to as “constructive or deconstructive interference” (this is the idea that mingling sound waves can interreact in ways that amplify, distort, or nullify the sound heard). Or, in this case, which moral lessons complement each other, and which drown out others? While some lessons in morality arise in rather formal ways (such as when one is taught ethics or religion or is provided with a code of conduct at school or in a sporting club), the far greater portion is conveyed and noted from fluid interactions with others—in particular parents, teachers, friends and family members

but also increasingly from the media (both social and otherwise)—who each constantly convey what one should or should not do. Yet, these ‘instructors’ are situated in diverse environments and the lessons provided in this mix of ways can themselves be rather mixed—and therefore produce moral incoherence or incongruence.

For example, in formal education as well as (likely) at home, there are clear rules for behaviour on how one is supposed to act with others in those settings as well as explicit divisions of (moral) authority. One is told what is permitted, encouraged, or forbidden and that straying will be reprimanded in a variety of ways. Indeed, all of this is interspersed with subtle variation. One is likely to act differently with a teacher than with the principal of the school and, certainly, with one’s friends: where this is the result of being instructed (in various direct or indirect ways) to do so. The same is true at home where one might treat one’s parents different to one’s siblings, and certainly different to someone else’s parents. Not only are the rules and expected behaviours in these cases subtly different, but the means of enforcement might also be. As such, while some might succeed in affirming the kind of moral behaviour sought (not to hurt others), other rules and ways of enforcing them (e.g. corporal punishment at home) might, in the long run, be counterproductive for that moral behaviour. For example, it seems that a setting that treat individuals with respect and assumed agency that gives them the requisite space to explain and reflect on their behaviours and encourages moral learning and correction, might produce a very different perspective on moral behaviour than one that demeans, placates, or corrects only with the help of force. And, of course, a single individual might be exposed regularly to both, which provides ample space for moral crosstalk.

While these provide particular, and likely familiar, locations of moral education. The fact of the matter is that the literal entirety of social mechanisms function in this way—exerting this educative influence. Moral content is generated from the behaviours one sees on television and online and the content displayed there to the cues given by the interactions of strangers and the general movements of the faceless masses in the cities one wades through. As such growing up in, for example, a slum (or a place that has slums)



or in a gated-community (or a place that has gated-communities) is likely to influence one's moral education. Perhaps surprisingly (for some) *both* of these scenarios can generate contra-messages (i.e. moral instruction at odds with that sought by an inclusive and responsive morality). Living in a slum might serve as a constant reminder of having been shunned or overlooked by society (and therefore tacitly teaches the permissibility of overlooking and shunning others, which likely will not endear one to a more inclusive morality), yet the closeness and need for trust and reliance between neighbours in such settings might produce a stronger (if parochial) sense of care and duty, which may nevertheless provide fertile ground for developing more universal moralities (and recognising the need for it). Indeed, first-hand knowledge of such suffering may prove a sufficient basis to not want the same for others (even those who have demonstrated no concern for one's experiences). Those in the gated community, however, might struggle in this respect. Their lives are, by design, exclusive—such that in growing up there a child is informed (at least tacitly) about their difference. Yet, perhaps even out of a seemingly innocent desire to make such children value their good-fortune, they may receive instruction that explicitly stipulates their relative worth and the importance of being inside the community (so as to avoid the hardships of those outside it), which may even instil a fear of those outside the community (whom they naturally assume can only want what the community has). This scenario (so described) would appear to provide a poor basis for the kind of co-flourishing morality advocated. These rudimentary outlines of a possible lives must then be further expanded, bleeding out into the types of jobs the parents of such children have, and the relations between their parents and the colleagues and bosses and neighbours.

What emerges from this is an appreciation of the particular “moral ethos” (to give it a name), that characterise a person's particular experiential ‘bubble’, which, it is argued, plays a substantial role in the occurrence of moral failures: it establishes both the approaching disposition to any scenario but also defines the genuine availability of available responses to them. In compounding ways instruction into, for example, a

hierarchical and inegalitarian society takes places. As more and more aspects of society assert such differentiation—and, by extension, the permissibility of differential treatment—the moral message to act in the interest of others seems to steadily be diluted and, eventually, becomes lost.<sup>55</sup> Particular, if one is continuously rewarded for participating in this hierarchy (or one is constantly excluded from it or such rewards). When a moral ethos routinely excludes people from consideration and venerates the individual (and the “success story”)—what emerges is a state of affairs that provides a clear directive regarding whom one is to care for and to whom one owes such a duty of care. Such a scenario may be structured so that people are encouraged (often compelled) to participate in the collective sphere as competing *individuals*, while making it very difficult for persons to lead cooperative and sharing lives. The circumstances of many of our lives are such that we often do not know of the needs and hardships of even our neighbours with whom we share adjoining walls—we may even feel obliged (the result of a social lesson to be sure) to keep our distance such that we do not burden them with our troubles or they us. We may be equally unaware of the needs of a city, a country, or a globe. Somehow, we have (many of us) become blind to the inequalities on the streets we traverse daily and habituated a lack of concern for these. Is it any wonder that even when we know of global inequalities (e.g. that we are aware that a billion or so people live in adjacent poverty) that it produces a not dissimilar apathy? From all of this a clearer portrait of the problem of moral failure that MBE is supposed to resolve starts to emerge.

In the coming section, social inequality—a feature of all existing societies—will be considered a key component in an embedded account of moral failure. As shall become clear, such embedded dimensions of the problem not only play a significant role in their emergence but that the on-going presence of inegalitarian social features would substantially limit the value of MBE (as typically portrayed). Moreover, MBE of the kind already considered may in fact be complicit in these concerning structures from which they have been birthed.

#### 4.6. Social inequality: always a problem

In sum, section 4.5. argued that the notion of moral failure—understood as the general lack of receptivity to the needs of others and the extent to which a genuine care for their flourishing is demonstrated—cannot be properly articulated when it is divorced from the social environment in which it occurs. In particular, it was argued that it is not possible to sufficiently account for such cases by focusing only on the individual as an isolated and discreet entity (e.g. by assessing what they do and do not ‘know’), for little sense can be made about even their individual activities in absence of the contextual information that got them there. As such, the idea that such “limited moral responsiveness” (Kitcher, Forthcoming) was rooted in a functional capacity of individuals failed to withstand scrutiny. Rather, the existing social matrix was shown to be interspersed with elements that produce what was referred to as “moral crosstalk”. These are features that signal or direct behaviours that result in moral failure by, for example, providing or encouraging a readily available and routinely employed “out” for not acting morally. Cases such as not having the relevant security to act on one’s concern for others or witnessing and falling prey to various hierarchies that promote the idea that people have differentiated worth (through the socio-economic exaltation of some and the denigration of others).

Moral failures, as such, are not to be understood as the mere ‘actions’ of a specific individual one wishes to denounce (e.g. exploiting or oppressing some person to their own benefit) but, rather, the entire causal and socially reinforced history of such activity. It is for this reason that responses such as MBE, which focus on improving features only *of* individuals, where shown to fall short. Accordingly, individual immoral actions can be thought of as mere instantiations of an overarching and morally suspect ecology. As such, when one recognises both a deep disregard for the well-being of others at the individual level or massive social injustices at the national and intra-national levels as emblematic

prompts for the need of moral enhancements, one at the same time sees a problem *of society*. The turn to MBE, therefore, overlooks a substantial element of the problem. As such, those features of society that generate dispositions that result in moral failure (particularly by incentivising such activity) or else fail to positively support morally “responsive” activity are to be considered *part* of the problem to which MBE have been sought as a supposed response. For example, the presence of countervailing norms such as those that reward egoism and competitive success or those hierarchical, and exclusionary structures that together produce inegalitarian outcomes.

In the coming pages, some mechanisms that uphold and perpetuate *social inequality* will be identified as especially embroiled in moral failure. The claim, to be clear, is, whatever the specific problems that one recognises as generating the need for MBE (and which they are therefore hoped to ameliorate), that a significant and relevant part of its composition hinges on obtaining inegalitarian social structures and institutions. The notion of “social institutions” employed here is intended as broadly as possible so as to collect those “enduring features of social life” (Giddens, 1984, p. 24) that, in congregation, capture its general ethos or temperament. To this end, the sociological use of the term is helpful; it includes the “complex of positions, roles, norms and values lodged in particular types of social structures and organising relatively stable patterns of human activity with respect to fundamental problems in producing life-sustaining resources, in reproducing individuals, and in sustaining viable societal structures within a given environment” (Turner, 1997, p. 6).<sup>56</sup> Many of which, it has repeatedly been noted, “exist in practice to serve narrow economic or other special interests” (Miller, 2019).

Widespread and pervasive inegalitarian systems of human interaction both push individuals toward—and, therefore, support—cases of moral failure or else make it difficult for individuals to act otherwise, as they fail to offer the necessary social support for such activity. As such, any interventions one might construct and implement to curb moral failures will need to focus on and look to rectify such elements. Least of all, as we shall see, because the ongoing presence of such systemic and systemised social inequality

poses an enduring threat to the implementation of *any* HETs. Second, it will be argued, that in the particular case of MBE they not only fail to respond to the structural dimensions of social inequality (nor could they), but, as portrayed here, they appear complicit in an inegalitarian enterprise that risk amplifying such inequalities. Ultimately, social inequality will be shown to be a part of the problem that MBE have been constructed to respond to—one which they are poorly suited to rectifying.

While the idea of equal moral status and universal human dignity is a largely modern construction, it is not so new that it hasn't had chance to catch on and impact meaningful changes.<sup>57</sup> Not as new as, for example, mobile internet and social media, which have made an immense impression on human life. Yet, social changes that evidence a commitment to the moral ideal of equality have been halting, occurring in uneven leaps and mostly in half-measures. Assuredly, all of the great instances of moral progress of the past two centuries—e.g. the abolition of slavery, various forms of enfranchisement, the narrowing of wage gaps, and broadenings of self-determination (both in public and private space)—can each be seen as incremental steps toward gaining greater synchronicity between this idea people have publicly championed and espoused since at least that remarkable summer of 1789 in Paris<sup>58</sup> and the obtaining social institutions of the time. Yet, social equality in any meaningful sense is still far from a reality. While we may be living it what (Rorty, 1998) refers to as a “human rights culture”—or at least a post-United Nations global society—the ideal of universal equality it promises is far from being realised. Indeed, it is something that, in many ways, existing societies only pay lip-service to—often merely employed by powerful “card-carriers” (i.e. developed nations) to hoard their so-called “civility” over others. Yet, any critical reflection will reveal the pervasiveness of social inequality in even the most developed nations, where it is propped up, condoned, or tolerated by a great many social institutions and practices (and, therefore, significant segments of its population).

The apparent “gap” between ideals and lagging social institutions can be understood in light of distinction between “slow-” and “fast-moving” institutions (Roland,

2004). What transpires from the overlap of these is often a mismatch, whereby “slow-moving” features that define, say, “cultures” continue to underscore even the “fast-moving” changes in, say, legislative reform. Where this happens the relative ‘heft’ of the slow-moving institutions typically wins out, with novel reforms finding little space to gain purchase in the obtaining and overpowering remaining features of society. Consequently, in the case that a new law grants some right, this right will still have to be situated in a society not yet designed to secure that right in a full and meaningful way. For example, for many in the global south a large portion of human rights are “empty” having nothing to latch onto in their particular communities—something like, say, the right to education amounts to little in the absence of schools. Moreover, such rights-affirming legislations are themselves products of a slow-moving and fundamentally elitist institution (i.e. the legal institution) that has resisted significant reform and remains, in operation, constricted by various out-dated (in the sense that they do not have equality as their motivating characteristic) mechanisms. This institution (among others) is founded on and continues to support largely unchanged views on labour, the ownership of property, and individual entitlement that has troubled such diverse thinkers as Smith in the 18<sup>th</sup> Century, Marx in the 19<sup>th</sup>, and Rawls in the 20<sup>th</sup>; and continues to divide people today and inhibit genuine egalitarian flourishing.<sup>59</sup>

Without changes to such deep-seated notions and the slow-moving structures that have been built around them, “fast” changes (such as there are) result in a litany of false starts. The abolition of slavery was indisputably a phenomenal moral achievement, but the massive social inequalities they sought to undo persist to this day because it was not sufficient to declare people “free” without also changing those institutions that were constructed on the ideas of that time, installed by the then powers who were bereft at the idea of losing any ounce of it (and their kin still are). Rather, the powerful were largely left atop the food-chain (so to speak) while the newly emancipated were largely left to struggle by as best they could. The result is exorbitant wealth and power inequalities that can be traced to those periods and have been compounded (rather than diffused) over

generations vested in maintaining those slow-moving undercurrents of the modern socio-economic landscape. It is precisely such inegalitarian structures that fail to offer the needed support for actions of the kind it is hoped MBE will produce. In view of this ongoing inegalitarian character of most societies the widespread occurrence of limited moral responsiveness can hardly be surprising.

As such, I contend that existing inegalitarian social institutions are a significant part of the problem of moral failure. Together they extol the social “ethos” that people learn from and in which they must carry out their actions; people living in such an inegalitarian society are, in a sense, setup to fail (morally speaking). Obtaining social institutions “set the rules” for how one is to succeed (or survive); and, by and large, these ‘broadcast’ or require egoism and parochial concern that are opposed to the kind of moral life sought (i.e. *via* MBE). Yet, such inegalitarian social institutions are not to be confused with simply the norms they embody—norms which clearly also need to change.<sup>60</sup> Rather, they are also concrete “items” in the social space that *directly* influence people, by, for example, shaping conduct and social discourse or directing the processes of social change, but also *indirectly* influence through their “signalling” capacity as they sit there, still functioning, seemingly not changing and being regularly utilised by others. As such, the institutions themselves are distinct elements in the problem, such that changing them may be rather different to changing a social norm or changing the (moral) minds of particular individuals. These, therefore, represent *separate* targets that ought not be ignored (nor conflated)—and all of which call out for reform.

Indeed, as Young (1990) explains, societies as a whole are capable of generating unjust outcomes that are not completely reducible to the action of individuals. What Young coined “structural injustice” captures those harms which arise precisely from the aggregate of individual actions that are thought by those individuals and their broader community to be moral. That is, that moral failures can arise from people acting in accordance with accepted moral norms. Clearly, in such circumstances it is not sufficient that MBE only compel people to act morally—i.e. if accumulatively such actions result in

moral failure. Nor if they change the norms such that, once filtered through the social machine, they nevertheless result in moral failure. If we each believe that we lead moral lives, and the result is widespread social injustice, then our morality as a system—that is as an overarching *structure*—is inadequate and in need of correction. If such is the case, then boosting morality will not prove much help—not when the obtaining conception of morality is situated in a fundamentally inegalitarian society. Social institutions are, therefore, to be considered significant and distinct parts of the problem of moral failure; which, as a result of their physicality, cannot be directly changed by MBE. Consequently, since the mere presence of particular social institutions are involved in cases of moral failure, should the pure act of reforming or disbanding them reduce instances of moral failure (and therefore achieve what MBE sought to), then such interventions in the status quo ought to count as legitimate forms of enhancement.

It is in view of this pervasive and intersecting aspect of the problem of moral failure that the shortcomings of MBE become patently clear. In seeking to produce particular instances of moral activity, MBE look to statically enact what is to be organic phenomenon interacting continually with the world at large. As an activity it will need to be not just executed but socially *practiced* (so repeated, reciprocated, and reinforced) inside the particulars of the circumstances in which people are routinely situated. This of course implies that there is the requisite *space* for such action, a space unlikely to be found in a robust inegalitarian society. Indeed, there is every reason to believe that it will be downright inhospitable to such activity (i.e. that compelled by MBE). Moreover, it does not seem like MBE alone might serve to ameliorate this; especially since universal access and use cannot be guaranteed and this would seem to be required to generate significant enough pressure to instigate a hard “break” from the status quo that can shed the slow-moving vestiges of an inegalitarian past and from which society can be reconstructed anew.

This is evident in the earlier example, whereby a near universal (publicly stated) commitment to human rights has not produced the kinds of social changes that would



actual display say a commitment. This is because such changes have to battle against the entrenched system: an uphill fight to say these least. Not only are social institutions of the status quo familiar, pervasive and complex, but orchestrating changes will typically need to employ the very systems they seek to change. These are often explicitly constructed to resist change—supposedly to serve as a bedrock against the fluctuations of public opinion—but also because, as noted earlier, there is a vested interest from those whom the system supports and protects in the status quo, and making the system hard to change is an easy way of shirking responsibility for things being as they are. If MBE are only to be ‘fast’ changes, merely added atop the status quo, there is, therefore, considerable chance that will be undermined—as such changes presently and routinely are—by those ‘slow’ features of society.

