**Practical Materialism: Engels’s *Anti-Dühring* as Marxist Philosophy**

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**Abstract:** Frederick Engels’s *Anti-Dühring* was the most important theoretical response to the emerging reformist tendencies within European socialism in the nineteenth century. It also proved to be Engels’s most influential, and controversial work. Because it is, as Hal Draper points out, “the only more or less systematic presentation of Marxism” by either by Marx or Engels, anyone wanting to reinterpret Marx must first detach it from his seal of approval. It is thus around *Anti-Dühring* and related texts that debates about the relationship of Marx to “Engelsian” Marxism have tended to focus. This essay re-engages with debates about Engels’s mature work with a view to unpicking his contribution to Marxism from caricatured criticisms of his thought.

**Keywords:** Engels; *Anti-Dühring*; Materialism; Dialectics; Marxism

Engels’s ironically titled *Herr Eugen Dühring’s Revolution in Science* was the most important theoretical response to the emerging reformist tendencies within European socialism prior to the publication of Rosa Luxemburg’s *The Mass Strike* and Lenin’s *The State and Revolution*. Universally known as *Anti-Dühring*, this book proved to be Engels’s most influential work, winning the cadre of the SPD to Marxism during the period of Bismarck’s anti-socialist laws.[[1]](#footnote-1) It is also his most controversial work. This is in large part because it is “the only more or less systematic presentation of Marxism” by either by Marx or Engels; and as such anyone wanting to reinterpret Marx must first detach it from his seal of approval.[[2]](#footnote-2) It is thus around *Anti-Dühring*, alongside the much shorter three chapter except from it, *Socialism: Utopian and Scientific*, and other related works most notably *Ludwig Feuerbach and the End of Classical German Philosophy* and the unfinished and unpublished in his lifetime *Dialectics of Nature* that debates about the relationship of Marx to (“Engelsian”) Marxism have tended to focus.

John Holloway, for instance, has argued that while it would be wrong to over-emphasise the differences between Marx and Engels, this is more to the detriment of Marx – particularly the Marx of the 1859 preface - than it is to Engels’s credit. According to Holloway, “Science, in the Engelsian tradition which became known as ‘Marxism’, is understood as the exclusion of subjectivity”.[[3]](#footnote-3) Holloway is honest enough to recognise that, as Sebastiano Timpanaro put it, “everyone who begins by representing Engels in the role of a banalizer and distorter of Marx’s thought inevitably ends by finding many of Marx’s own statements too ‘Engelsian’”.[[4]](#footnote-4) Paul Thomas, by contrast, wants to spare Marx from the consequences of his criticisms of Engels: “Engels’s post-Marxian doctrines owe little or nothing to the man he called his mentor”; indeed, the “conceptual chasm separating Marx’s writings from the arguments set forth in *Anti-Dühring* is such that even if Marx was familiar with these arguments, he disagreed with” Engels’s view that “human beings … are in the last analysis physical objects whose motion is governed by the same general laws that regulate the motion of all matter”.[[5]](#footnote-5) Terrell Carver has produced what is probably the most scholarly version of the divergence thesis. He argues that whereas Marx saw “science as an *activity* important in technology and industry”, Engels viewed “its importance for socialists in terms of a *system* of knowledge, incorporating the causal laws of physical science and taking them as a model for a covertly academic study of history, ‘thought’ and, somewhat implausibly, current politics”.[[6]](#footnote-6) Like Thomas, Carver disapproves of this approach and believes it separates Marx from Engels. Moreover, he explains Marx’s indulgence towards Engels thus: “perhaps he felt it easier, in view of their long friendship, their role as leading socialists, and the usefulness of Engels’s financial resources, to keep quiet and not interfere in Engels’s work, even if it conflicted with his own”.[[7]](#footnote-7) Unfortunately, Marx’s silence allowed Engels’s thought to take on the mantle of orthodoxy first in the SPD before subsequently becoming “the basis of official philosophy and history in the Soviet Union”.[[8]](#footnote-8) This was disastrous as Engels was either “unaware (or had he forgotten?)” that whereas *The German Ideology* had transcended the opposition between materialism and idealism “his materialism … was close in many respects to being a simple reversal of philosophical idealism *and* a faithful reflection of natural sciences as portrayed by positivists”.[[9]](#footnote-9) In short, Carver, Thomas and Holloway condemn Engels for having reduced Marx’s conception of revolutionary praxis to a version of the mechanical materialism and political fatalism against which Marx had rebelled in the 1840s.

Superficially at least this is a curious complaint as Engels’s engagement with Dühring was explicitly intended as a defence of revolutionary political practice against Dühring’s moralistic reformism – and no less an interventionist Marxist than Lenin described it as “a handbook for every class-conscious worker”.[[10]](#footnote-10) Though Dühring is only remembered today as the object of Engels’s polemic, in the 1870s he did threaten to oust Marxism from its position of influence within the SPD. It was for this reason that, in 1875, Wilhelm Liebknecht requested that Marx and Engels rise to the challenge of Dühring’s growing ascendency within the Party. After a brief exchange of letters between the two old friends, Engels was tasked with making the reply.[[11]](#footnote-11) Engels’ engagement with Dühring had nothing to do with the intrinsic merits of his work; but was rather intended to counter his damaging influence on the Party.[[12]](#footnote-12) Commenting on this influence, Marx wrote to Sorge:

“In Germany a corrupt spirit is asserting itself in our party … with Dühring and his ‘admirers’ … who want to give socialism a ‘higher, idealistic’ orientation, i.e. substitute for the materialist basis … a modern mythology with its goddesses of Justice, Liberty, Equality and *Fraternité*”.[[13]](#footnote-13)

This was a political problem of the first importance, and Carver’s account of Marx’s tolerance towards Engels’s apparently wrong-headed response is utterly implausible. Apart from anything else, while there is no evidence that Marx disagreed with Engels, there is plenty of evidence to the contrary. In the first instance, although Marx wasn’t in the best of health when *Anti-Dühring* was written, this was between five and seven years prior to his death and he was, while far from his peak, nonetheless intellectually active. Second, Engels claimed that he had read drafts of each chapter to Marx before sending them off for publication.[[14]](#footnote-14) It is conceivable, as Carver suggests, that Engels may have lied about this. But, the fact that Marx read at least the published version of the book is the most obvious interpretation of his criticisms to Wilhelm Bracke of the fragmentary way it was being serialised in *Vorwärts*, his grumblings about the quality of other materials published alongside it in the newspaper, and his decision to send a copy of the book to Moritz Kaufmann with a note suggesting that it was “very important for a true appreciation of German Socialism”.[[15]](#footnote-15) That he also wrote a foreword to the 1880 French edition of *Socialism: Utopian and Scientific*, which is made up of chapters from *Anti-Dühring*, should really silence rumours to the contrary.[[16]](#footnote-16) Against Carver’s rather forced attempt to suggest that Marx had little or no knowledge of its content, Steve Rigby is surely right to argue that it is almost inconceivable that Marx would either have left it unread or having read it left it uncriticised if he disagreed with it in important ways.[[17]](#footnote-17) This conclusion is easier to accept once we recognise the misguided nature of Carver’s and Thomas’s interpretations of the substance of Engels’s mature thought.

Substantively, Engels’s response to Dühring involved a return to the themes of *The German Ideology*, the text in which Marx and Engels defined communism as “practical materialism” - the revolutionary sublation of idealism and materialism.[[18]](#footnote-18) And like its predecessor, *Anti-Dühring* was intended as a defence of revolutionary politics against the sterile abstractions of moralistic reformism. But whereas *The German Ideology* was a creative work of self-clarification, *Anti-Dühring* interrupted Engels’s creative engagement with natural science; even though it was enriched by themes from his unfinished *Dialectics of Nature*.

The relationship of *Dialectics of Nature* to *Anti-Dühring* is another bone of contention amongst proponents of the divergence thesis. Carver, for instance, suggests that Engels kept *Dialectics of Nature* from Marx because he was “canny enough to avoid creating disagreements with Marx”. Again, this is a very dubious claim. Marx actually wrote to Liebknecht saying that Engels’s engagement with Dühring “entails considerable sacrifice on his part, as he had to break off an incomparably more important piece of work [Dialectics of Nature] to that end”, while Gareth Stedman Jones has pointed out that the manuscript of Engels’s *Dialectics of Nature* includes “comments in Marx’s handwriting”.[[19]](#footnote-19) More to the point, despite the often dismissive tone of Engels’s critics, the arguments presented in *Dialectics of Nature* exhibit a direct continuity from the claim made in *The German Ideology* that

“We know only a single science, the science of history. One can look at history from two sides and divide it into the history of nature and the history of men. The two sides are, however, inseparable; the history of nature and the history of men are dependent on each other so long as men exist”.[[20]](#footnote-20)

Additionally, the evidence suggests that Marx shared Engels’s views about the relationship between the social and natural sciences: indeed, he described the theoretical sections from *Anti-Dühring* published in *Socialism: Utopian and Scientific* as “an *introduction to scientific socialism*”.[[21]](#footnote-21) And Marx was keenly aware that Engels was, as Hilary Putnam notes, “one of the most scientifically learned men of his century”.[[22]](#footnote-22)