The status quo is, as such, presently of a kind that it results in moral failure. Yet, rather than seek changes that would create the requisite space to overcome such moral failure—i.e. that would sufficiently disrupt established social institutions and support the emergence of a more egalitarian social ethos—MBE seek to change the individuals living through such social institutions. Perhaps the hope is that this will ultimately—for example, as a consequence of the obvious tension recipients of MBE will experience with their surroundings—result in community-wide reforms. Yet, this could only work if it was *imposed* on those persons most responsible for the ongoing situation, those best placed to change it, and those who have the most to gain from it. As such, MBE would need to be applied (likely non-voluntarily<sup>61</sup>) to those least likely to recognise the value of such changes. Consequently, it would itself be a supremely paternalistic and authoritarian act that would constitute a moral failure in itself—indeed, precisely the same kind moral failure that has thus far occupied us. As an idea, such MBE are likely only to appeal to those who reside, as we do, in highly inegalitarian structure and have become accustomed to such imposition of an external will over their own. It would, in short, amount to fighting fire with fire.

Yet, this hypocrisy is not the end of the concern. Rather, the mere use is something that threatens the kind of long-term hope of an egalitarian society emerging from the ashes of such tensions. Recall that part of the earlier mentioned problem of the existing regime is its “signalling power”—i.e. the ethos of accepted behaviour its existence displays. The use of MBE would itself have this power. MBE will, through their very application, feed into the egalitarian practices they seek (ultimately) to resolve. The practical consequence of this manifest once the use of MBE is situated in the obtaining inegalitarian status quo. In so doing, the potential for misuse (and indeed the likelihood of such) screams out. The use of MBE most likely to arise out of such a scenario is the application of MBE not to incite revolution but against the “undesirable” individuals who cause trouble in the existing system. As an inegalitarian methodology applied in an inegalitarian social environment, the persons likely to first come to mind as candidates for MBE are either those who in direct and intimate ways harms others (e.g. violent individuals) or those who have somehow failed to abide the dominant morality (e.g. criminals). Less likely to arise are those (the far great group of persons) who simply do not act toward moral ends (i.e. to the benefit of others), and who through their supposedly legitimate individualism uphold a system that it has been argued results in moral failure. The draft legislation for the systematic application of MBE that would resolve the issue of so-called ‘immoral’ outliers practically writes itself. They represent an already ostracise group that might serve as a scapegoat, who in the case that MBE successfully hinders such untoward activity, may ultimately hide the deep suspect character of existing social intuitions. Accordingly, one hand washes the other leaving only sullied hands.

To conclude, part of the perceived problem of moral failure is the fact that mechanisms to correct these must imposed, and that such impositions in our case take place in societies structures by unequal relationships of power. Accordingly, a substantial part of the problem MBE look to resolve are the obtaining inegalitarian social structures and institutions, which MBE seem poorly suited to resolving. If the desire in imposing MBE is genuinely to help inhibit moral failures and the very real suffering that tends to result

from them, then the preceding pages have offers reasons to support a sustained effort towards structural and institutional reformation. As such, if MBE hope for society to change as a result of individual changes, then they have the matter exactly the wrong way around. Instead the goal should be to change society by directly reforming those features that result in or support moral failures.

## 5. Conclusion

This very long chapter has covered considerable ground. Yet, it is important to keep in mind the primary aim of the chapter and what it adds to the overall argument running through the chapters. In a nutshell, a human enhancement project (HEP) fundamentally concerned with enhancing human life rather than human bodies was proposed (back in Chapter one); and it was suggested that taking an “embedded approach” was best suited to this task. This chapter, then, set to illustrate what an embedded consideration of existing proposals for HETs casts them in a new light.

However, a broader recap of the steps that link these pieces will be helpful. To recall, this argument was initiated by the suspicion that HETs alone—for all the discrete goods they may (or may not) realise—might not deliver a properly enhanced state of affairs: i.e. one where the calibre of overall human life has been substantially and meaningfully elevated. In other words, that ridding various limitation in human functioning would not simultaneously constitute an emancipation from the other real and pressing issues that ail and hinder human flourishing. In Chapter Two it was argued that this ‘mismatch’ could be understood as largely resulting from the individualism of HETs, which served to divorce in meaningful ways such technologies from the obtaining realities of the status quo. These existing features, it was argued, bear considerably on whether such HETs would produce even individually valuable outcomes, let alone that they would result in the lives of human beings generally improving—a consequence which (presumably) would satisfy

the “social inducement critique” (SIC). After all, if a genuinely improved life is not sufficient cause to endorse a given intervention, then it is difficult to know what would.

To respond to this limitation of what was termed the “atomistic approach”, it was argued that it is necessary to properly *contextualise* would-be HETs promising to enhance human life. This, Chapter Three clarified, did not simply mean to trace the foreseeable consequences of various HETs by *situating* them in the existing environment—which is certainly important to do—but also appreciating the ways in which those HETs are themselves *determined* by the present environment. The social landscape in which they are *embedded*, it was argued, influences not just their desirability, but also how they will be developed and utilised. More than this, an embedded approach to HEP focuses not just on the embedded character of such HETs but recognises that each human life is an embedded whole, irreducible to the particulars of a given individual. As such, it proposed to fundamentally rework the dominant approach to HEP by setting out from a base that appreciates the holistic entirety of a human life embedded in an organic social whole. This, it was argued, pays proper due to the nuances of human life from which it is alone possible to then understand the problems such lives encounter and the kind of interventions that might be constructed to help them (co-) flourish.

From the viewpoint of the embedded approach it was argued that a *bona fide* commitment to HEP requires that we reconsider and diminish the focus on HETs as *the* means for promoting human flourishing. Rather, in Chapter Four it was argued that a pragmatic tactic (following Kitcher, 2011, 2017) that works from the ground up (i.e. from the particular problems inhibiting human lives to solution thereto) ought to be adopted, and that the means sought to rectify such identified social issues should be dictated entirely by the character of those problems. The shift of emphasis to existing problems and away from particular kind of solutions to them (i.e. HETs) and teleological visions of future human beings suggested that HETs might be entirely unnecessary to HEP. That is, in the case that the kinds of problems that do inhibit human flourishing are not reducible to functional capacities of human beings, or that changes to such capacities would not enhance

human lives—to the extent that they would not resolve those problems—or, lastly, that entirely different kinds of social interventions might resolve them. This, of course, means that as a result of the embedded approach we are to be open to the counterintuitive possibility that the human enhancement project might be best served by resorting to *no* human enhancement technologies. Indeed, as this chapter has suggested such HETs might in fact fall victim to the socially embedded features of the problems they wish to resolve; and, therefore, that they risk in some cases making matters worse.

Consequently, if the ‘Deweyan’ task argued for in Chapter Four is properly heeded than there might result little space for the meaningful inclusion of HETs in HEP. This, it was noted in Chapter Five, may be a step too far for advocates of such interventions, and might have generated the response that the embedded approach thereby “highjacks” the conversation. Their point being that it creates a fork in the debate; proposing an alternative inquiry rather than contributes to the existing one. Yet, this was not the intention. Rather, the aim was to highlight fundamental shortcomings in the established debate and illustrate that the proposed HEP paired with the embedded approach does a better job of getting us to where we ought to want to be—i.e. circumstances we can in good-faith describe as “enhanced”.

As such, the tasks started in Chapter Five (and completed here) were twofold. First, to illustrate the value of the embedded approach for those still preoccupied with HETs; specifically, that the embedded approach is able to reveal overlooked dimensions of the problems specific HETs are entangled with. These aspects, it was argued, will need to be resolved even if such HETs are employed to their stated ends, thereby highlighting the limitations of such interventions in the existing social landscape that might then be factored into their redevelopment (or in their being wholly reconsidered). Second, these chapters sought to illustrate what existing proposals for HETs might do for those now committed to the argued for shift in HEP—namely, that they can serve as a *heuristic* for identifying salient features of the status quo that deserve further attention and whose resolution may count as meaningful accomplishments in HEP (i.e. by improving human

life)—that is, regardless of whether they are realised by HETs or some other kind of intervention into the matter.

Chapter Five focuses on unpacking the latter task. As such, it argued that since the embedded approach asks for a holistic accounting of human lives and the actions such lives elicit from particular individual agents, that it would not do to ignore HETs entirely. They are, after all, a much-considered possibility that strike a great many people (or at least a notable cohort of academics) as a valuable human pursuit. In other words, the phenomenon of HETs arises precisely from the state of existing societies and it is the features of such societies that make them appear desirable to people living in them. In this way HETs are themselves to be viewed as a resulting from a particular worldview that originates in features of the existing social ecology to which they harken. The kinds of tools they are and the kinds of problems they pick-out are indicative of the values a particular life experience has generated and the established social mechanisms that uphold them. In short, they are a product of the time and, therefore, open a window to it. Consequently, the embedded approach looks to understand the kinds of motivations that drive the proposals for particular HETs; to explore the kinds of problem they respond to and how they have been pinpointed as worthy of attention (and rather radical forms of intervention). Building on the insights of Little (1998), such a socialised accounting of the matter, is capable of elucidated if there are what she referred to as “suspect norms” involved in either the problem or the proposed HETs that might cast them in a new (and concerning) light. It is in this way, by directing us to overlooked problems, that HETs can, via the embedded approach, serve as a helpful heuristic.

This chapter (i.e. Chapter Six), divided into three sections each focusing on a specific HET (Cognitive Neuroenhancement (CNE), Mood Enhancement (ME), and Moral Bioenhancement (MBE) respectively), oscillates between the two kinds of insight the embedded approach offers. On one hand, illustrating that an embedded consideration of these HETs does in fact reveal overlooked social aspects of the problems these technologies seek to resolve, which raise doubts over the value of the given HET (i.e. as a “solution”

to the problems they are directed to, albeit once their contextual nuances are properly appreciated). On the other hand, it highlights that investigating the social reality—even through the lens of particular HETs—and seeking to understand the multiplicity of interconnect features that comprise a given state of affairs, reveal suspect features of existing societies that call out for resolution and can legitimately be considered as pertinent problems with which HEP ought occupy itself.

To wit, it was argued that a salient part of the problem CNE seek to resolve (i.e. particular kinds of cognitive limitations) is the presence of *a highly competitive social environment*. These also account for a substantial part of the reason why specific CNE would be deemed valuable (*to us*). While competition runs through almost every feature of human life, the particular kinds of suspect competition that presently shape outcomes in the socio-economic sphere have considerable bearing over the kinds of CNE that people are likely to find appealing and, therefore, which are likely to be developed. Consequently, it is suggested that if a society that is competitive in the same ways ours presently are, then the presence of such competitive norms and institutions as it proposes, develops, and ultimately employs CNE will severely undermines their value (at least in terms of improving human life). Specifically, because they will likely garner to and appease the same suspect norms that, ultimately, serve the same special interests. As a result, while CNE may certainly enhance individuals in measurable and observable ways, they will not subsequently enhance their lives, which will continue to be defined by and negatively impacted by those obtaining competition norms. This overlooked aspect of the problem is, consequently, picked as where further sustained attention to improve human life ought to be directed.

In the second instance, it was argued that the idea of ME gains its appeal from distinct features of an increasingly alienating socio-economic environment. It suggested that what has transpired are individual reactions to a reality we have collectively constructed that strains human beings in ways we, in erroneously think the structures of our societies to be immutable, evidence flaws in humanity's biological constitution. This view was

criticized. Feelings of, for example, loneliness and sadness may be fully appropriate to a world that isolates human beings through the ways it forces people to both live and work. As such, it was argued that not only are the emotional responses of people to particular settings epistemically valuable—they reveal the flaws inherent to those settings—but the turn to ME itself evidence the pernicious character of such settings to shift the blame toward the individual in question. This character, it illustrated, is one that alienates people not just from each other and their own emotions but interferes with their ability to formulate and recognise their own ambitions. As presented, ME therefore risk considerably amplifying these suspect aspect of the problem—i.e. by aggravating emotional intolerance and an increasingly uncaring social sphere, as they drag us to a narrow and less fluctuating emotional plateau desensitised to the destructive features of the status quo which it appeases. Rather, than construct ME that can by-pass unwanted emotions, a sustained inquiry into the overlooked social roots of such emotions is to be preferred and, it was suggested, innovative measures to improve on these are likely to substantively improve human lives.

Finally, there in ensued a considerably longer consideration of arguably the most topical HETs in the debate—or at least, that which has generated the most academic interest of late. The idea of MBE, it was demonstrated, is a complex and nuanced proposal. As such, a substantial part of the discussion was directed towards clarifying various features of the debate and challenging some of the key underlying assumptions advocates of MBE appear to rely on. However, in this concluding section I will restrict the recap to only the key takeaways relevant to the overall arc of the argument. Accordingly, it was argued that MBE arise as a response to the problem of “moral failure”—primarily of “limited moral responsiveness” (Kitcher, Forthcoming), where this is understood as the extent to which individuals recognise the needs of others and are motivated to act in ways conducive to their flourishing.

The final section of the chapter proposed that a primary contributor to this problem, both in terms of generating the needs being overlooked and motivating people to basically



ignore others, is the pervasive presence of *social inequality*. In particular, it was argued, obtaining inegalitarian social structures and institutions are at the *root* of such moral failures, as they both install and support egotistically skewed social norms that are indifferent to the needs of others and impede the ability of people to do otherwise (or persuasively discourage such activity). As such, existing social inequalities and their formal and informal support structures were considered key parts of the problem that MBE look to respond to. However, in articulating moral failure as the result of individual character flaws, proposals for MBE overlook this substantial part of the problem. As such, it was argued that the use of MBE are likely to completely sidestep the problems in most need of innovative solutions (i.e. the existence of such social institutions).

Consequently, it was argued that it is crucial that one recognise and account for the influence a general “ethos” of inequality will have on the development and application of such technologies. More specifically, when MBE are properly situated in this obtaining inegalitarian social environment, it was shown that they are at considerable risk of perpetuating (and exacerbating) the harms of such inegalitarian practices. In short, they would be interventions imposed on others who, even if their individual activities could be considered individual instantiations of moral failure, exist in a social ecology that has played a substantial role in delivering them to their present predicament. In being imposed on such persons, MBE install a ‘block’ (so to speak) on the very victims of social inequality, that ultimately shield the existing suspect social institutions from critical review. The accumulative outcome of this is that those practices can continue to function—and, therefore, produce individuals that would act in ways that make them candidates for MBE. Yet, each ‘treatment’ to the surface problem allows the deeper problem to fester and may even cement such inegalitarian world view as it becomes increasingly accepted for some to impose MBE on outliers. This social dimension of the problem the embedded approach emphasises is, therefore, crucial, and something not rooted in the biological constitution of individual but, rather, the constructed constitution of societies. It is therefore a part of the problem which MBE themselves are not able to address, and whose

correction is predicted to substantially help alleviate moral failure and increase human flourishing.

Each of the newly identified aspects of the problems under consideration highlights a suspect feature—i.e. its *competitive*, *alienating*, and *inegalitarian* elements—embedded in the existing constitution of society. These are, therefore, not rooted in the particular biological constitution of individuals. Consequently, two ways of conceiving of situation were opposed: the idea that these problems concern primarily the biological constitution of individuals against the idea that they primarily concern the human-constructed constitution of societies. A focus on the later recognises that these problems are largely of our own making and, therefore, might be highly responsive to the kinds of interventions humanity is already well versed: changing our social environment and the various institutions contained therein. A fundamental insight of the embedded approach revealed in this chapter, then, is that the established debate is overly focused on the first while many reasons have been provided to turn toward the second and to elicit changes there. Moreover, that it was through an embedded consideration of these very enticing innovative possibilities (i.e. HETs) that one is directed to the need to make such changes. Indeed, since in each case the HETs was deemed *prima facie* exciting and yet also likely to aggravate important parts of the problem, one is given considerable motivation to initiate such social reforms *prior* such technologies becoming feasible. The aim, as such, was to highlight inadequacies in the method employed by advocates of HETs—which results in such underdeveloped proposals—and to support the idea that a different *embedded* approach has considerable benefits.

Recognise, then, that the aim here was not to reject HETs outright—even though a critical consideration of them generated a strong suggestion that there is a mismatch between the problems they are designed to respond to and the kinds of problem they need to be responding to. While the implication was that such HETs are misguided in important ways—and that they will therefore likely prove unhelpful—this not an argument against them as such. Indeed, there may still be distinct goods that come from the enhancement

of human functions. Rather, these are to be weighed against the social reality of the time—and the current state suggest that one proceed with considerable caution. And that it is prudent to bracket such technologies until progressed in (at least) the areas highlighted has been made. This is, therefore, especially relevant to advocates of such HETs, who must now recognise the need for them to construct ways of resolving these socially embedded problems if they are to have some genuine hope their proposed HETs will have the positive consequences that promote (and ultimately enhance human lives). To the extent that these concerns mimic those highlighted in contributions to the ethics of human enhancement that are critical of HETs, it therefore casts them in a new light. Specifically, it suggests that such concerns are not to be considered *ipso facto* deleterious to the idea of HETs, but rather that they reveal legitimate criticisms of the status quo.