*Anti-Dühring’s* key argument is set forth in its opening paragraph. Whereas Dühring claimed that socialism was “the natural system of society” underpinned by a “universal principle of justice”,[[23]](#footnote-23) Engels insisted that as a concrete historical movement “Modern socialism” was inconceivable prior to the emergence of modern capitalist social relations: it “is, in its essence, the direct product of the recognition, on the one hand, of the class antagonisms existing in the society of today between proprietors and non-proprietors, between capitalists and wage-workers; on the other hand, of the anarchy existing in production”.[[24]](#footnote-24)

Thus, contra Dühring, Engels suggested that “to a make a science of socialism, it had first to be placed upon a real basis”.[[25]](#footnote-25) If this had happened with the emergence of the modern working class, from this moment onwards socialism had been transformed from an abstract and empty ideal into a concrete historical possibility. Engels’s socialism was thus a novel, emergent force with a corresponding emergent value system. So, whereas Dühring claimed that morality stands as a “special … absolutely immutable … truth … above history”,[[26]](#footnote-26) Engels countered that though some eternal truths did exist, these were few and far between and usually took the form of platitudes. He distinguished between three levels of scientific enterprise: the study of inanimate objects, the study of living organisms, and the study of human history. If exact, universal truths are most likely to occur in the first group, in reality because the sciences relating to these areas are replete with competing hypotheses such truths are “remarkably rare”. The situation with the regards the second group is even less certain, while, in the third group where “repetition of condition is the exception and not the rule”, knowledge becomes “essentially relative”. Consequently, it is close to impossible to talk of “immutable truths” in respect of human societies.[[27]](#footnote-27) And the contested nature of the human sciences were magnified when applied to the study of ethics.[[28]](#footnote-28)

Though Engels believed that the profound historical variation of morality should consign the idea of transhistorical moral truths to the dustbin of history, this did not entail that he embraced a form of nihilism. In fact, the opposite is the case: this insight actually underpinned his value system. His rejection of the idea of timeless moral precepts informed the questions he posed of contemporary morality. Which moral standpoint at the present juncture, he asked, “contains the maximum elements promising permanence which, in the present, represents the overthrow of the present, represents the future”? His answer was “proletarian morality”, or the system of values congruent with the struggle of the modern working class for freedom against alienation.[[29]](#footnote-29)

Clearly, Engels’s conception of proletarian morality is rooted in sectional concerns that emerged as a historical phenomenon alongside and in opposition to modern capitalism. Nevertheless, it is not a *mere* sectional interest: by creating a world system of universal interconnection capitalism created for the first time the basis for a universal interest. Meanwhile workers’ struggles against alienation had emerged as the practical means to realise this universal human interest. Engels provides a useful historical sketch of the roots of this conflict. In medieval society both production and appropriation were individualised and local. This parochial moment in history meant that the idea of a universal human interest was simply meaningless. With the development of capitalism, however, production became ever more interconnected and concentrated. But if capitalism had thus transformed production from an individual to a social system, appropriation remained privatised. Thus on top of the structural antagonism between capitalists and workers, there existed an antagonism between social production and individual appropriation. The intertwining of these contradictions suggested that the coming “proletarian revolution” simultaneously represented a sectional class conflict against capital and a struggle for the general interest against capitalist alienation: “this act of universal emancipation is the historical mission of the modern proletariat”.[[30]](#footnote-30)

Proletarian morality is therefore an emergent property within history intimately linked to a specific group that, nevertheless, represents, for the first time in history, a real movement for the general human interest. Engels defended this proposition through a concrete application of what he called the “dialectical method used by Marx”.[[31]](#footnote-31) Indeed, *Anti-Dühring* is, amongst many other things, a powerful defence of this method. Engels felt he had to make such a defence to counter the seeming power of Dühring’s analytical argument from first principles to transhistorical conclusions.[[32]](#footnote-32)

By contrast with this method, Engels argued that although modern science from the middle of the fifteenth century onwards marked a profound breakthrough in knowledge, it did so at a cost: the analytical method of dissecting problems into their constituent parts informed a strong tendency for modern science to study these parts in isolation. This assumption is problematic because it is impossible to comprehend real movement except at the level of conceptual wholes. Conversely, the study of isolated parts, even when brought into relation with each other, lends itself to a “narrow, metaphysical mode of thought”.[[33]](#footnote-33) Engels borrowed the term “metaphysical” from Hegel, and like him used it in a disparaging way to describe the one-sidedly abstract and static conceptions of reality associated especially with classical empiricism.[[34]](#footnote-34) Whatever their undoubted strengths, the metaphysicians tended to squeeze real motion and qualitative change out of their image of reality: and by recombining constituent parts as externally related monads, the metaphysicians remained trapped in a narrow empiricist conception of causality.[[35]](#footnote-35) If this approach more-or-less fitted with the cutting edge of scientific progress in the seventeenth and eighteenth centuries, its limits became increasingly apparent in light of further scientific advances in the nineteenth century.

Darwin’s theory of evolution by natural selection was merely the most important of a series of scientific discoveries that pointed in the direction of dialectical thinking. According to Engels, Darwin “dealt the metaphysical conception of nature the heaviest blow” because he showed in practice that a real scientific understanding of nature is impossible without a conception of the mediated and contradictory essence of wholes. Engels thus suggested that “nature”, especially as it was understood through the most advanced parts of science in the nineteenth century “is the proof of dialectics”.[[36]](#footnote-36) This is because modern science has shown, contra the metaphysicians, that “*Motion is the mode of existence of matter*”.[[37]](#footnote-37) Galvano Della Volpe comments: “the correctly anti-empiricist and anti-positivist Engels … noted that it was impossible to prove the evolution of the species through induction alone” and that concepts like species, genus and class had been “rendered *fluid*” by Darwin; becoming “*relative* or *dialectical* concepts”.[[38]](#footnote-38) This is why John O’Neill is right to argue, against numerous arguments to the contrary,[[39]](#footnote-39) that Engels was not a positivist.[[40]](#footnote-40)

If Darwinism was the high-water mark of the scientific revolution that underpinned the movement from a metaphysical to a dialectic viewpoint in the study of the natural world, this process was complemented within classical German philosophy through the work of Hegel. In *Ludwig Feuerbach and the End of Classical German Philosophy*, Engels argued that “the true significance and the revolutionary character of Hegelian philosophy” lay in its recognition that truth was

“no longer a collection of ready-made dogmatic statements, which, once discovered, had merely to be learned by heart. Truth now lay in the process of cognition itself, in the long historical development of science, which ascends from lower to ever higher levels of knowledge without ever reaching, by discovering so-called absolute truth, a point at which it can proceed no further, where it has nothing more to do than to sit back and gaze in wonder at the absolute truth to which it had attained”.[[41]](#footnote-41)

Unfortunately, or so Engels claimed, in his mature writings Hegel incoherently combined this insight with the suggestion of the “absolute truth” of his system.[[42]](#footnote-42) In the wake of Hegel’s death, the contradiction between these two aspects of his thought became manifest as a division between those of his followers who embraced his conservative system and their left-wing “Young Hegelian” critics who extended his revolutionary method.[[43]](#footnote-43) This process initially culminated with the publication of Feuerbach’s *Essence of Christianity*. Feuerbach argued that religious ideas were mental reflections of real human powers, and thus by worshipping God people were kneeling before an alienated image of their own powers. Similarly, because Hegel conceived the real world as an emanation of absolute spirit, his system was but a variant of religious alienation. The simple and profound point caught the imagination of the German philosophical left in the 1840s, and for a moment, or so Engels claimed, “everyone” was a Feuerbachian.

But Hegelianism suffered a strange defeat: the Feuerbachians discarded Hegel rather than work through his contradictions.[[44]](#footnote-44) In their attempt to break free of the limitations of Feuerbachian “True Socialism” Marx and Engels were compelled to work through these contradictions. Commenting on this process, Engels wrote that while Feuerbach and the materialists were right in respect of “the great basic question of all … concerning the relation of thinking and being”, mechanical materialism failed to recognise that though being determines consciousness, this is not a mechanical process: because “everything which motivates men must pass through the brains”, and because the human mind plays an active part in the process of cognition these determinations, whereas in nature “laws assert themselves unconsciously”, in the social world they are applied “consciously”.[[45]](#footnote-45) Thus “the Hegelian dialectic was placed upon its head”: consciousness was, as Hegel had argued, an active and never-ending process of cognition, but, contra Hegel, consciousness was best understood as an aspect of nature making sense of, and acting upon, its material determinants to meet its consciously desired ends.[[46]](#footnote-46) This is the philosophical underpinnings of the claim that people make history but not in circumstances of their own choosing, and it is the reason why Engels insisted that “the German working-class movement is the heir to German classical philosophy”.[[47]](#footnote-47)