In closing, this chapter has argued that HEP is not best advanced by focusing only on the ways in which human bodies supposedly ‘malfunction’. Rather it suggested that the best that is likely to eventuate from such an approach is an “amplified sameness” largely mirroring the circumstances of the present (if not exacerbating them). When the problem to which the explored HETs are directed is articulated simply as a brute lack of ability that requires only the direct improvement of the relevant capacities, then the more pressing problems located in the contextual milieu of that problem go overlooked. Consequently, it was argued that through the embedded approach it is possible to recognise that the inherited definition of the relevant problems (from the debate) and the relationship between them and the proposed HETs seeking to resolve them (also as presented in the established debate) is insufficiently nuanced. Accordingly, they suggest the need for interventions of an entirely different kind that would actually serve to emancipating individuals from the status quo. This of course require a complete reconsideration of the methods one might employ to such and end and requires asking (and answering) some very difficult questions about the state of society, while being open to the idea that enhancing human life will likely entail changing deep-seated features of existing society.

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## Chapter Seven

# CONCLUSION

## The Future of Human Enhancement

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As the title suggests, this chapter marks the conclusion to this dissertation. However, having only laid the groundwork for an embedded approach to the human enhancement project, the end of *this* inquiry will (hopefully) mark only the beginning of *future* research. To be sure, the work started here is far from complete. As this chapter proceeds to recap the primary arguments made throughout the preceding pages, its main aim will, therefore, be to spell out (briefly) the possible lines for further inquiry, which each chapter suggests would be fruitful for building on the insights of the embedded approach introduced and defended so far.

To start then, recall that this inquiry was initiated by the suggestion that the existing discussion concerning human enhancement technologies (HETs) appeared to be at somewhat of an impasse. While the conceptual possibility of HETs has proven immensely

fertile ground for interesting and nuanced *philosophy* and given rise to a thriving—indeed a defining—field of applied ethics, I argued that this has not yet borne the fruits it might have (and still could). Undoubtedly, much of value has been explored in the established debate that tends to excite academic philosophers. However, this by and large seems to be doing the same kind of inquiry: namely, of describing in increasingly fine-grained detail (and with growing finesse) the forms those HETs might take and the conditions under which their use might prove morally permissible or not. This gave rise to what I referred to (borrowing from Dewey) as the “indeterminate situation” that would drive this inquiry; namely, the feeling that arises in reading articles (academic or otherwise) on HETs that something has gone awry in terms of the hopes for humanity.

In particular, **Chapter One** argued that the litany of intellectual effort dedicated to this thought-provoking topic has not yet succeeded in illustrating the most vital of things that would grant HETs a robust normative force: namely, an explication of how HETs can help transition the human species from its present state (i.e. riddled with injustices) to the kinds of “Utopias” talk of human enhancement tends to conjure up. Most concerningly, it remains unclear how the kinds of things that HETs are stated to do (i.e. in augmenting individual functionality) are supposed to result in a world one would have good reason to call “enhanced”—where this is understood as assisting the meaningful improvement of human lives as mutually reliant social beings. As such, it was admonished as having failed to provide an effective banner behind which to rally.

Consequently, despite any “good” HETs might conceivably do for *individuals* in particular situations—or *any* benefits that might accrue from their use—it was argued that there is a legitimate concern that they might *not* contribute to substantial gains from the perspective of social *justice* (as follows from a normative commitment to relational equality). For example, it is (in the very least) morally concerning that a cognitive neuroenhancement (CNE) might allow a struggling hedge-fund manager to meet with new success and greatly improve her life (and that of her nearest and dearest) in a meaningful and morally salient way without this kind of technology resulting in changes that

ameliorate the injustices that arise from, say, global capitalism—or even having *any* possibility of helping in such a way. Indeed, in this particular scenario it seems that the hedge-fund manager both *depends* on those concerning features of capitalism—that these *generate* her need for HETs—and that the HETs employed enables her to *perpetuate* it.

As such, it was argued that even if HETs produce changes some might deem valuable—or even if they might be desired by a great many people—that one should not lose sight of the worry that such HETs might prove to only be of rather *limited* value when considered in view of the other obtaining social feature surrounding its use. They might even be counterproductive. This suggests that HETs such as these may be misguided—at least if the aim is to bring about an enhanced *overall* state of affairs. Accordingly—and this was the crux of the noted ‘indeterminate situation’—the *post*-HETs world risks being plagued by the same (or similar) social concerns as the *pre*-HETs world—one would be remiss to conclude that what has achieved in such a case is an “enhanced future”. Rather, it would best be described as only an *amplified sameness*—i.e. a future largely like the present albeit filled by people with enhanced abilities. For all the ways in which HETs *amplify* individual abilities (e.g. gaining vastly superior cognitive capacities), in the broader picture of social justice matters remain rather unchanged (e.g. billions of people still experience incredibly harsh lives in which they suffer needlessly while others routinely turn a blind eye).

Moreover, it was also argued that such an ‘amplified sameness’ does not capture the proper ambitions for HETs evidenced by a great many pro-enhancement authors who, it was argued, do in fact want that the future realised via HETs count as an *enhanced* future (in the fullest sense just hinted at). Their aim, in short, is not simply for a future world to *have* HETs in abundance, but that they matter (positively) for people’s lives. This is certainly apposite. However, it simply reaffirms the suspicion that gave rise to this inquiry: namely, that there is an apparent “mismatch” between a focus on HETs and the desire that they serve this noble ambition. Moreover, it is not with the *ambition* to

enhance human lives the problem rests (i.e. where things seem to go wrong). Exploring this insight was one of the principal activities of this dissertation.

Consequently, it was argued that where things go wrong for HETs is the extent to which they fail to *care* centrally for and, subsequently, seek to amend the circumstances that cause people suffering. It is for this reason that they are to be considered *unambitious* (morally speaking). To rectify this, it was posited that proponents of HETs ought to organise themselves (and the activity of ‘enhancing’ humans) more centrally around the possibility of enhancing human *life*—understood by way of the relational egalitarian conception of human flourishing articulated by Kitcher (2017). On such a view, an enhanced life is one where people “*co-flourish*” and are able to lead unalienated lives defined by mutual concern for one another as equals. Subsequently, it was argued that the pursuit and instigation of changes that enable such forms of human flourishing or correct existing barriers to it would, as such, describe the activities of a properly ambitious *human enhancement project* (HEP). So described, the limitations of HETs start to become even more clear—and, therefore, so does the “indeterminate situation” at hand.

Note then, that this argument already directs the debate in a meaningful way. In particular, by critically exploring how a relational egalitarian proposal for HEP might positively influence the designing HETs on the one hand, or guide the development of other kinds of “enhancing activities” that might enhance human lives, on the other.

In **Chapter Two** then, the staunch belief that HETs are not just a viable tool for HEP but a *necessary* and *sufficient* tool for doing so, was developed into a full account—i.e. the “atomistic approach”—that was illustrated to capture the thinking of many pro-enhancement authors in the debate. The chapter, as was to be expected given that the atomistic approach embodies the very view that generated the “indeterminate situation”, was largely critical, illustrating the many weakness of hitching one’s wagon to the idea of HETs. In particular, by exploring a series of hypothetical “scenarios” that sought to cater (with some plausible constraints for realism) to the desires of the atomistic approach, it was argued that even in abiding by its key tenets that it was nevertheless possible to

produce morally undesirable social outcomes—that is, even when the HETs were deemed valuable for (all) individuals *as individuals*. These demonstrations raised significant concern over the rampant individualism that defines much of the established debate; and challenged them to check their assumptions of building their ethical defences for HETs on the backs of isolated and abstract individuals. As it was possible to satisfy the atomistic approach without it making a considerable difference to the moral character of human lives (i.e. they did not necessarily produce enhanced lives), it was argued that the atomistic approach is less concerned with improving human lives than it is with making humans have better functioning bodies.

Ultimately, Chapter Two concluded that it was difficult to both define and secure a situation consistent with the spirit of HEP while maintaining the individualistic commitment to HETs as the appropriate means for enhancing human lives. In closing, Chapter Two issued a challenge to the existing debate (that it is therefore encouraged to pick up): namely, that in generating and defending potential HETs that they must satisfy what was called the “social inducement critique” (SIC), which requires that advocates illustrate the value of a given HET not just for “you” or for “me” as discrete agents, but that they must also satisfy a collective viewpoint by showcasing what “we” might endorse a future where that HETs is used either by individuals or is pervasive.

On the basis that it was the most obvious way to potentially execute the requirements of SIC—and which might require the least reformation of the atomistic approach—**Chapter Three** first explored the possibility of including an effective distributive mechanism into the atomistic approach. To wit, it engaged with what was taken to be the strongest account for addressing the issues of distribution in the context of HETs in the literature—that provided by Buchanan et al. (2011). Consequently, the chapter highlighted the very many important strengths of their proposal for the “Global Institute for Justice in Innovation” (GIJI). Of particular note, it was argued, was the ways that GIJI seeks to engage with *existing* social institutions and structures (particularly the existing “international intellectual property regime”). Here it was illustrated that Buchanan and his



colleagues. rightly recognise that such existing social mechanism are negatively embroiled in the bad outcomes that are likely to result from the arrival of any HETs—specifically as they actively inhibit the broad diffusion of such potentially helpful innovations. Moreover, they (rightly again) highlight the fact that such existing practices have a significant influence on what kinds of HETs might be *developed* (due in large part to existing monetary reward structures) and, therefore, that there is a need for GIJI to replace these so that it might *shape* the development of HETs that benefit the people who most need them as well as cater to their specific needs.

These two insights were flagged as crucial and favourably distinguishes their distributive proposal from others in the debate. However, it was then argued that Buchanan and his colleagues do not appear to realise the full implications of these important features of their account—or, if they do, that they do not spell them out. In particular, their insight on the influence of structures is not penetrating enough, as it ought to recognise that the very structures into which they insert GIJI might, themselves, be part of the problem they hope GIJI will amend. In particular, the existing social features that give rise to the international legal arena in its present form might be precisely those that produce the situation that there are people who are more ‘needy’—and, therefore, who need to be *especially* considered in the development of HETs (by GIJI).

Moreover, even in commendably seeking to cater to the needs of those typically overlooked individuals, and to commandeer the concerning existent influences on the *development* of HETs, they fail to recognise that those exact needs they now cater to are also the result of concerning influences that require reform. In other words, it was argued that it is not enough to just deal in an *ex post* way with the consequences of deeply unjust social organisations by dealing *as a priority* with the needs of those impacted. There is also a vital need to amend those social practices that create such a ‘needy’ segment of the population. As such, it was argued that, even though it represents a valuable (and plausibly feasible) first step that could genuinely help people who are *currently* overlooked, it is not sufficient for helping to bring about the radical future sought by HEP. In other

words, it is an excellent proposal for dealing, for example, with existing and emerging medical technologies, however, so long as HETs remain speculative the quest for an effective mechanism to help secure HEP must continue. Ultimately, the first part of chapter illustrated, that as a result of these points, even if one could *ensure* equal distribution of HETs (via GIIJ) that this would not suffice to save the atomistic approach from permitting the pursuit of lacklustre “enhanced” futures.

The second part of Chapter Three then provided a positive (i.e. not just critical) contribution to the debate. In particular, by taking note of the ways in which the atomistic approach struggles, this chapter set about its primary aim to spell out an *improved* approach to HEP that succeeds where the atomistic approach fails. To wit, the problematic (and defining) features of the atomistic approach were exchanged with their opposites and made the foundation of what would be called the “embedded approach”. As such, the embedded approach adopted an open-ended conception of “enhancing activities” founded solely on the “problems” that hinder the flourishing of individuals, which it conceived of as being “socially embedded”. To clarify, rather than being “isolated and abstract agents” as assumed by the atomistic approach, the embedded approach proposed that individuals be conceived of as being socially *constituted* and, therefore, that they are in relevant ways to be considered socially diffuse (rather than wholly contained in their bodies). The notion of “socially embeddedness”, it was argued, introduces a vital shift in perspective to the existing debate that builds on a long line of thinkers from Marx to Dewey and (most recently) Kitcher.

As a result of endorsing the socially embedded self, **Chapter Four** then argued that there arose a further need to endorse a far “broader” account of “human enhancements”. In particular, the notions of “human enhancement interventions” or “enhancing activities” were introduced to capture the idea that the embedded approach was open to *alternative* mechanisms for realising HEP than simply HETs. That there was a need to include such broader possibilities followed directly from the characteristics of the socially embedded self. In particular, if individuals are socially embedded then the features

that bear on their lives going well or poorly might have less to do with their abilities as individuals than with their social environments (broadly conceived). Consequently, if enhancing activities are to be developed, as was just noted, by identifying existing threats to the flourishing of embedded individuals, and the roots of those threats might reside wholly outside of the biological body of the individual in question, then addressing such issues therefore requires interventions not directed at the body.

Subsequently, Chapter Four then sought to spell out the particular task persons committed to the embedded approach might undertake to help advance HEP. Here, one is directed to explore the nuanced and intimate ways in which people relate to their broader surroundings—i.e. their social ecology—which include not just other people but also various social institutions and organic environments and identify how these define those individuals and inhibit them from flourishing in various ways. From this, one can then begin to develop solutions that are built on what the specifics of the particular problems identified suggest is required to address those problems. As these do not necessarily require awaiting the arrival of still speculative technologies it suggests that the enacting of solutions might already commence. In sum, the embedded approach therefore provides a more holistic conception enhancement and enhancing activity that is capable of *already* generating positive activity seeking to enhance human lives.

The embedded approach is, therefore, revealed as more thoroughly pragmatic approach than is evidenced by other “backwards-looking” approaches to human enhancement (cf. Roduit et al., 2014). These, to recall, were those that abandoned some teleological conception of the “perfect human” in favour of focusing on existing functional limitations as viable targets for human enhancements. Yet, those still operate within a framework akin to the atomistic approach and, therefore, still reduce the individual to their functioning and use only such limitations to provide direction for the development of HETs. Here, instead, limitations to human flourishing broadly conceived are to be used as potential targets for activities seeking to amend them (also broadly conceived). As such, Chapter Four proposed what was referred to—since it follows Dewey’s (1938)

proposed steps for moral inquiry—as the “Deweyan task” for people seeking to aid the realisation of HEP. Such “Enhancers” are first tasked to engage in a sustained investigation into the embedded characteristics of those instances that curtail the flourishing of individuals and to trace out their various “tendrils” in the broader constituting social ecology of the impacted individuals. Subsequently, with the relevant “problem” so mapped, they are then to set about generating and testing suitably nuanced and penetrating interventions that might rectify the matter in a meaningful way.

Such “enhancing activities”, if effective, would then constitute as making incremental progress from states in which people had a restricted capacity for leading (co-) flourishing lives to those where they were less constrained and more supported in doing so. Finally, it was argued that, if the amelioration of such concerns does in fact result in those individuals leading such (enhanced) lives, then it is appropriate (and important) that those measures employed to such ends be considered “enhancements”. It is for this reason, despite the risk of confusion, that effort was made to keep the word ‘enhancement’ in any description of such measures—lest they come to be thought of as *not* enhancements and, therefore, that HETs have some special claim to the title.

This, of course, offers explicit guidance for future research to set about undertaking this “Deweyan task”. It is, however, no small feat; as many problems recognised through such investigations are likely to be enmeshed in deep-seated social practices whose perniciousness may not be immediately obvious. Relatedly, many problems might overlap or intersect. As such, in attempting to properly ascertain the character of even one problem, one is likely to find that they uncover many more “down the line” (as it were). Fortunately, one need not start entirely “from scratch”. Rather, this activity is likely to benefit from engaging with the abundance of literature in moral, political, and social philosophy that already grapples with the difficult problems that people face in their day-to-day. As such, rather than setting out on a long and arduous activity alone one will find they have much good company. As such, a commitment to this agenda has the potential to draw other fields of valuable applied philosophical and sociological inquiry

to take an interest in “enhancing activities”—for, as they will discover, it will appear that they have been engaging in such activities all along.