So while Engels argued that the “epoch-making” power of the Hegelian method lay in its recognition that “for the first time the whole world, natural, historical, intellectual, is represented as a process”,[[48]](#footnote-48) he simultaneously insisted that this insight was undermined by Hegel’s idealism. By inverting the relationship between consciousness and reality, Hegel was unable to grasp real historical change: his system was consequently a “colossal miscarriage”. This criticism suggests that it would be wrong to assume that Engels imposed Hegelian categories on nature. Though Engels drew on Hegel, his understanding of natural evolution involved an explicit break with his mentor’s system.[[49]](#footnote-49) Specifically, he argued that to escape both the contradictions of Hegel’s system and the limitations of Feuerbach’s materialism, he and Marx had, in the 1840s, gravitated towards a new dialectical materialist method of analysis.[[50]](#footnote-50)

By deploying both materialist and dialectical terminology in their work, Marx[[51]](#footnote-51) and Engels opened themselves up to a century-long tendency for their critics to dismiss them as either mechanical materialists or dialectical obscurantists. If the charge that their “practical materialism” was but a rehash of eighteenth century mechanical materialism doesn’t hold water, the actual relationship between their dialectical method and Hegel’s approach is much more complex than is implied by superficial similarities. Indeed, to coquette with Hegelian categories may well mark an homage paid, but it certainly doesn’t imply agreement.[[52]](#footnote-52)

Unfortunately, there is a problem with Engels’s claim that while Marx rejected the political conclusions of Hegel’s conservative system he embraced his dialectical method. As many scholars have pointed out, Hegel’s system cannot be separated from his method. Fortunately, this claim is less problematic for Engels than these critics suggest.[[53]](#footnote-53) Beneath his superficial comments about the distinction between Hegel’s method and his system, Engels did in fact recognise that the Hegelian method was as flawed as was its system. Thus he wrote: because, “according to Hegel, dialectics is the self-development of the concept … in its Hegelian form this method was no use”.[[54]](#footnote-54) He consequently ridiculed Dühring for committing “the blunder of identifying Marxian dialectics with the Hegelian”.[[55]](#footnote-55) In fact, when Engels wrote that Marx had taken up Hegel’s method but not his system he is best understood as making the more limited claim that, for Marx, as for Hegel at his best, the process of searching for truth would never be “final and complete”. But whereas the Hegelian concept developed deductively, for Marx conceptual deepening emerged through the successive introduction of more complex determinations as he sought to raise theory to the concrete level of practice.[[56]](#footnote-56) From this perspective, as Allen Wood points out, Engels’s comments on the method/system distinction is “not necessarily wrong, but it is superficial and possibly misleading”.[[57]](#footnote-57)

But if Engels could have avoided much misunderstanding had he detailed the differences between his (and as he claimed Marx’s) method on the one side and Hegel’s on the other, this gap in his argument is understandable as a consequence of its main thrust being elsewhere - to counter Dühring’s belief that his system was “final and complete”. Commenting on Dühring’s claim that the idea that contradictions existed in reality was “absurd”, Engels accepted that the logical criticism of internal contradictions was true enough, but only within the narrow parameters and when viewing things in isolation and at rest. An adequate understanding of change, by contrast, demanded that theory move beyond these parameters. According to Engels, to grasp the reality of motion it was important to recognise the existence of contradictions in reality.[[58]](#footnote-58)

Far from evidencing the absurdity of his thought, Marx’s coquetting with the Hegelian concept of contradiction was his way of trying to cognise movement in history.[[59]](#footnote-59) In relation to this claim, Scott Meikle notes that the key to Marx’s critique of Ricardo was not his criticism of the latter’s ahistorical conception of capitalism but rather lay in his claim that Ricardo had failed to conceptualise value as a specifically capitalist form. This conceptual critique had profound political implications: Marx insisted that it was only on the basis of a proper appreciation of the contradictory unity of the use and exchange values of commodities that capitalism could adequately be understood in its dynamic, antagonistic and historically transient essence. So, to move beyond the negative claim that capitalism wasn’t natural to the positive claim that it was pregnant with its alternative demanded that it be conceptualised as a contradictory unity of diverse elements.[[60]](#footnote-60)

From this perspective, Marx’s conceptual architecture deepens and changes as more and more diverse elements are integrated into the concept of the concrete totality as a “concentration of many determinations”. And though Engels may have misunderstood the value form,[[61]](#footnote-61) he clearly understood, as he wrote in the preface to the third volume of *Capital*, that where “things and their mutual relations are conceived not as fixed but rather as changing, their mental images too, i.e. concepts, are also subject to change and reformulation”.[[62]](#footnote-62) As Dill Hunley writes: “Engels did not speak of ‘rising from the abstract to the concrete’ … But a careful reading of his comments shows his little-appreciated understanding of the overall role theoretical paradigms played in the thought process. In the introduction to *Anti-Dühring* and his comments to Conrad Schmidt, Engels once again expressed views very close to those of Marx without using his precise wording”.[[63]](#footnote-63)

This conception of reality illuminates the key difference between the dialectical and non-dialectical approaches: the former unlike the latter points to the possibility of qualitative change because of the way it views relations as internal to things rather than as expressions of external interactions between them. Bertell Ollman insists that Marx and Engels were in agreement on this methodological issue.[[64]](#footnote-64)

In *Anti-Dühring* and more so in *Dialectics of Nature,* Engels explored those characteristics of dialectical thought that facilitated an understanding of the real in its fully dynamic essence: the way in which, as Marx put it, “the ideal is nothing but the material world reflected in the minds of man, and translated into forms of thought”.[[65]](#footnote-65) Engels’s exposition of this method included his infamous three “laws of dialectics”: “The law of the transformation of quantity into quality and vice versa; The law of the interpenetration of opposites; The law of the negation of the negation”.[[66]](#footnote-66) A sea of ink has been spilt debating these “laws”, and most of it generates more heat than light. Part of the problem is that Engels gave illustrative examples of the laws which were not entirely successful. Moreover, the laws as stated - and it should be remembered that they were stated most explicitly in the incomplete and unpublished manuscript of *Dialectics of Nature* (where they are mentioned in *Anti-Dühring*, by contrast, Engels merely gave examples of two of the laws as concrete counters to Dühring’s arguments against Marx) – are general almost to the point of banality. Nonetheless, they do illuminate important characteristics of reality which Dühring and contemporary analytical philosophers miss.[[67]](#footnote-67)

Engels is right that both nature and society are in a constant process of flux, and that if we are to escape the need for some external stimulus for change we need an account of immanent tendencies to change. To follow formal logic in demanding a law of non-contradiction is all well and good, but in and of itself it doesn’t get us very far. To understand the process of natural evolution, for instance, requires some account of a dynamic internal to nature. If Engels’s concept of the transformation from quantity to quality allows us to conceptualise speciation as a process, his model is dependent on an account of things not as isolated and fixed entities but rather as processes constituted through their internal relations.

It is to these internal relations that Engels refers when he deploys the Hegelian concept of the interpenetration of opposites: he insists that if we are to conceive real concrete wholes in movement they need to be understood in all their contradictory richness. Conversely, attempts to make sense of these whole using the category of identity tend to an impoverished conception of change.[[68]](#footnote-68) *Capital*, by contrast, is a detailed instance of the dialectical method at work: its aim is to grasp the totality as a rich interplay between these determinations and relations in a way that “comprehends things and their representations, ideas, in their essential connection, concatenation, motion, origin, and ending”.[[69]](#footnote-69)

As to the notion of the “negation of the negation”, which Dühring criticised as a “dialectical crutch” that added nothing to Marx’s otherwise useful sketch of the primitive accumulation of capital. Engels’s reply was effectively a rehearsal of the power of the obstetric metaphor through which existing society is viewed as being pregnant with its alternative. He suggested that as capitalism evolved there developed a concentration of wealth on the one side and misery on the other - a process that creates within capitalism the potential for revolutionary transformation of capitalism into a new social formation.[[70]](#footnote-70) Far from imposing Hegelian categories on reality, Engels insisted that Marx generalised the concept of the negation of the negation from his concrete analysis of capitalism: he deployed this concept to make sense of the way that capitalism not only dehumanises people (the negation) but also of how, in rebelling against this condition, these dehumanised people create networks of solidarity that point towards a *positive* alternative to capitalism (the negation of the negation).[[71]](#footnote-71) This was a specific example of Engels’s more general claim that his dialectical laws, far from being imposed on reality, were generalised from the study of reality: “It is … from the history of nature and human society that the laws of dialectics are abstracted”.[[72]](#footnote-72)

If the new materialism insisted that nature could best be understood as a dynamic unity of its myriad parts, it also recognised that humanity itself had a history. Clearly it is impossible to deny human history as a trivial succession of events – one damn thing after another as Toynbee complained. The new materialism departed from the old by starting from a recognition of the profundity of Hegel’s claim that the Greeks were different from the moderns: social evolution was a reality. By recognising this insight, the new materialism was historical as well as dialectical: whereas the “old materialism looked upon all previous history as a crude heap of irrationality and violence; modern materialism sees in it the process of evolution of humanity, and aims at discovering the laws thereof”.[[73]](#footnote-73) It is only from this perspective that the reality of modern socialism could be grasped as a truly novel phenomenon congruent with the emergence of capitalist society. According to Engels, Marx’s greatness lay in the fact that he had pierced beneath the surface appearance of reality to reveal the historical novelty of the *inner essence* of the new capitalist system.