With this all laid out, it is important to recognise that the *first aim* of my inquiry has, therefore already been satisfied. That is, with respect to proposing a plausible avenue for overcoming the “indeterminate situation” stipulated at the outset. Accumulatively, by the end of Chapter Four, the following ground has been covered:

- (1) The indeterminate situation has been *clarified* as identifying the disparity between a particular conception of human enhancements (i.e. HETs) and a particular version of the ambition they seek to achieve (i.e. HEP).
- (2) It was argued that HEP captures something *meaningful* about the idea of an *enhanced future* (i.e. where human lives “co-flourish”) while HETs (as illustrated by the atomistic approach) is incapable of securing as much. This was, therefore, grounds to assume that the HETs ‘side’ of the equation was where corrective measures were needed to make it more “determinate”.
- (3) An alternate conception of “human enhancement” was then proposed—i.e. the embedded approach—which redefined the key elements of the atomistic approach. Specifically, it unshackled itself from commitment to HETs and the isolated individual, in favour of a “socially embedded” individual that necessitated a broad (indeed the broadest possible) conception of human enhancement interventions.
- (4) Finally, in Chapter Four it was argued that by endorsing the embedded approach, one must carry out the just stated “Deweyan task” that would incrementally set about the realisation of HEP (i.e. by resolving particular existing hindrances to human flourishing located in the shared social space).

Consequently, a commitment to the embedded approach was shown to diminish the discrepancy between “means” and “ends” and, therefore, to overcome the original “indeterminacy”. This (together with the shortcoming of the atomistic approach) provide reason enough to endorse the embedded approach as a plausible—and indeed preferable—alternative to be explored further in the debate.

Yet, I recognise that many elements thus far highlighted can still be developed further. Indeed, as was stated at the start of this concluding chapter, the idea was not to be *exhaustive* but rather to lay sufficient groundwork to illustrate the value of further, more rigorous, inquiry into the details of the embedded approach and the precise actions it might motivate.

For example, a particularly thorny problem for future research concerns the sheer *abundance* of problems that are likely to be exposed by the dedicated executor of the aforementioned “Deweyan task”. This echoes a problem that has already been noted and explored by the recent work of Kitcher (Forthcoming). In particular, Kitcher explains—in the context of constructing a method for making *moral progress* “more systematic and reliable”—that there is need to be able to delineate what he calls the “urgency” of problems. It appears that this is appropriate in this context as well. In other words, future research should seek to build on, for example, Kitcher’s proposal, and amend it to the particular question of human enhancement. This, then, might serve to reduce the number of problems that are to motivate enhancing activity and, therefore, also serve to maintain a stricter distinction on what kinds of activities ought to count as *enhancing*—i.e. those that address the right kind of issues in the right way.

Here, I tentatively suggest that special attention might also be paid to explicating in more detail the nature of the “socially embedded self” as potentially helpful. In particular, by noting that it seems to be the case that the socially embedded individual is not simply the *total* of their social ecology. As such, there is something that grants defines the *unique* character of a given person in a meaningful way. Consequently, I propose that if

headway can be made in describing what features bear in such a defining way on the individual in question and ascertain whether on the basis of *these* it would be appropriate characterisation that individual as “not flourishing” in some way, that addressing this might appropriately be considered an “urgent” problem for enhancing activity. Subsequently, mechanisms that succeed in shifting the qualities of their life (i.e. so that the person can be considered “flourishing”) may rightly be thought of as “enhancements”. However, this requires a considerable amount of further inquiry.

In seeking to carry out the second aim of the dissertation (i.e. to outline some of the strengths of the embedded approach), the final chapters proposed a less robust alternative method (i.e. than that provided by Kitcher) for narrowing the consideration of problems. This, it was illustrated, can be employed meaningfully until something like Kitcher’s proposal can be extended to this context. In particular, **Chapter Five** argued that HETs (even though speculative) are to be understood as resulting from relevant features of the social environment in which individuals are embedded—especially since they appear to many people to be potentially valuable tools for enhancing their lives.

Once the embedded approach is accepted, and therefore the notion of the socially embedded self, it was argued that one is directed to interpret the needs, desires, and motivations of individuals as *responses* to features of the social ecology in which they are embedded. That is, they occur inside a particular set of circumstances in which the individual acts and makes decisions and influences their thought process and the ‘weight’ they assign various matters. Consequently, it was argued that both the fact that HETs have been *proposed* as valuable tools for improving human life, on the one hand, and that many people recognise some genuine potential for them to grant something of value, is, therefore, incredibly revealing of the existing social. As such, Chapter Five argued that an embedded consideration of HETs that attempts to ascertain the contexts in which they arise—and in which they are thought to be beneficial—can thereby identify the various “push” and “pull” factors that motivate them. For this reason it was argued that existing proposals for HETs can serve as helpful *heuristics* for identifying potentially salient social

issues that can, subsequently, direct the development of valuable enhancing activities. In other words, it was argued that such HETs are able reveal what Little (1998) refers to as “suspect norms” that underpin those HETs (if they are indeed bolstered by suspects elements of existing society).

**Chapter Six** then applies this strategy directly by considering three HETs it was argued have *prima facie* social utility (i.e. they have the potential to have value beyond the individuals who receive them). Here, cognitive neuroenhancements (CNE), mood enhancements (ME), and moral bioenhancements (MBE) were explored in turn. These explorations provided clear evidence for the value of the kind of investigative thinking proposed as necessary by the embedded approach. By inquiring into the influences on each of the proposed HETs and identifying what circumstances give rise to their supposed “need” (i.e. the particular *perceived* “problem” they look to address) it was demonstrated that they are indeed propped up by “suspect” social norms and institutions. CNE was shown to be deeply embroiled in concerning norms of *competition* that generate much of its perceived value while also greatly negating the likelihood that CNE would in fact help in the way individuals might desire. ME, then, were shown to be a product of increasingly *alienating* (and therefore suspect) social practices, which the use of ME would become complicit in (and aggravate). Lastly, the lengthy exploration of the more topical notion of MBE, argued that they were a response to moral failures that, when understood as being embedded in a particular existing social ethos, highlighted the presence of pervasive *inegalitarian* social norms, institutions, and practices as significantly responsible for such moral failures (and therefore for generating the supposed need for MBE). Consequently, it was argued that so long as those inegalitarian features of society went unresolved, that they would continue to push individuals embedded in those environments to act in morally concerning ways; and, therefore, that MBE would constantly be being overridden by the pressures of a society *not* structured to support the activities that are hoped would follow from the use of MBE.



As such, each of these investigations unearthed a particular socially embedded issue hidden (and overlooked) by those various HETs. In bringing them into focus, they, thereby illustrate how they are able to serve as a heuristic. That is, in recognising the supposed value of HETs, individuals thereby broadcast the problems in their social sphere. An embedded investigation into these problems then reveals that the problems—as presented by those HETs—are underdeveloped, or at least contain elements that produce perceptible harms for individuals. As such, those problem so identified—i.e. of pervasive competitive, alienating, and inegalitarian practices—can then be adopting as pertinent social problems to which enhancing activities can be directed

If earlier it was suggested that the inquiry into problems represented a massive task, then it should be clear that the development of effective solutions is by no means a smaller one. The embedded approach, in abdicating the focus on HETs, which, relatively speaking, were rather simple to apply, here sets itself a much more difficult agenda. How exactly is one to effectively resolve in a meaningful way the problems just highlighted? It is the difficulty in answering this question that generates, in my view, the most promising avenue for future research. In particular, I suggest that this creative task of constructing human enhancement interventions represents one of the crucial ways in which individuals can demonstrate themselves (as individuals) and *exert* an influence over the environments in which they are embedded. In short, the development of such solutions requires the exercise of *moral agency*—what Dewey refers to as “intelligence”—which employs and relies on a thriving “moral imagination” (Fesmire, 2003). Future research seeking to best aid the embedded approach is directed to this issue. Specifically, “What is involved in developing and exercising a well-formed moral imagination that can creatively and critically engage with the status quo, identify the important problems, and develop nuanced strategies for resolving them?” Or, in short, “How are the best executors of the “Deweyan task” made?” These are the people who can generate meaningful enhancements to human life. Such figures have popped up in a variety of guises in various philosophical texts; as the “moral artist” or “moral visionary” (Fesmire, 2003), the “avant-

garde political agent” (Ypi, 2012), and as “social reformers” or “social engineers” (LaFollette, 2000). Ascertaining *how* such beings are nurtured is, therefore, vital to enhancing human life; and those interventions that aid such people (and their proliferation) may ultimately prove to be the most crucial of “enhancements”. Again, this is sadly a matter left for future research.

Chapter Six further argued that the various proposals for HETs considered, which where inherited from a debate largely defined by the atomistic approach, had clearly not been developed with an appreciation of the myriad socially embedded features of the problems these technologies were proposed to resolve in mind. Nor has subsequent ethical explorations of these HETs succeeded in recognising the apparent “feedback loop” it was illustrated they would be participants in. In other words, that HETs had been birthed from a particular social environment and, in being used, would then become a part of that environment where they would serve as a reinforcing feature of that social environment that is likely to substantially shape the individuals embedded therein in those same concerning way. In the very least, this insight from the embedded approach indicates that even if one wishes to enhance individuals via HETs that it is far from a straight-forward activity.

Consequently, this generates a clear imperative for future research to explore the embedded characteristics of already proposed HETs. As such, Chapter Six has revealed that the embedded approach is able to generate new—as well as revitalise old—“first order” ethical considerations of existing proposals for HETs. Explicitly, by focuses on the ways in which those HETs arise from and, subsequently, are to return to the social environment in which they are embedded. Even though the embedded approach has deemphasised the focus on HETs, it is, therefore, nevertheless able to offer support for those who wish to continue exploring and proposing HETs. Which is to say, HETs proposed by way of an appreciation of the embedded character of human life are, *ipso facto*, likely to be more robust and ultimately more promising.

This would, I propose, generate new work for the enhancement debate. Moreover, it suggests a further field of constructive research for advocates of HETs who have been inspired by the embedded approach proposed here to seek out a *secondary*, supportive role for HETs. In other words, that advocate of HETs ascertain how various purpose-built HETs might aid those “Enhancers” engaged in the “Deweyan task” by reflecting on how they can underscore the kinds of far-reaching social changes that are likely to prove necessary to promote human flourishing. To this end, a firm understanding of the nature of the problem would be utilised to identify what, if any, assistive role HETs might play in aiding various enhancing activities. Consequently, an upshot of the embedded approach to HEP is that it does not reject HETs, it just sets a sufficiently high bar for them to overcome to demonstrate that they will in fact be helpful. Yet, if proponents of HETs can succeed in hurdling it, they will have produced far superior HETs proposals than those that presently dominate the debate—even if they may not be the kinds that would sell comic books or tax movie special-effects teams.

As such, the embedded approach does not—even now—mark the end of the story for HETs. Rather, it suggests that perhaps their time has *not yet come*. A consequence of recognising the socially embedded character of human life is that it means that to the extent that HETs appear lacklustre, they do so in (and as a result of) the particular social context we presently find ourselves in. That is, the one in which severe inequality is ubiquitous in all human societies and grave injustices permeate the globe. However, if this weren't the case—i.e. if the embedded approach has been in significant measure faithfully and successfully executed—then HETs might take on an altogether different appearance. Indeed, this is even *likely* to be the case. In other words, that in a world relational egalitarians would recognise *as enhanced*, that the use of HETs might in fact generate the kinds of “pure” or “intrinsic” goods that present-day transhumanists expound. Individuals in that society would be able to select them freely (i.e. without the suspect pressure to use them), and be able to use them freely (i.e. without capitulating to the social environment that seeks to ascribe them a concerning value) and without harm (i.e. not at the expense

of someone who they view as an equal). In this case HETs are still not to be considered robust “enhancements” in the sense that they meaningfully aid flourishing. However, for already flourishing individuals, they would provide options elected as mere demonstrations of them exercising and utilising their already flourishing lives—rather than as a *means* for making them so. In short, they will just add exciting possibilities for already flourishing beings to experience and regard the world anew, but will not then, themselves, constitute such individual flourishing.

In sum, the embedded approach represents a neat pairing of relational egalitarian and pragmatistic thinking that it has been shown not only resolves the postulated “indeterminate situation” and contributes in a meaningful way to the debate, but also, it has been argued, that it has the potential to revitalise it in important ways, offering new directions for inquiry, and also a news lens through which to reassess existing contribution to the debate.

# Notes

## Chapter One Notes

- <sup>1</sup> A range of so-called “laws” overlap here. For example, “Moore’s Law” which describes the exponential growth in the complexity—i.e. number of transistors—in integrated semi-conductor circuits (Moore, 1965/1998); “Keck’s law” which describes the acceleration of speed and capacity of optical fibre (Hecht, 2016); The “Carlson Curve” which describes the acceleration of DNA sequencing technologies measured by cost and performance (Carlson, 2003); Kurzweil’s (1999) “law of accelerating returns” which describes exponential increase in the “rate of change” in a wide variety of evolutionary systems—not limited to computing technology; and “Edholm’s law” which describes the exponential growth of bandwidth of telecommunication networks like the Internet (Cherry, 2004).
- <sup>2</sup> For an accessible overview of the other emergent technologies radically changing our lives see Greenfield (2017). These include: automation and digital fabrication which are reshaping how we work and produce; augmented reality (AR), virtual reality (VR), and the Internet of Things (IoT), which alter how we engage in the world; machine learning and artificial intelligence (AI), which are revolutionising computing; and blockchain technologies and cryptocurrency, which promise to fundamentally change how we trade.
- <sup>3</sup> In 2004, roughly 10% of the world’s population had access to the Internet, today that number is nearing 60% (and with vastly superior capabilities). In fact, as of 2014 there are more mobile phones than people on the planet (Boren, 2014) and Internet of Things (IoT) devices have had an even more explosive growth, this year dwarfing the human population 4:1. Generally, access to the Internet is considered a form of liberation, granting individuals (particularly those who live rather remotely) greater access not just to the world’s collective knowledge but to other human beings with whom they can form and maintain relationships, to share their lives with others, and exchange their cultures, experiences, and perspectives. However, Morozov (2011) offers a rebuke of this overly rosy picture by exploring the dark undertones of the Internet.
- <sup>4</sup> Nicholas Agar (2015) applies the concept of “hedonistic set points” to explain the process by which humans are quickly normalised to the benefits of some technologies, arguing that their contribution to additional happiness is short-lived and is rarely inherited by subsequent generations that grow up with them.
- <sup>5</sup> See, for example, Pinker (2018).
- <sup>6</sup> Although the futurist Ray Kurzweil (2005) predicts—via his expansion of Moore’s Law (see above n. 1) that within this century such ongoing exponential growth will drag humanity towards what he calls the “Singularity”: a digital existence of shared consciousness.
- <sup>7</sup> Two of the more drastic options being explored as measure to deal with a rapidly warming climate are the engineering of human beings (Liao, Sandberg, & Roache, 2012) or geoengineering the planet

(Pearce, 2019). More futuristic still is the work of astrobiologists and synthetic biologists already considering the possibility of, and the requirements for, off-Earth existence. See Rothschild (2018) and Nip (2015).

- <sup>8</sup> Indeed, Morozov (2013), explains that the business of technology today sets about solving problems we didn't even know we had—or, so he argues, invents such problems whose solutions can be monetized.
- <sup>9</sup> For this reason, I put aside question of what exactly technology is, whether the concept is a useful or meaningful one, how to differentiate types of technology, the connection between technology and society, and even generally what an ethics of technology ought to look like.
- <sup>10</sup> A little over two decades later and Agar (2010b) would curb his enthusiasm somewhat and extol the need to reject what he referred to as “radical enhancements” (i.e. those that would fundamentally reshape the human—and their nature—and head too carefreely into the unknown).
- <sup>11</sup> Cf. Greenemeier (2016); Turbow (2012).
- <sup>12</sup> However, I accept that any human enhancement interventions that are able to help treat any major shortcoming in human functioning (mean against the mean) or that seek to “level the playing field” by closing the gap between current high and low functioning individual are likely to always prove valuable from the moral point of view. Cf. Buchanan, Brock, Daniels, and Wikler (2001).
- <sup>13</sup> Cf. Juengst and Moseley (2019) and Parens (1998).
- <sup>14</sup> For the winner announcement articles see Pennisi (2000) and Travis (2015) respectively.
- <sup>15</sup> For a detailed examination of the influence of “mythology” on contemporary “transhumanist” thinking see Hauskeller (2016b).
- <sup>16</sup> At least this was my feeling at the start of this work—prior, that is, to the increasing anti-intellectualism that has been witness around the globe in the post-truth (i.e. “alternative facts”) world that has taken hold since the 2016 US Election.
- <sup>17</sup> For example, those members of *Humanity+* and their *Transhumanist Declaration* (Baily et al., 2009).
- <sup>18</sup> Cf. Agar (2008); Bostrom (2003, 2008a); Buchanan (2011); Savulescu, Ter Meulen, et al. (2011).
- <sup>19</sup> HETs promise a range of novel experiences: such things as appreciating colours beyond our current range of vision and sounds beyond our current range of hearing, participating in forms of communications beyond our current limits of speech/signage, experiencing emotions beyond our current capacity to feel, and voyaging through thoughts beyond our current ability to conceive. Such imaginings are the bread and butter of transhumanists. Cf. Bostrom (2008a). Hauskeller (2013), however, challenges the extent to which we can speak of experiences we have absolutely no knowledge of or familiarity with as “valuable” or “desirable”.
- <sup>20</sup> A not unproblematic assumption. The empirical grounding for such beliefs have been challenged since the get go, with many arguing that existing scientific knowledge just does not support the kinds of changing promoted in the debate. This is particularly evident on the recent topic of “moral enhancement”. Cf. Wiseman (2016) and Liao (2016).
- <sup>21</sup> This is not meant as a critique of doing philosophy in this way: i.e. using speculative scenarios to generate meaningful and philosophically rich insights. Indeed, the debate has, as a result of this tactic,

produced novel insights on a range of important matters from free will and autonomy to consent and the limits of paternalism. What they haven't done, however, is explain why one should hitch their wagon to HETs if one wants a world freed from the horrors it presently puts on display.

- <sup>22</sup> A valuable critical exploration of the promise of various existing or emerging forms of manipulating moral behaviours can be found in Dubljević and Racine (2017).
- <sup>23</sup> This example explored at length in Chapter Six (in particular at section 4).
- <sup>24</sup> Not to be confused with the “capabilities approach” developed by Amartya Sen and Martha Nussbaum. For a good overview see Robeyns (2016b).
- <sup>25</sup> The idea of “working from problems” is a central tenet of pragmatist inquiry (cf. Kitcher, 2015, 2017) and will shape much of the inquiry to come. In particular in Chapter Four where it will be argued that this approach suggests a need to drastically expanding what kinds of interventions that ought to count as “human enhancements.” For an exploration of “forward-“ or “backward-looking” approach to human enhancement see Roudit et al. (2014).
- <sup>26</sup> This is a natural consequence of the “common definition”, which conflates “human enhancement” and “human enhancement technologies”. Generally speaking, this work will dispute this conflation.
- <sup>27</sup> To the extent that some advocates of HETs might reject this ascription, I maintain that they thereby miss out on a valuable opportunity for demonstrate the greatest value of the technologies they exalt.
- <sup>28</sup> Cf. Harris (2007); Glover (2006).
- <sup>29</sup> The worry outlined in section 2.1. that motivated this inquiry clearly can be understood as picking up on the “tone-deafness”.
- <sup>30</sup> The clear implication with this caveat is that there may exist meaningful ways of talking about ‘human enhancement’ that do not involve the use of HETs. This will be clarified in the coming pages.
- <sup>31</sup> Kitcher (2017) outlines a third core condition, namely, that “projects, including the other-directed ones, meet with some measure of success.” This is, of course, *vital*. However, it is here taken as granted and, therefore, not explored further in this work. Indeed, the elaboration of the first condition provided merges with this, as it suggests that in order to have a more autonomous life that one needs to have the necessary environmental “support”—i.e. mechanism to *enable* that autonomy and render those “choices” meaningful.
- <sup>32</sup> Later, it will become clear that this first aspect of Kitcher’s (2017) account of flourishing—as clarified here—has significant implications for how we are to think about human enhancement; it suggests that a key aspect of leading a flourishing life depends on the external circumstances that either constrain or liberate it. See Chapter Three.
- <sup>33</sup> I have abstained from using the acronym until this point, so as to create a clear delineation between the earlier usages of ‘the human enhancement project’ and this specific interaction to which the acronym applies. The remainder of the inquiry will proceed with HEP in mind.
- <sup>34</sup> Note that in describing HEP in the relational egalitarian way I have, the idea is not to posit it as some teleological *endpoint*. Even though the use of such language as “moving towards” or “having an ambition to realise in the future” might suggest otherwise, I contend that the way in which HEP is described here captures a general moral value that can already be employed to make assessments that particular states of affairs are unjust (and, *ipso facto*, in need of correction). It therefore is able to

serve as metric for judging successful improvements to the status quo without it, itself, stating in a *firm* way what that future society should ‘look’ like. It is not nearly so robust. Indeed, it is difficult to imagine what such a world *would* look like in a through-and-through way. It is, however, possible to recognise when people do *not* relate as equals; a regrettably common occurrence. I believe that this understanding of HEP as being able to drive progressive shifts is consistent with Kitcher’s (2015, 2017) *pragmatic* account of “social progress”.

- <sup>35</sup> Throughout this text these will be referred to primarily as either “human enhancement interventions” or as “enhancing activities”. Later, additional concepts that are sub-categories of these will be introduced. For example, “social enhancements” and “environmental enhancements” (see Chapter Three), but these will be clarified in due course. Lastly, the term ‘human enhancements’ will—from this moment on—be used in the ‘broadest’ possible sense to capture any of these variations (including HETs) that might plausibly act in service of HEP.
- <sup>36</sup> This is not meant to imply that people who find themselves in such settings *lack* intelligence nor is it an empirical claim that having increased intelligence actually helps in such settings. Rather, it was meant more generally: e.g. perhaps it would allow them to enter new job markets that grant them the ability to relocate.
- <sup>37</sup> To the best of my knowledge the closest and *only* other contribution in the debate that seeks to reject the isolating individualism of the established debate and champions a more holistic “relational view” as vital to human enhancement is Cabrera (2015). However, as explored in chapter three there are marked difference between our approaches. Moreover, while her view of the individual is commendably ‘relational’ it is not wholly ‘embedded’.
- <sup>38</sup> I borrow this particular phrasing from Kitcher (Forthcoming). My sincere thanks to Prof. Philip Kitcher for granting me access to the pre-publication form of these excellent lectures he delivered here in Munich. It has, as is no doubt obvious, had considerable influence on the ideas presented throughout this work.
- <sup>39</sup> While the specific idea of the socially embedded individuals is new to the debate, the idea for a more robust anthropological account of the ‘subjects’ of human enhancement is not. For an important contribution see Heilinger (2014).

## Chapter Two Notes

- <sup>1</sup> As shall become clear this is a rather unambitious view of HEP could produce. Rather than aim for preferable, why not construct a HEP that seeks to radically revolutionise human flourishing; and then see how close one can get to that.
- <sup>2</sup> Indeed, *every* major HETs proposed by pro-enhancement authors in the debate satisfies this account. Cf. Savulescu, Ter Meulen, et al. (2011).
- <sup>3</sup> See, for example, Persson and Savulescu (2012).
- <sup>4</sup> Cf. Savulescu (2001), Stock (2003), Green (2007), and Harris (2007).
- <sup>5</sup> Cf. Bostrom (2008a, 2008b) and Savulescu, Sandberg, and Kahane (2011).



- <sup>6</sup> “Some values pertaining to certain forms of posthuman existence may [...] be values for us now, and they may be so in virtue of our current dispositions, and yet we may not be able to fully appreciate them with our current limited deliberative capacities and our lack of the receptive faculties required for full acquaintance with them.” (Bostrom, 2003, p. 495)
- <sup>7</sup> The clear and concerning “ableist” dimensions of many HETs proposals have, rightly, come under increasing scrutiny. Cf. Barclay (2009, 2016), Eilers, Grüber, and Rehmann-Sutter (2014), and Goodley, Lawthom, and Cole (2014).
- <sup>8</sup> In section 3, the fact that others might benefit by proxy will be considered.
- <sup>9</sup> Expanding on this will occupy the entirety of the text. Indeed, it will be amongst the primary arguments of this work to argue that improving human life involves predominately features outside of the biological constitutions of individuals.
- <sup>10</sup> Then-UN Secretary General Kurt Waldheim words on the Voyager Golden Records read, in part: “We step out of our solar system seeking only peace and friendship—to teach, if we are called upon; to be taught, if we are fortunate.” I was pointed to this by Becky Chambers (2019) superb science fiction novella whose title—*To be Taught, If Fortunate*—is borrowed therefrom.
- <sup>11</sup> Recently remade into the 2016 blockbuster hit *Arrival*, directed by Denis Villeneuve.
- <sup>12</sup> The immediacy is impactful, it allows us to temporarily bypass the complications that arise from a more gradual and restricted development of HETs.
- <sup>13</sup> It adheres most closely with the desires of the so-called “transhumanists”. E.g. Bostrom (2008b).
- <sup>14</sup> Morozov (2013) is critical of such “technosolutionist” thinking, which demonstrates a “solution bias” more concerned with what given technological methods might achieve than the problems they seek to resolve. In Chapter Four I propose a pragmatist method inspired by Kitcher (2017), which sets out from the problems human enhancement interventions are actually engaged with as preferable.
- <sup>15</sup> Again, such questions imply a worrying “ableism”. Certainly, many transhumanists would benefit from familiarising themselves with the insightful work coming out of Disability Studies (such as the “social model of disability”). Enhancement literature already connecting these fields are listed above at note 4.
- <sup>16</sup> There are several concerns that arise from simply placating *all* the desires of individuals: (1) not all ambitions are socially acceptable (e.g. wanting to commit genocide); (2) some desires stem from concerning sources (e.g. wanting to appear a particular ethnicity); (3) some desires come from a flawed understanding of the situation (e.g. wanting longer limbs to be a good basketballer). These kinds of “suspect” (Little, 1998) drives on HETs will be explored in considerable detail in Chapter 6 below.
- <sup>17</sup> Fallacious thinking to be sure, one borne out by any toddler gaining unsupervised access to the household ice-cream supply.
- <sup>18</sup> Taken to its extreme, in a world occupied by superwomen and men, the notion of prisons, of legal authority, of bank vaults, etc. are put under considerable strain (if they are not made completely defunct). For various proposals regarding the regulation of human enhancement technologies cf. Buchanan (2011); Heilinger (2010); Mehlman (1999, 2005); Hughes (2004); Huhn (2002) and Hanaa (2002).

- <sup>19</sup> In particular, see Chapter Six below.
- <sup>20</sup> Namely, the “embedded approach”, which is the focus of Chapter Three.
- <sup>21</sup> I have not here erred in the opposite direction—namely, by making these technologies *universally* available. If the first case was too vague, this counterproposal would be too ideal and removed from anything we could hope to occur in reality. Moreover, it will be helpful that distributive issues obtain so that they can be considered.
- <sup>22</sup> “Haves” vs “Have-nots” is common distinction in the literature. See, for example, McKibben (2004). Although, arguably more aptly, Lee Silver (1998) who referred to those with enhancements as “Gen-Rich”.
- <sup>23</sup> Noting that, as Farrelly (2004) argues, granting *universal* access to all enhancement technologies (and to the same degree) is, plausibly, beyond the reach of any existing society.
- <sup>24</sup> Relatedly, there is an ongoing discussion that Haves might come to have a superior “moral status”. Further some have even argued that this would give them a right to rule and, given their heightened capacities, that their experiences have an higher intrinsic value such that ensuring them may reasonably come at the expense of the rest of humanity. C.f. Sparrow (2013), Hauskeller (2013b), Agar (2013), Wasserman (2013) and Archer (2016).
- <sup>25</sup> Cf. Ahlskog (2017), DeGrazia (2016), Hughes (2015) and Walker (2009).
- <sup>26</sup> Cf. Specker and Schermer (2017), Persson and Savulescu (2013) and Crockett (2014)
- <sup>27</sup> The specifics of what would need to be altered to produce such results are contested; is it behaviour, emotions, or dispositions that should be the focus? (Jebari, 2014).
- <sup>28</sup> This issue shapes the debate concerning moral bioenhancement considerably, where questions concerning the impact on free-will, autonomy, and liberty, as well as on moral agency receive significant attention. Notable examples include Hauskeller (2016a, 2017), Chan (2017), Harris (2011), Rakić (2017b) and Reichlin (2019). Some of these issues are picked up again when moral bioenhancement is explored in greater detail in Chapter Six (esp. see section 4).
- <sup>29</sup> As outlined in the introduction, this would be to set out to make what might be called “first-order” assessments of HETs, which, as a result of an oversaturation of such arguments in the academic debate, this work seeks to break away from.
- <sup>30</sup> Once again, should this be the case, it can surely be interpreted as being more critical of the present status quo than a ringing endorsement of the arrival of HETs or the ethical permissibility of ‘Haves’.
- <sup>31</sup> For an argument that unequal access to HETs can be justified under Rawls’ Difference Principle see Baccarini (2015). For a criticism of Baccarini’s argument see Cerovac (2016). For earlier examples of broadly Rawlsian and Prioritarian arguments concerning “genetic justice” see Farrelly (2002, 2005) and Lindsay (2005).
- <sup>32</sup> One could be fairly optimistic regarding such a scenario eventuating in practice. There is, despite the grotesquely unequal division of goods (particularly in access to innovative technologies) evident that innovative goods do eventually (in one form or another) make their way to the less fortunate. Yet, early access almost always nets greater benefits, which are diluted as they become more diffuse (Lucas & Sylla, 2003). Nevertheless, according to Steven Pinker (2018) the world today is a much

better place to live in (for everyone) than it ever has been, despite a growing socio-economic gap between the most and least well off members. Cf. Elliott (2019) & Kochhar and Fry (2014).

- <sup>33</sup> Note that, to the extent that a concern for those not directly enhanced (i.e. that they should benefit tacitly, or at least not be harmed) has been included in the scenarios, this is already an improvement on outline of the atomistic approach outlined earlier: i.e. where the main point was about realising HETs that make improvements people would want.
- <sup>34</sup> The fallacy is a kind of strawman, whereby one asserts that by focusing on a (relatively) small issue one (by that fact) does not care about the bigger (more important) issue. For example, a person who is distraught at having cracked their phone screen is admonished because “there are children starving in Africa,” implying that if they cared about the latter, they shouldn’t care about the first. Or, inversely, that if they care about the first then they couldn’t possibly also care about the latter. A similar idea is expressed through the idea of “first-world problems” which are typically superficial on the global scale. Use of the phrase is intended to signify that those kinds of problems are not (in some sense) genuine, and to think that they are would demonstrate how shallow one is.
- <sup>35</sup> Nor that greater benefits (since it was stated that those particular benefits resulted *only* because of the presence of HETs) may have accrued for the Have-nots if other steps were taken in the absence of HETs for anyone.
- <sup>36</sup> As Wallace-Wells (2019, p. 336) writes in a very different context: “The market has justified inequality for generations by pointing to opportunity and invoking the mantra of new prosperity, which it promised would benefit all. This was probably always less credible as a truth claim than it was as propaganda, and, as the Great Recession and the deeply unequal recovery that followed showed unmistakably, income gains in the world’s advanced capitalistic countries have gone, for several decades now, almost entirely to the very wealthiest.”
- <sup>37</sup> I do not denounce the realism entailed in such thinking rather than suggest that in this context it might be duplicitous. Certainly, one can resist idealism and care primarily about feasibility and practicability, while also genuinely caring about changing the world. In fact, such a person might reasonably argue that *because* they really care about changing the world, they are realists: i.e. that only by being realistic can real change occur. I would, however, admit great disappointment if all HEP (riding on the coattails of the atomistic approach) ends up offering is more of the same old story, rather than being truly emancipatory. It would be a promise unfulfilled.
- <sup>38</sup> If this can be shown one might then subsequently be able to argue for the development of mechanisms outside of the HETs themselves which curtail such unjust distribution. Cf. Buchanan, Cole, and Keohane (2011), whose ideas are explored below (See p. 10ff.).
- <sup>39</sup> Research in cognitive and behavioural sciences have unearthed an array of now well documented “cognitive biases” that may be involved in such thinking. Cf. Baron (2000) and Kahneman (2000). More recently, such research is starting to show that these biases might not be wholly contained “in the head” as it were. Rather, they may have a significant social component. Cf. Beeghly and Madva (2020).
- <sup>40</sup> One that arises because of the focus on HETs rather than what it is that is sought through them (i.e. HEP). If the emphasis was on the construction of an improved world order, however, the choices might be different.
- <sup>41</sup> At this point it is worth noting that for some things might be exactly their desire. A stringent free-market advocate would say all those innovations that can help people in any way should be developed, and all those who might be helped by them should be (if they can afford it) utilise them. There might be a genuine belief that HETs are by their nature good in that case the issue the outstanding

issue is only how best their use might be regulated so as to limit any possible harmful outcomes. In other words, no explicit ambition about improving the world is made. This is, in part, the view (Buchanan, 2011) advocates with the “enhancement enterprise”. This kind of project is *not* the focus of this work and might be best thought of as “Project Human Enhancement Technologies”, which is not to be confused with HEP.