So whereas truth and morality were for Dühring absolutes, Engels insisted that truth was better understood as a process of becoming. He and Marx had made precisely this point in *The German Ideology*. By contrast with modern liberal political theory’s axiomatic assumption of a transhistorical “man”, the starting point of their analysis was real concrete historical men and women as they had emerged at a specific historical juncture. As biological beings these people were products of natural selection, but as social beings they were also products of cultural evolution. This insight, alongside his keen sense of history, underpinned Engels’s attempt to illuminate the obstetric metaphor. Borrowing from Marx, he argued that with the emergence of the modern working class, society becomes pregnant with the possibility of socialism.[[74]](#footnote-74) If this metaphor illuminates both the dynamic nature of social relations and the concrete nature of Marx and Engels’s ideals,[[75]](#footnote-75) like any metaphor it tends to absurdity if pushed too far; societies are not pregnant women and social change does not occur with a biological inevitability. But deployed sensibly, it is the methodological basis of Lukács’s claim that the Marxist dialectic underpinned Marx and Engels’s recognition of “the present as a historical problem”.[[76]](#footnote-76)

Despite some clumsy formulations, Engels’s deployment of the concept of the interpenetration of opposites does suggest that socialism is a historical *potentiality* rather than an inevitability: Rosa Luxemburg’s interpretation of *Anti-Dühring* as a call to arms is rooted in his claim society is a contradictory whole capable of moving towards “ruin, or revolution”.[[77]](#footnote-77) If this interventionist reading of Engels seems odd to those who assume he embraced a mechanical and empiricist conception of science, once we recognise that the whole thrust of his argument in *Anti-Dühring* is that mechanical models of science are inadequate, his “practical materialism” shines through: he may well have argued that human history remains part of natural history, but he was equally explicit that the former should not be subsumed within the latter. Thus, he insisted that to move beyond capitalist alienation required political intervention: “mere knowledge … is not enough … what is above all necessary … is a social *act*”.[[78]](#footnote-78)

This demand for political intervention illuminates both the continuities between *Anti-Dühring* and *The German Ideology* and the nature of Engels’s materialism. By contrast with critics such as Meikle who suggest he’d reverted back to a form of mechanical materialism,[[79]](#footnote-79) Engels was adamant that his conception of materialism is, as Sayers and Benton note, non-reductive.[[80]](#footnote-80) Indeed, he insisted an emergentalist conception of nature in which “the transition from one form of motion to another [physics to chemistry to biology etc.] always remains a leap, a decisive change”.[[81]](#footnote-81) Beyond the emergent properties of distinct aspects of nature, Engels also insisted that human agency was a further emergent property that could not be mechanically reduced to our nature. Thus in *Ludwig Feuerbach and End of Classical German Philosophy* he suggested that:

“In nature … there are only blind, unconscious agencies acting upon one another, out of whose interplay the general law comes into operation. Of all that happens … nothing happens as a consciously desired aim. In the history of society, on the contrary, the actors are all endowed with consciousness, are men acting with deliberation or passion, working towards definite goals; nothing happens without a deliberate intention, without a desired aim”.[[82]](#footnote-82)

If these lines point to the non-reductive core of Engels’s social theory, his analysis of the relationship between freedom and necessity show how he simultaneously avoided the opposite error of reifying “free will”.[[83]](#footnote-83) Again he found Hegel useful here. By contrast with the sterile opposition between autonomy and heteronomy, he returned to Hegel’s famous definition of freedom as the appreciation of necessity: “Necessity is blind only in so far as it not understood”.[[84]](#footnote-84) Commenting on this line, Engels wrote “Freedom does not consist in any dreamt-of independence from natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends”.[[85]](#footnote-85) From the invention of fire through the industrial revolution and beyond, humanity’s powers of understanding and concomitant level of control over nature tended to increase through history. Thus the development of humanity’s productive powers underpinned the development of human freedom:

“Freedom therefore consists in the control over ourselves and over external nature, a control founded on knowledge of natural necessity; it is therefore necessarily a product of historical development. The first men who separated themselves from the animal kingdom were in all essentials as unfree as the animals themselves, but each step forward in the field of culture was a step towards freedom”.[[86]](#footnote-86)