- <sup>42</sup> An important alternative, which will not be considered here but in Chapter Three, is of subbing out the focus on HETs in favour of those mechanisms adopting the “broad definition”—i.e. what I am referring to “human enhancement interventions” (see p. 20). An appreciation for the kinds of interventions these might be will be better grasped *after* gaining an understanding of the embedded approach.
- <sup>43</sup> Since no one has experienced such changes we cannot know the extent of their value to human life and, indeed this is part of the promise and charm—we must take a leap of faith.
- <sup>44</sup> At least not until one can make the argument—which can only be done after the fact (Cf. Agar, 2010)—that those “post-human modes of existence” are constitutive of a better human life.
- <sup>45</sup> The embedded approach considered in Chapter Three, however, will consider precisely this possibility. Namely, that HEP might be best served by *not* aiming to directly amplify human functionality nor, therefore, employ HETs. More specifically, it will not proceed from the starting assumption that either are *required* for enhancing human lives.
- <sup>46</sup> While exploring the notion of “social progress” Kitcher (2017, p. 53) echoes this concern. To the question of whether “the improvement of society [can] be reduced to properties of individuals”, Kitcher responds that he “share[s] the suspicion of countenancing some extra, larger entity— “society”—whose improvement is constitutive of progress.” Adding that, to the extent that he emphasises the need to include “community” in ones thinking on progress that he “hope[s] to avoid both the crude atomistic reductions of society, often offered by strict individualists, and the disturbing idea of a larger entity—the Nation or *Das Volk?* —to whose advancement the lives of individuals might be sacrificed” (his emphasis).
- <sup>47</sup> Not to be Cabrera’s (2015) recent, and helpful, account of “social enhancements”.
- <sup>48</sup> See notes 25 and 26 above.
- <sup>49</sup> As shall become clear in Chapter Three (and reaffirmed in Chapter Six), if such a hypothetical reflection (or what Dewey would call a “dramatic rehearsal” (Fesmire, 1995)) illustrates that undesirable outcomes are likely to follow this might say less about the character of those specific HETs then it does about the state of the status quo. Rather, it might highlight precisely those obtaining tendencies that ought to concern us as a society.

## Chapter Three Notes

- <sup>1</sup> It is, of course, conceded that from the individual perspective many (if not most) HETs have great potential utility for improving discrete aspects of their lives—particularly, when considered in an isolated and abstract way (i.e. devoid of the messy details of the real world).

- <sup>2</sup> Cf. Farrelly (2004).
- <sup>3</sup> One can see the lead up to this idea already in John Dewey's criticism of the "reflex arc concept in psychology" (Dewey, 1896) and again behind his arguments for a "social psychology" (Dewey, 1917a). However, the notion of "habit" is explicitly engaged with and borne out in full in treatise on "human nature and conduct" (Dewey, 1922) that would go on to significantly influence his later work—including, importantly, his account of "moral inquiry" as being spurred on by disruptions to habitual living (Dewey, 1938). For an excellent and insightful reading of the relation between Dewey's notions of "habit", "intelligent inquiry" and "moral imagination" see Fesmire (2003).
- <sup>4</sup> Here I largely adopt Lewandowski's (Lewandowski, 2000) interpretation, which represents one of the more clear-headed presentations of the notion of "embeddedness" to be read from Pierre Bourdieu's work. See p. 25f.
- <sup>5</sup> See Chapter Two (esp. pp. 45-51) above.
- <sup>6</sup> Cf. Mehlman (2003) and Lindsay (2005).
- <sup>7</sup> A telling example is explored by Buchanan et al. (2011) who illustrate that the needs of the wealthy (and therefore a small minority of the world's population) are vastly overrepresented in directing innovative research. Of course, much more could be said on the relationship between money and social and political status and influence (or power generally). However, this would take us too far astray. For some interesting perspectives see Wenar (2015), Vreeland and Dreher (2014) and Yergin (2011).
- <sup>8</sup> It is with this in mind that McKibben (2004) predicts not only amplifications of *existing* inequalities but, also, the realisation of altogether starker and more concerning calibre of inequality resulting in a sheer bifurcation of society into the enhanced ("the Haves") and the un-enhanced ("the Have-nots").
- <sup>9</sup> Given the bloody conflict and massive loss of life that has accompanied the global trade in mere "possessions" that at best offer social status—e.g. diamonds—it is hard to fully envision how much worse matters might be following the debut of HETs. For more on the human cost of the diamond industry see Campbell (2012).
- <sup>10</sup> For recent explorations of the existing consequences of inequality see Segall (2016) and Scanlon (2018).
- <sup>11</sup> The option of prohibiting such technologies is not further considered in this work. This is because it is deemed a non-starter. Minding some (serious) reservations regarding the actual feasibility of some imagined HETs, arguments that they are in some sense "inevitable" are, therefore, conceded. Cf. Baylis and Robert (2004). This follows from the fact that HETs are likely stem from desirable advances in health-care technologies, on the one hand, and likelihood of prohibiting HETs on a global scale with any certainty given humanity's poor track record of "successful prohibitions" (Gardner, 1995), on the other. Consider, for example, the exemplary and unmitigated failure that has been the prohibition of illegal 'drugs,' which not only failed to stop their proliferation but, in fact, brought about *increased* economic and social harms. Cf. Wodak (2014), Miron (2001), and Block (1993).
- <sup>12</sup> Later, the idea that HETs are in some sense "neutral" will be resisted. This view of technology has been thoroughly challenged in Science and Technology Studies (STS). Cf. Brey (2018). Indeed, a critical exploration of HETs will reveal the many ways in which they are ethically *suspect*: both arising out of problematic features of society and potentially reinforcing them. As such, it may be the

case that specific HETs are at least *prima facie* unjust. For a more detailed consideration of this point see Chapter Six.

- <sup>13</sup> Cf. Garcia and Sandler (2008), who argue that once such interventions are situated within the existing highly inegalitarian social contexts most of us find ourselves in that they are likely to exacerbate rather than alleviate social injustices. This kind idea will underscore the need for “enhancing activities” to act also on the existing social landscape rather than just on the individual inhabitants. See section 3.
- <sup>14</sup> Oscar Wilde famously quipped that “a map of the world that does not include Utopia is not worth even glancing at, for it leaves out the one country at which Humanity is always landing.” (Wilde, 1909, p. 20).
- <sup>15</sup> Later, it will become clear that the context must also be considered in order to improve the *content* of HETs. See Chapter Five and Six.
- <sup>16</sup> See p. 29ff.
- <sup>17</sup> Crucially, however, they do not consider that the existing international legal regime within which they attempt to mould their solutions is itself a feature of the social structure that might be involved in the production of unjust outcomes. In other words, if there were a different system in place then perhaps a different and superior distributive mechanism might have been practicable.
- <sup>18</sup> This, Buchanan explains, is in essence something like an extension of “compulsory licensing” proposed by the World Trade Organization’s (WTO) Doha Declaration on trade-related aspects of intellectual property rights (TRIPS) in Public Health, which “acknowledges the right of States to grant licences for producing essential medicines without the permission of intellectual property rights (IPR) holders, if certain standards are met” (2011, p. 254).
- <sup>19</sup> Chapter Five expands on this insight, arguing that HETs can, therefore, serve as a *heuristic* for diagnosing a variety of concerning social features.
- <sup>20</sup> Of course, Young here follows (this time explicitly) Marx’s lead, who argues: “It was in general a mistake to make a fuss about so-called distribution and put the principal stress on it. Any distribution whatever of the means of consumption is only a consequence of the distribution of the conditions of production themselves. The latter distribution, however, is a feature of the mode of production itself” (Marx, 2000, p. 21).
- <sup>21</sup> To the extent that financial resources correlate with needs, the fact that a handful of individual presently have an accumulated wealth that exceed that of the poorest *half* of the world’s population supports this intuition.
- <sup>22</sup> This is akin to a misshapen Rawlsian “veil of ignorance”, that brackets people from one another rather than from the information of their particular lives and asks not how they would reorganise society but rather how they would alter themselves to take advantage of their given station. Cf. Rawls (2001).
- <sup>23</sup> Cabrera (2015, p. 146) views this kind of thinking—which she argues is dominant in both transhumanist and biomedical discussions of HETs—as an inverse “form of ‘mereological fallacy’, a fallacy grounded in ascribing properties to parts which logically can be ascribed only to the whole.”

- <sup>24</sup> There might, of course, be something to be said about the moral value of having elevated the group level—i.e. some intrinsic value from everyone being enhanced despite on-going injustices. In other words, that it is a “non-ideal” concession. Unfortunately, I cannot consider this in further detail here.
- <sup>25</sup> This point is considered at length in Chapter Six. See, in particular, section 2.
- <sup>26</sup> An increasing number of contributors to the debate emphasise the importance of this kind of context for the assessment of HETs. Hauskeller (2013a), for example, explains that we would be hard-pressed to recognise a given change in human functioning *as an enhancement* without placing it in particular circumstances. With CNE he goes as far as to argue that depending on the context “low intelligence [can be] as much an enhancement as high intelligence” and, therefore, that context determines whether a change is, overall, an enhancement or not (p.15). Over the course of his book, Hauskeller runs through the various “top contenders” for desirable HETs illustrating how contextual details are likely to influence one’s assessment of their value (both for the individual and for society generally). Importantly, as a consequence of such considerations, he explains that HETs will need to be incredibly fine-grained if the changes they bring about are to predictably produce the kinds of gains it is hoped they will—i.e. in the particular (and fluctuating) conditions of the individual recipient’s life. Indeed, if he is correct, then even *maintaining* the same good over time will require that the HETs be able to ‘shift’ to respond appropriately to new circumstances. In short, there appears good reason to suspect that there are no general “all-purpose” HETs that ‘enhance’ regardless of the conditions of the enhanced individual’s life.
- <sup>27</sup> It is this outcome which ‘fail-point’ (5) highlighted: namely, one ought to resist the possibility that what arises from HEP is merely an “amplified sameness” (see p. 28).
- <sup>28</sup> Intuitively, the more information the atomistic approach has about the lives of individuals, and the better it appreciates the complex social environments in which they carry out their lives, the more likely it is that they propose and produce HETs that will cater to their needs. Any marketing or design agency would confirm as much.
- <sup>29</sup> I borrow the notion of “technosolutionism” from Morozov (2013).
- <sup>30</sup> Dewey developed his “social psychology” over many works—cf. Dewey (1896, 1917a, 1917b, 1922, 1925). It is not an aim of this work to provide a robust account or penetrating analysis thereof.
- <sup>31</sup> Dewey’s account of moral inquiry will be expanded considerably in Chapter Four (esp. section 3.).
- <sup>32</sup> In Goodman and Conway (2016), Boyce explains that “socioeconomic status is the most powerful predictor of disease, disorder, injury and mortality we have.” A claim supported by Khullar and Chokshi (2018) and the World Health Organisation report on “Poverty and Health” (WHO, 2003).
- <sup>33</sup> Another well documented case is the impact of nutrition (both while pregnant and in early childhood) on intelligence. Cf. Sigman and Whaley (1998). What is available for an individual to eat can then in a straightforward way impact the kind of person they are (at least in terms of their general intelligence).
- <sup>34</sup> Dewey’s “habit” and Bourdieu’s “habitus” clearly share much. Indeed, in Bourdieu and Wacquant (1992), Bourdieu admits to Dewey’s influence. Cf. Dietz, Nungesser, and Pettenkofer (2017).
- <sup>35</sup> For example, the “structuralism” of Lévi-Strauss (1963) appears to dissolve the individual (or at least severely erodes the idea that individuals have free-will or choice in a meaningful sense), arguing instead that human experience and behaviour is to be understood as entirely *determined* by various supra-human “structures”.

- <sup>36</sup> Such a unique ability—to have a critical and creative *impact* on the world—is excellently captured by Fesmire’s (2003) exploration the notion of “moral imagination” in Dewey’s *oeuvre*. Such a moral imagination marks one of the ‘key’ ways in which people are able to assert themselves on the world and are not merely being ‘puppeteered’ by it.
- <sup>37</sup> I also take the view of the “socially embedded self” expounded here to be consistent with Marx’s conception of the individual. In particular, in his *Theses on Feuerbach* he writes that “the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relations.” And explains that the “sentiments” we have are a “social product’ such that the supposedly “abstract individual” actually “belongs to a particular form of society” (Marx, 1978, pp. 145-146). My thanks to Lorenzo del Savio for pointing me in this direction.
- <sup>38</sup> For the present purposes, the engagement with the originating field of the concept thus far will have to suffice. Indeed, it is neither necessary nor helpful to delve more deeply into it, as there is no intention to champion or defend it as an accurate *sociological* or *anthropological* concept (although I strongly suspect that it is).
- <sup>39</sup> This was, of course, already hinted at in the closing remarks of section 2.
- <sup>40</sup> For example, the more that 230,000 people designated as “ultra-high-net-worth individuals” who have an individual net worth greater than US\$30 million. See ‘*The World Ultra Wealth Report 2017*’. Available from <https://www.wealthx.com/report/exclusive-uhnwi-analysis-world-ultra-wealth-report-2017/>.
- <sup>41</sup> Frank’s (2020) proposal is, of course, unrealistic and requires too many moving parts and an ability to “nudges” humans in incredible fine-grained ways than it is reasonable to expect will prove possible. However, it is merely intended as a case study for exploring some morally salient conceptual issues. It is on this note that the paper shines. Unfortunately, her points are not pertinent to the present discussion.
- <sup>42</sup> As hinted to earlier (see p. 29), the embedded ‘means’ to HEP will variously be referred to as “human enhancement interventions/mechanisms” as well as more generally as “enhancing activities”. In other case they can—until concrete proposals for them resulting from the kind of inquiry championed in Chapter Four—be understood as those changes instigated to aid HEP that are *not* HETs. They are, as such, intended as placeholders for specific responses to specific social problems.
- <sup>43</sup> It is a question for another day whether, on the one hand, it is as a result of a commitment to HETs that the atomistic approach arrives at the isolated account of the individual—in which case the idea of the individual was ‘skewed’ out of an attempt to have HETs be *the* appropriate way to go about enhancing it. This would cohere with the supposed “technosolutionist” tendency described by Morozov (2013). On the other hand, perhaps it was as a result of an established deterministic or mechanistic perception of the individual that HETs seem so intuitive a solution. This is, of course, a view adopted by many in the medical field—see, for example, Cabrera’s (2015) exploration of the “biomedical paradigm”. Either way, the two notions fit together like hand in glove.

## Chapter Four Notes



- 1 Overcoming the harms people experience accords with the image of the enhanced world the established debate champions (one defined by lack of want)—or is at least strongly implied by it. Surely it goes without saying that if the realisation of ‘superhumans’ coincided with a return to a warring Hobbesian “state of nature”, then there would be good reason to reject that enhancement has occurred. In the text that coined the term “transhumanism”, Huxley (1957, pp. 13-17), explicitly presents the ambition of enhancement as overcoming the “nasty, brutish, and short” (as Hobbes put it) character of human life, so that humanity might realise “a new kind of existence” that *transcends* present possibilities.
- 2 The shift from speaking of human enhancement *technologies* to human enhancement *interventions* here is intentional. HETs represent only one category of possible mechanisms for bringing about human enhancement. So, if it transpires that HETs are poorly suited to the task of improving human social life but other mechanisms aren’t, then those will need to receive some priority as they embody the stipulated ‘proper task’ of human enhancement interventions. As such, while the focus of HETs is narrower, their value still needs to be determined with respect to the broader category of interventions under which they are defined.
- 3 To be “more ambitious” here refers to expanding the extent to which the collective activity advocated by proponents of ‘enhancement’ brings about progress from the moral point of view. As such, it does mean to simply ‘up the ante’ vis-à-vis the ‘radicalness’ of particular human enhancement technologies and the changes they bring about in individuals. For example, Buchanan’s (2011) “enhancement enterprise” is a more considered and cautious instantiation of the “atomistic approach” (see Chapter 2 above)—which seeks the mass proliferation of safe HETs—than those presented by, for example, many self-identified “transhumanists” (Cf. Baily et al. (2009)) but this does not make the latter “more ambitious” in the present sense.
- 4 This point is picked up again in section 4 below.
- 5 The argument in favour of prioritising HEP over specific HETs is put forward in Chapter One and the weakness of the latter focus explored in Chapter Two. In the process Chapter Two presents and reveals the limitations of the “atomistic approach”, which gives rise to the “embedded approach” that is explored and extolled in Chapter Three.
- 6 To date, no satisfactory description of such a being is forthcoming (nor is one likely).
- 7 Hauskeller (2013, pp. 1-2) explains that many “ardent proponents of human enhancement”—referring explicitly to John Harris (2007), and Julian Savulescu and Nick Bostrom (2009)—make it clear that “human enhancement is to be understood as the enhancement of the human *as a human*” and that it is, therefore, about “making us better than we are, not merely better in this or that way, for this or that purpose.”
- 8 Cf. Buchanan (2011); Mahootian (2012); Harris (2007). While these authors rightly argue that there is no need to set out from the hugely problematic notion of a “perfect human” (Mahootian, 2012, p. 143) and that HETs can be developed solely improving on already identifiable “human flaws” they still maintain the fixation on HETs (and therefore reduce the individual to their functional abilities). The embedded approach agrees with their pragmatic style but demands that they focus be broadened and that *all* the limitations of the “socially embedded” individual can serve to motivate enhancement activities (including, crucially, those external to their person).
- 9 Recognising that limitations to individual functioning can, and often do, have a considerable impact on how their lives go. Indeed the “capabilities approach” rightly sets out a list of vital capabilities persons require to exercise a meaningful human life. Cf. Nussbaum (1992, 2001, 2007, 2011) and Robeyns (2005, 2006, 2016a).

- <sup>10</sup> To recall, the embedded approach introduces and brings together three interacting facets of human life: (1) those social features that serves as “determinants” for outcomes in human life, which also (2) collectively “situate” human choice and influence the consequences that follow therefrom (i.e. it is these externalities that human enhancement interventions must be placed into, respond to, act upon, or alter), and (3) the individual themselves who is habituated (in the sense of Dewey’s conception of “habit”) in this social milieu but whose perspective is inescapably unique and serves as a vital source for active social (re)construction. Note that even the last facet, which focuses explicitly on the individual, nevertheless recognises individuals as *embedded* in a network of relations and therefore *not* as isolated and abstract. For a detailed explication of the three facets see Chapter Three above.
- <sup>11</sup> Indeed, in Chapter Two it was argued that the ultimate value of even such narrow kinds of enhancements (e.g. of being ‘faster’ or ‘smarter’ than any heretofore human) is difficult to articulate in the abstract (i.e. without situating such abstract gains in an organic social environment).
- <sup>12</sup> Possibilities for novel forms of flourishing are a key component of some transhumanists visions and are introduced to support the development of associated HETs. For a potent example, see Bostrom (2008a).
- <sup>13</sup> See, for example, Kurzweil (2005), who explores the idea that humans might transcend their biology in favour of a shared digital existence (i.e. the “Singularity”).
- <sup>14</sup> Nevertheless, I maintain that such cases—i.e. of making humans “super”—are, in light of HEP, diminished instantiations of the idea of enhancement that pale in comparison to other kinds of changes that enhance human lives. While I have a personal preference to refer to such cases not as ‘human enhancements’ but as ‘human trait amplifications’ (in the case that they operate on functioning we already possess) and, more clunkily, ‘novel human trait constructions’ (where they allow for entirely new forms of activity), successful HETs do nevertheless seem to enhance (parts of) human beings and the nomenclature is, therefore, appropriate. However, the aptness of them counting as human enhancements goes deeper than this. Consider that the extent to which HETs are assigned a secondary status in my programme arises only in light of the value of other forms of emancipatory enhancements in a given social sphere. It is, as such, the overwhelming presence of existing social harms that cast HETs in the shade. Accordingly, in a different society, one not so plagued by injustice, such HETs might regain their shine. As such, they appear as *enhancements-in-waiting*. Waiting, that is, for the success of the kinds of human enhancement interventions argued for in this chapter and explored in Chapter Five.
- <sup>15</sup> Chapter Two (esp. section 4.) demonstrated that individuals can make quite some strides in terms ‘superhumanness’ without this coinciding with any significant changes in the overall state of their lives. Particularly, the worry was that they might produce no improvements in terms of relational equality. Identifying the eradication of poverty (among other examples) as a genuine instance of enhancement coheres with the broader view of enhancement adopted by Buchanan (2011), who argues that there is no salient *moral* distinction between HETs and other important changes that have occurred in human history. Specifically, he highlights (rightly) that such things as literacy, numeracy, agriculture, and the development of social institutions all had a dramatic impact that *enhanced* human life (2011, pp. 38-44).
- <sup>16</sup> The World Bank Group (2020). “Understanding Poverty: Overview.” The full paper is available from: <https://www.worldbank.org/en/topic/poverty/overview>. Accessed July 27, 2020.
- <sup>17</sup> The 2015 Final report on the UN Millennium Development Goals is available from: [https://www.un.org/millenniumgoals/2015\\_MDG\\_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf](https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf). Note, however, is not enough that many people care about a given matter—large

groups might share nefarious desires. Yet this issue is beyond the scope of the present inquiry. For a detailed exploration on what might be involved in delineating legitimate claims see Kitcher (Forthcoming).

- <sup>18</sup> The notion of “pre-distribution” is explored by Hacker (2011) who defines it as “market reforms that encourage a more equal distribution of economic power and rewards even before government collects taxes or pays out benefits”. See also Thomas (2016).
- <sup>19</sup> It was not, it is important to note, an explicit aim of *embedding* the discussion of human enhancement to expand the focus. This was, rather, a consequence of a better understanding about what might be involved in legitimate cases of human enhancement and, further, of which circumstances ought to count as such. In theory this could just as easily have produced a smaller quantity.
- <sup>20</sup> This onus can be extended to all other instances of selective innovation. Consider, for example, the billions of dollars spent on—and human capital dedicated to—the development of the soon-to-be 25<sup>th</sup> iteration of the iPhone. The entry-level model of the current model (the iPhone 11) retails at US\$699. Divided over a year (the rough timeframe between new models), this equates to a cost of US\$1.91 a day (and hence *more* than 10% of the world’s population has to survive on). Consider further, that by 2018 Apple had sold more than 2.2. *billion* total iPhones (three time the number of people presently ‘living’ in absolute poverty). Then zoom out slightly and note again that in 2019 alone Apple had a total operating expense of US\$196 billion (plus US\$10 billion in taxes), with about US\$16.2 billion going to research and development. With just the profit of 2019 fiscal year (roughly US\$60 billion), Apple (a *single* tech company) could grant *each* person living in absolute poverty 43 additional days of wealth at the poverty line per year. If each person living in extreme poverty lived exactly the poverty line (which they do not), the equitable division of those profits would constitute an almost 12% increase in each of their yearly incomes. All without overly compromising the delivery of new (yearly) smartphones. These calculations are my own, with figures taken from Trefis (2019).
- <sup>21</sup> The options outlined here are not exhaustive. Indeed, in section 3 below, pertinent problems are identified by exploring the embedded character of HETs.
- <sup>22</sup> Cf. Coeckelbergh (2011).
- <sup>23</sup> Cf. Freeman (2010).
- <sup>24</sup> Although the recognition of problems is a *necessary* requirement and, itself, represents a problem that will need to be considered. The importance of being able to first see problem where they lay is emphasised in Chapter Five, which tackles the requirements for developing embedded interventions that seek to resolve social problems (what will be referred to as “social enhancements”).
- <sup>25</sup> As the above note suggests, there can also be barriers to attention.
- <sup>26</sup> Indeed, every kind of problem can have its solution stated as the negation of that problem. For example, to the problem of starvation the solution is clearly to feed people.
- <sup>27</sup> See Chapter Two (esp. section 2.), where this point was illustrated in the context of the issue of distribution.

## Chapter Five Notes

- <sup>1</sup> The ‘roadmap’ provided in Chapter Four suffices to guide research in HEP in the present time. Indeed, its character is such that this will always be the case; i.e. any social differences evident in future states will provide the backdrop for identifying and reflecting on the problems of the time anew. I have no doubt that should we engage in good faith with those problems we can see rather clearly already in such research that much good will come of it. However, what will arise in Chapter Seven is the idea that the status quo itself and our limited ability to see past it may prove a considerable obstacle to HEP. At least, for exhausting its potential for positive change. This, it will be argued, motivates reflection on individual abilities to engage critically with the status quo (so as to initiate, if required, radical change). If the possibilities for HEP are limited by the degree to which one is able to recognise problems in the status quo (i.e. the exercise of *moral imagination*), then its development is vital for HEP. It is such a capacity that might equip persons to recognise and advocate for changes presently being overlooked.
- <sup>2</sup> Devoid of this much, the notions of ethics and morality lose all meaning.
- <sup>3</sup> This is not meant to suggest that the value of the established academic debate is limited to what is highlighted here. This is plainly false. To outline all the worthwhile contributions and insights that have flowed from the inquiry into HETs could easily fill its own volume (and has done so repeatedly already). In the very least it has bolstered our shared understanding of those features various HETs seek mould. However, it has also provided good fodder for exploring such things as free will, consent, authenticity, competition, personal identity, and even the idea of moral action itself. This is all to be commended.
- <sup>4</sup> It is not, of course, denied that the kinds of improvements captured by HETs are interesting to HEP, but, rather, that they are interesting only once a particular kind of society has been brought into existence. One that, this chapter will suggest, is distinct from ours vis-à-vis the characteristic explored here.
- <sup>5</sup> There is a further possibility that is not explicitly explored here: namely, that a shared phenomenon, one sought by neither the whole nor any of its parts, is evident when viewing the whole but not reducible to any of its parts. That is, it emerges from the movement of the parts. This phenomenon is deftly illustrated by Iris Marion Young’s (1990) vitally important concept of “structural injustice.” On Young’s account certain morally acceptable actions carried out by individuals can, in aggregate, produce unjust outcomes—particularly when they take place in a system that focuses solely on the rights of individuals.
- <sup>6</sup> E.g. Persson and Savulescu (2012) and Harris (2007) .
- <sup>7</sup> This is explored in significantly more detail in Chapter 6 (esp. section 2) below.
- <sup>8</sup> In “megacities” such as London and New York City, the *average* daily commute is around 80-minutes (i.e. 40-minutes in each direction), which pales in comparison to Beijing and Tokyo (which have a total commute time around 100- and 120-minutes respectively). This has a significant impact on stress levels and the loss of time eats into the ability of individuals to care properly for themselves, resulting in poorer diets, less exercise and sleep (Collison, 2019).
- <sup>9</sup> Indeed, this is one of the criticisms against the individualism of the atomistic approach advanced in Chapter Two: i.e. it focuses narrowly on what would-be HETs would in fact do or change, while largely overlooking how they fit into the broader scheme of human activity (see p. 41ff.). There is, as such, an abundance of literature explicating (in increasingly fine-grained detail) the HETs considered

here. I will not rehash these. For a good presentation and analysis of the literature see Hauskeller (2013a)—particularly, Chapter 2 on CNE, Chapter 3 on MBE, and Chapter 4 on ME.

- <sup>10</sup> Buchanan (2011), for example, illustrates this reasoning in terms of “production gains”, while Douglas (2008) argues that each enhanced moral agent improves the status quo for all (even those who do not have such enhancements). For an excellent critical perspective on Douglas’s argument see Archer (2016), who argues that, for those “left behind” in a world of MBE, the costs might outweigh the benefits.
- <sup>11</sup> See Hauskeller (2013a), pp. 55-61.
- <sup>12</sup> See Savulescu, Ter Meulen, et al. (2011), particularly ‘Part III – Mood Enhancements’.
- <sup>13</sup> This generalised account captures what I perceive to be the overall expectation of moral enhancement evidenced in the literature. Many authors are likely to take issue with some parts of it (and would do so for different reasons). For a thorough and detailed taxonomy of the very many available definitions for moral enhancements and the ways in which they are distinct see Raus, Focquaert, Schermer, Specker, and Sterckx (2014).
- <sup>14</sup> Effective MBE therefore seems to require some degree of both CNE and ME. Cf. de Melo-Martín (2018), Rowlands (2018), and Wiseman (2018).
- <sup>15</sup> The potential of oxytocin to increase trust between people has received considerable attention since the initial findings of Kosfeld, Heinrichs, Zak, Fischbacher, and Fehr (2005). However, more recent literature casts doubt on their overall value in enhancing ‘morality’. For example, De Dreu, Greer, Van Kleef, Shalvi, and Handgraaf (2011) have found that it may promote in-group favouritism, intergroup bias and ethnocentrism.
- <sup>16</sup> Cf. Specker, Focquaert, Raus, Sterckx, and Schermer (2014), Wiseman (2016), Dubljević and Racine (2017), and Hauskeller and Coyne (2018).
- <sup>17</sup> The most plausible presentation of the upper potential of such “moral technologies” is provided by Frank (2020), who stresses the influence of external “cues” for aiding and directing moral agency in positive ways (as well as for limiting influences that might bolster moral vagrancy). Frank’s emphasis on *external* intervening technologies is well heeded and will be picked up again in Chapter Six.
- <sup>18</sup> In particular, it will be argued that the focus of the problem is not about the existing spread of ability in each area (as might be one’s first impression) but, rather, that people *want* these features improved for morally suspect reasons. See Chapter Six.
- <sup>19</sup> Recognising that social perceptions of such emotions vary depending on the person experiencing them and how they are displayed. Particularly, concerning is the extent to which they trace heteronormative expectations, with the consequence that when similar emotions are expressed by persons of different genders or social classes the elicit inconsistent and often contradictory responses (Thoits, 2004).
- <sup>20</sup> For an example of why such extended problems need to be factored into the development of meaningful resolution, see the brief exploration of the issue of global warming provided in Chapter 4 (see p. 72).
- <sup>21</sup> They are rationally desirable to the extent that, given obtaining circumstances, they could produce individual windfalls (i.e. by exploiting the status quo). In other words, accepting non-ideal circumstances and the primacy of the individual viewpoint. In the same way that, barring the ability to

change all that is wrong with the system, it still makes sense to replace the faulty fuel injectors as you do still depend on having a working car. Yet, HETs of the kind considered here are still entirely speculative, and the point is to understand their *ultimate* worth (i.e. the extent of the good they could potential do).

<sup>22</sup> Producing, for example, yearly rises in the numbers of augmentation mammoplasties in the US and rhinoplasties in Iran—both of which consistently top the per capita performance of such surgeries.

<sup>23</sup> See Helling (2020).

## Chapter Six Notes

- <sup>1</sup> The general idea of increasing one's intelligence is accepted by most in the debate as both beneficial and desirable (both for the individual in question and for society more broadly construed). Cf. Savulescu, Ter Meulen, et al. (2011). Of course, there are those who cherish their limitations, seeing them both as a valuable lesson in self-appreciation *and* as providing the requisite space to carve out and define one own (unique) vision of a good life (rather than giving into to hubris or conforming to some homogenous conception of the all-achieving human). Moreover, many view such struggle as a source of motivation, inspiration, and innovation and, therefore, not to be entirely eradicated (assuming, of course, that it does not impinge on one's ability to lead a full and healthy life). I thank Christos Simis for raising these important points.
- <sup>2</sup> These examples are meant only as illustrations rather than as mirroring empirical facts. While, Savulescu, Sandberg, et al. (2011, p. 10) do indeed argue that CNE are associated with increases in well-being, in life options, and in the ability to realise personal goals, Hauskeller (2013a, pp. 15-17) rightly challenges in veracity of such claims.
- <sup>3</sup> This view is, again, evidenced by Savulescu, Sandberg, et al. (2011, p. 10) who hold that such enhanced beings will "have access to far higher pleasures than those accessible to existing human." To which, Hauskeller (2013a, p. 21) again aptly replies that such entirely speculative "talk of higher pleasures *that no existing human has ever experienced* [...] borders on the nonsensical" (his emphasis).
- <sup>4</sup> Such concerns are obscured by the debate, which largely takes for granted the social value (and therefore the innocuousness) of CNE. Rather than using the desire for CNE as an entry point to question such social norms and the practices they uphold, the debate then, naturally, latches on to the question of when and under what circumstances CNE should be permitted. As a consequence of making taking the HETs for granted, the debate focuses too narrowly on whether or not an individual should be entitled to choose for him or herself about using such technologies or under which conditions such use could be morally prohibited, permitted, or required. For an influential example of the such 'direct' ethical concerns see Buchanan et al. (2001).
- <sup>5</sup> Capitalism, notes Wood (2005), "is driven by certain systemic imperatives: of *competition*, and profit-maximisation" (emphasis added).
- <sup>6</sup> Realistically, we should also accept that these instrumental reasons are unlikely to be thwarted—by, for example, universal distribution. Universal distribution of any good is unseen in this world, let alone for high value, and likely costly, goods such as CNE presumedly would be.

- <sup>7</sup> Mark Twain is, of course, often attributed with saying “Find a job you enjoy doing, and you will never have to work a day in your life.”
- <sup>8</sup> Cf. Rooney, Hearn, and Ninan (2005).
- <sup>9</sup> The kinds of work that are highly compensated (e.g. banking)—what Graeber (2018) fittingly calls “bullshit jobs”—rather than those that actually contribute to social capital, tend to entail a particular kind of ‘know-how’ or ‘smarts’ that, via the immense competitiveness of gaining entry into and succeeding in such fields, bolster the supposed value of CNE. Consequently, this begs the question of whether mitigating such forces would, in turn, diminish the need for such HETs? There are two considerably interwoven points running together here: on the one hand there is the fact of competition (itself an accepted norm) and, on the other hand, there is the general social endorsement of particular forms of cognition (and their elevation about other kinds of ability). Each of these norms might separately be suspect (and likely are), but they also reinforce each other. In this section my focus, as stated at the outset, is on the prevalence of the first (i.e. competitiveness) as an established, accepted, and commonplace social practice.
- <sup>10</sup> For a more sustained exploration of the problem of “positional goods” see Chapter Three (esp. section 2.3.). Note, however, that it sought to illustrate two rather different points that are being made here: (1) that in such cases it is difficult to ascertain the actual value of a given HET absent the concrete scenarios in which they are sought (i.e. it is not sufficient to count as a genuine tool of enhancement if it only has a theoretical ability to help in an advertised way but that circumstances as they are frustrate this), and (2) barring such considerations, it is possible to have HETs count under the ‘atomistic’ account even when they produce obviously undesirable outcomes. In this chapter, the example is returned to in order to illustrate that the features of those concrete scenarios are to be recognised as *part* of the problem to be addressed, not simply as background information to it.
- <sup>11</sup> Sparrow (2015), for example argues that there is an imperative to avoid such a “rat race”. In so doing, he highlights the extent to which, socially speaking, competition is self-defeating or a dead-end road.
- <sup>12</sup> So widespread is this phenomenon that the Japanese have a term for death by overworking— “*Karoshi*”. See Lane (2017).
- <sup>13</sup> “Nootropics” or “smart drugs” (e.g. Piracetam, Modafinil, Adderall, Ritalin, etc.) are already widely used with the specific aim of improving cognitive function and their use is on the rise. According to Tiffany (2019) most recent numbers put it at a \$49 billion-a-year industry (and growing rapidly). Putting aside questions of whether these pharmaceuticals work as advertised, the market for them clearly demonstrates both a desire for cognitive boosters and a willingness to utilize medication to achieve this end (even where this requires risky off-label use and/or illegal procurement). This is particularly evident in competitive environments that strongly value individual achievement: e.g. Silicon Valley entrepreneurs, hedge fund managers, business executives, students and academics. Cf. Sahakian and Morein-Zamir (2007), Sattler, Sauer, Mehlkop, and Graeff (2013), Tannenbaum (2014), and Wagner, Robinson, and Wiebking (2019).
- <sup>14</sup> See Ilieva and Farah (2019). Also, particularly telling is the study by Looby and Sant’Ana (2018) which illustrates that the feeling of cognitive deficiency driving such users is only subjective and *not* objective. For a personal corroborating account published as a feature article in *The New York Times*, see Schwartz (2016).
- <sup>15</sup> If one was of a mind to add to those arguments which consider the nature of a given HET in isolation (i.e. ‘individualistically’), it could here have been argued that, if CNE are thought to help humanity (e.g. to overcome injustice) that the existing failure to make meaningful strides to such ends might

not result from a *lack* of cognitive ability but, rather, but misappropriation and misdirection of it. Accordingly, it might be argued that CNE misdiagnose the pressing problem entirely.

- <sup>16</sup> Persson and Savulescu (2012) argue that, while the human brain has evolved considerably (and indeed changed physically), granting impressive cognitive abilities that have secured our seats at the top of the food chain, our moral psychology has remained relatively unchanged over the same period. For a more detailed consideration of MBE and their evolutionary argument see p. 77ff. above.
- <sup>17</sup> It is precisely the logic of competition, which inherently skews interests, that produces those sub-optimal—but supposedly rational—outcomes Game Theory has made us all aware of.
- <sup>18</sup> Notable examples include McKibben (2004), Fukuyama (2003), and Sandel (2007).
- <sup>19</sup> In a properly cooperative rather than competitive society, the case of CNE, for example, would need to be revisited as it would essentially be engaged with a different kind of problem and our consideration of it might produce a different outcome as a result.
- <sup>20</sup> Note that each of these examples also evidence in some way the concerning social norm of competition. However, they also highlight such things as top-down power structures that antagonistically position some persons above others (granting variations of power, influence, and resources), and therefore suggest that there may be additional ‘levels’ relevant to the problem.
- <sup>21</sup> None of these examples are intended to express a personal value judgment on my part. Indeed, over the course of this section, it will become clear that I take explicit issue with the homogeneity implied by such examples.
- <sup>22</sup> The notion of “authenticity” in this context has received considerable attention, the details of which I neglect here. See DeGrazia (2000) and Hauskeller (2013a, pp. 67-71).
- <sup>23</sup> See, for example, Nussbaum (2003) on the “intelligence of emotions”.
- <sup>24</sup> Recent publications in evolutionary psychology, for example, have sought to make the case that psychopathy should be viewed as an “adaptation” rather than as a “disorder”. Cf. Leedom and Almas (2012) Krupp, Sewall, Lalumière, Sheriff, and Harris (2013) and Glenn, Kurzban, and Raine (2011). Consequently, if this is the case, and if, for example, there was evidence that psychopathy was on the rise (and the two could be correlated) then this might reveal something rather concerning about the status quo: i.e. that it produces psychopaths. If a hard “block” on such adaptation were implemented (e.g. via ME) we might not have had cause to inquire into what features of society promote it.
- <sup>25</sup> For an exploration of the epistemic role of emotional experiences see Brady (2013).
- <sup>26</sup> Where this does not mean that the genuine suffering that comes from such feelings should be ignored. It is vital that we care for people who experience such feelings. Yet, the point is that such care is carried out better by appreciating the circumstances they live in and seeking to improve them, then from artificially altering those feeling so that they are not experienced.
- <sup>27</sup> Cf. Roudit et al. (2014).
- <sup>28</sup> Given the complexity of the idea of MBE—and a desire to avoid the ambiguity often evidenced in discussions thereof—this section is substantially longer than those exploring CNE and ME. A not insignificant part, however, explores matters only of interest with respect to situating the discussion alongside those of the existing debate. These are not, strictly speaking, necessary for making the



same kind of argument as advanced with respect to the earlier HETs. The sections most pertinent to the overall project, are 4.2., 4.4., the concluding part of 4.5., and 4.6.

<sup>29</sup> Cf. Walker (2009) and Agar (2010a).

<sup>30</sup> See Chapter 5 above (at section 4.).

<sup>31</sup> For a criticism of the view that human beings are “hard-wired” for on a rather limited degree of ‘other-concern’ Powell and Buchanan (2016). Here they provide a plausible initial counter-narrative concerning how human morality manifests in varying social environments.

<sup>32</sup> In recent years there has appeared a growing list of contributions from experts in an array of adjacent areas of scientific specialisation exploring the evolution of human morality and sociality. Notable (but divergent) examples include Greene (2013), Tomasello (2016), R. M. Sapolsky (2017), and Turchin (2016). Some judicious philosophical cherry-picking could certainly produce an overarching narrative running through such accounts, from which one might draw some singular and generalisable insight about the human condition. However, this would by necessity need to rely on a vague representation of the ‘facts’ (as they are). Moreover, the explanatory power of claims based on such psycho-physiological features of human beings would need to then be tempered by the ever-growing research into cultural and social evolution. See, for example, Richerson, Boyd, and Henrich (2003), Henrich and McElreath (2003), and Birch (2017). There is, alas, still much work to be done. Philosophers do, therefore, need to tread far more cautiously when relying on oversimplified scientific ‘evidence’ to support their cause. For further criticism of the ‘science’ underscoring MBE proposals see Hauskeller and Coyne (2018).

<sup>33</sup> Indeed, the Nobel Prize winning work of Thaler and Sunstein (2008) exploring the idea of “nudging” or “choice architecture” (Sunstein, 2016) is based on this very insight—namely, that individual behaviour can be significantly influenced by changes to their environments.

<sup>34</sup> Evidence from epigenetics has already generate a spate of papers tracing out the possible implications for the social sciences—cf. Landecker and Panofsky (2013), Chung, Cromby, Papadopoulos, and Tufarelli (2016), and Hendrickx and Van Hoyweghen (2018)—and for moral philosophy—cf. Loi, Del Savio, and Stupka (2013) and Hedlund (2012).

<sup>35</sup> In fact, the actual extent to which such thinking about variations in genetic states was prevalent in the past is testament enough to the point that it should be approached with caution; from it we got Mengele and the horrific legacy of eugenics. In fact, much that would be thought of as paradigmatic instances of ‘moral progress’ arose precisely in opposition to the idea that supposedly ingrained genetic differences should shape the moral landscape.

<sup>36</sup> Bauman and Donskis (2013) explore the issue of “moral blindness”, arguing that the structures of the modern work environment risk a sociality wherein “we are too wrapped up in our busy lives that we will cease to be aware of others”.

<sup>37</sup> For a penetrating and insightful investigation into *individual* moral responsibility in situations where moral harms occur at a distance to particular agents see Heilinger (2019).

<sup>38</sup> For a recent collection of nuanced papers exploring the issue of “amorality” and psychology of so-called psychopaths see Schramme (2014).

<sup>39</sup> The medical uses of MBE are, of course, not considered here. An interesting point on this issue, however, is that even the types of MBE would be useful only after the fact. Yet changes to the social

environment of such persons may, in fact, prevent the emergence of such disorders. See note 26 above and note 42 below.

- <sup>40</sup> This is true even in cases where the individual has a psychopathology. Few psychologists subscribe to a radical nativist position that in such cases genetics determine *fully* a psychological disorder, so that the social environment matters not at all. Of course, there are conditions that may arise independent of exogenous forces, but, by and large, genetics underdetermine the presence of mental disorders. Alcoholism, for example, is a heritable condition but living in a society that prohibits alcohol consumption will obviate the genetic risk factors entirely. More substantively, environmental features may so forcefully influence the individual that a disorder emerges—such as is the case for the class of disorders Trauma and Stress Related Disorders in the DSM 5, which require exposure to certain events for the disorder to present. My thanks to Jordan Conrad for his help on this point.
- <sup>41</sup> See p. 17f, which outlines my commitment to relational equality and Kitcher’s concept of flourishing.
- <sup>42</sup> This, of course, implies a commitment to the existence to such moral truths, that they are knowable, and that we have somehow already gained that knowledge, which can now be imparted on others.
- <sup>43</sup> Among the key features of such early morality would have been some built in concept of equality that would resolve issue concerning the sharing of food and resources and preventing in-group violence (Kitcher, 2011, p. 11).
- <sup>44</sup> For example, the villain Bane from the Batman comic book universe who was born and raised in the prison known as The Pit. While this is a fictional example, studies have shown that children who grow up in violent settings have a stronger tendency to be violent adults (Bacchini & Esposito, 2020).
- <sup>45</sup> Given that proposed forms of MBE do not seek to instil particular moral codes (a view unlikely to be published in any tolerant pluralistic society), one may wonder why I have considered this possibility. The reason is so as to provide a fuller articulation of what ‘happens’ with morality (and moral education) in practice, so as to better understand the interconnected social elements involved that may have a bearing on the proposals evidenced in the literature.
- <sup>46</sup> Many authors have challenged the claim that this has anything to do with morality—that is, that “changing moral motivations or dispositions in positive ways will result in people who are more moral” (de Melo-Martin & Salles, 2015). See also Sparrow (2014a), and Rowlands (2018).
- <sup>47</sup> A litany of authors have raised concerns over how such MBE would negate free will. Notable examples can be found in Harris (2011) and Hauskeller (2017), who ask (respectively) whether we should have the “freedom to fall” and if it is “desirable that we be able to do the undesirable”. Concerns over free will suggest that MBE should perhaps not be sought out at all.
- <sup>48</sup> It merits emphasising that Persson and Savulescu (2012) overstate the science on this matter. As (Wiseman, 2018, p. 46) explains that in view of contemporary biological research “the prospect that there might be a clear and identifiable “biological cause” for a given moral trait becomes more and more unrealistic”. Wiseman is worth quoting at length here:  
 “the idea that fine-grained enhancement of something so sophisticated as human moral functioning might be developed, has to dissipate [...] No such mechanical cogs and levers exist. Altering biology in systemic, multiscale wholes—such as human beings in their social contexts— proffers no reliably clear improvements with respect to complex behaviours which rely, instead, on the interactions of innumerable biological factors taken in relation to their environmental whole.” (Ibid.)

Of course, the speculative character of HEP has been repeatedly emphasised, so I will abstain from engaging further in this empirical argument.

- <sup>49</sup> It may be argued that mathematical knowledge can be produced purely from the CNE (i.e. generated simply from the possession of greater cognitive ability), but in this case it would still require an active case of learning rather than merely observing what it is possible for one's body to do or not do.
- <sup>50</sup> Unless the idea is that the God Machine would remove even the 'idea' of acting immorally, so as to remove the tension at being unable to. While, practically impossible, as a theoretical problem it is fraught with ethical issues.
- <sup>51</sup> In fact, I increasingly harbour doubt that such a thing can be done and start to feel, rather, that talk of "moral bioenhancement" may be entirely specious. Wiseman, again, summarises the point well:  
 "[T]he key reality that serves to deflate the idea of finely-grained moral enhancement is that biological factors are but one element in a long recursive chain of causal inputs, and so it makes no sense to either talk of biology in isolation or to think of biology as a primary cause of sophisticated moral functioning. When one starts to understand things in this way, realising that biology plays but a partial, and essentially unclear role in moral functioning – a role that manifests precisely as interactive, rather than as being based in "biological causes" – the widespread optimism regarding moral enhancement has to be overwhelmingly drawn back". (2015, p. 46)
- <sup>52</sup> The issue of how long such capitalistic structures would last following mass use of MBE and radical shifts of behaviour is an important one to explore. Indeed, for some advocates of MBE it might be their genuine hope that changes to individuals will result in changes to social structures. I do not explore this possibility here. Primarily, because there appears to be a much more pressing issue, namely that the existing capitalistic structures need to be accounted for as they are likely to influence the development of and ultimate value of such MBE.
- <sup>53</sup> Moral education in the traditional sense is not guilty of the same mistaken conception of morality. As Rowlands (2018, pp. 16-17) illustrates, it is significantly more flexible and attuned to context—indeed, given the fact that no two circumstances are alike (as Heraclitus noted "one cannot walk in the same river twice") acting morally cannot be about repeating a fixed behaviour but about responding appropriately to circumstances that are always unique.
- <sup>54</sup> No claims about the implications for an individual's responsibilities for their actions will be made here. These are tangential to the argument of this work.
- <sup>55</sup> This can be expanded to the point of international relations and differences between countries and how they treat each other. Indeed, it is at the global scale that inequality is most evident. Indeed, as Carens (2013) convincingly argues, existing exclusionary practices at the international level share a remarkable (and repugnant) similarity to the practices of feudalism. To expand the earlier analogy, citizens of, for example, the UK, USA, or Germany are akin to those raised in a gated community. One that has for generations extolled the virtues of their communities in opposition to those outside them. The popular sentiment against those in need—not just anti-immigrant but anti-refugee (i.e. those coming from the "slums")—provides prima facie support for the influence of such moral cross-talk.
- <sup>56</sup> This definition was borrowed from Miller (2019), whose entry gives an excellent accounting of the idea of "social institutions".
- <sup>57</sup> More accurately, it is a renewed political idea that has followed millennia of supremely exclusive political organisation. Although it is becoming increasingly clear that roaming human

communities—particularly pre-Neolithic—may have been largely egalitarian (Dyble et al., 2015). See also note 44 above.

- <sup>58</sup> A summer that kicked off the French Revolution and included both the ‘Storming of Bastille’ (on July 14<sup>th</sup>) and the ‘Women’s March on Versailles’ (on October 5<sup>th</sup>). Moreover, the last article of the ‘Declaration of the Rights of Man and the Citizen’ was adopted in France on the 26 of August 1789. A document that would considerably inspire the 1948 UN ‘Universal Declaration of Human Rights’.
- <sup>59</sup> Although made in a very different context, Simpson (Forthcoming) pointedly illustrates this same idea. Commenting on Fisher’s (2009, p. 2) famous remark that ‘It is easier to imagine the end of the world than it is to imagine the end of capitalism’, Simpson argues that Fisher ‘isn’t saying that Armageddon is actually more likely than capitalism’s downfall. He is saying that when our culture tries to imagine the near future, in speculative fiction and elsewhere, any post-capitalist society we can envision is simultaneously a state of apocalyptic ruin. Sociopolitical structures whose origins are still relatively re-cent, in anthropocenic measures, and whose radically globalised incarnations are mere hatchlings, have become, in our minds, integral pillars of human existence.’
- <sup>60</sup> For example, norms concerning exclusion. These, together with the norms concerning competition and public emotion explored in the cases of CNE and ME respectively, are features of the social environment that underscore the problems such HETs look to address.
- <sup>61</sup> Indeed, Rakić (2014, 2017a) has explored the question of whether MBE should be compulsory (i.e. state imposed) or should only be voluntary—and makes the case for the latter. Importantly, however, Selgelid (2014) argues that the compulsory/voluntary distinction is inadequate and that it should be understood more in terms of degrees of encouragement and discouragement to act. A point that evidences an appreciation of the embeddedness of choice matrixes.

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