And while Engels’s use of the language of “control” to describe humanity’s relationship with nature might suggest a promethean tendency in his thought, he simultaneously insisted that humanity’s relationship to nature should be understood dialectically. We relate to nature not externally as a power over it, but dialectically through a unity (not identity) of the natural and social realms. This meant that he was very much alive to the ecological limits of human activity. Indeed, his comments on the unintended consequences of earlier attempts to master nature have a very modern ring to them.[[87]](#footnote-87)

“Let us not, however, flatter ourselves overmuch on account of our human victories over nature … at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature—but that we, with flesh, blood and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other creatures of being able to learn its laws and apply them correctly”.[[88]](#footnote-88)

Far from signalling a retreat from the praxis theory of the 1840s to a fatalistic reduction of human history to natural history,[[89]](#footnote-89) Engels’s discussion of the relation of freedom to necessity is best understood as a powerful attempt to locate human agency within nature without subsuming it to nature.[[90]](#footnote-90) Freedom, from this perspective, is an emergent property that takes its fullest form with the victory of the socialist revolution: “humanity’s leap from the kingdom of necessity to the kingdom of freedom”.[[91]](#footnote-91)

The evolutionary underpinnings of this argument was most explicitly articulated in Engels’s minor masterpiece; *The Part Played by Labour in the Transition from Ape to Man* (1876). This essay, which is arguably the most powerful and certainly the most successful section of *Dialectics of Nature*,[[92]](#footnote-92) marks Engels’s most explicit exploration of the emergent relationship between cultural and biological evolution through the lens of a critique of Darwin’s interpretation of the evolution of modern humans. Whereas Darwin, in *The Descent of Man* (1871), had argued that the decisive moment in the evolution of humanity occurred with the development of large brains, Engels suggests that massive brain development followed upon the evolution of an upright gait.[[93]](#footnote-93) Once the hands of our ape ancestors were no longer primarily used to climb, evolutionary advantage moved to favour hands that could work tools. From then onwards it was only a matter of time before our ancestors’ hands evolved into something resembling those of the modern humans. This fact is of terrific importance because it shows that “the hand is not only the organ of labour, it is also the product of labour”.[[94]](#footnote-94)

This evolutionary adaptation had profound cultural and biological consequences for the further evolution of humanity. Engels argues that labour reinforced existing tendencies towards the evolution of social behaviour, up to and including the adaptation of the larynx, facilitating the development of language. Finally, labour and language together became the two most important stimuli of rapid brain expansion.[[95]](#footnote-95) Increased intelligence and technological know-how subsequently led to the development of a more varied diet. The broadening of our ancestors’ diet, in turn, underpinned further expansions of the brain, which then facilitated the conquest of fire and the domestication of livestock.[[96]](#footnote-96) The basis for social evolution was therefore the natural evolution of an upright gait. As it happens, Engels has been proved right and Darwin wrong on this issue.[[97]](#footnote-97) Social and natural evolutionary processes from then onwards reinforced each other in a positive feedback loop to propel the evolution of our ancestors forward towards our modern form. Engels argues that Darwin’s inability to grasp this process was a consequence of the “ideological influence” on his thought which tended to demean the importance of labour to social history more generally.[[98]](#footnote-98)

It has been suggested that *The Part Played by Labour in the Transition from Ape to Man* confused Darwinian and Lamarckian theories of evolution. However, I do not think that Engels meant that culturally evolved characteristics could be inherited directly, and certainly his argument need not be interpreted in that way.[[99]](#footnote-99) Rather, he posited a dialectical relationship between cultural and natural evolution, whereby an important part of the “natural” environment, within which humans compete for survival, is culturally constructed, such that cultural structures act as part of the context within which natural selection takes place. Moreover, whereas all animals change their environments, human evolution adds something new to the mix: “The further removed men are from animals, however, the more their effect on nature assumes the character of premeditated, planned action directed towards definite preconceived ends”.[[100]](#footnote-100)

Nevertheless, though human knowledge of nature was expanding, including the knowledge, from Darwin, of our “oneness with nature” and the senselessness of the opposition between “man and nature”, the experience of the nineteenth century showed that the rational regulation of the “metabolic interaction between man and the earth” demanded more than knowledge.[[101]](#footnote-101) “Classical political economy”, precisely because it is “the social science of the bourgeoisie” was unable to see beyond the ideological limits of that class. Because “individual capitalists are engaged in production and exchange for the sake of immediate profit, only the nearest, most immediate results must first be taken into account”. Consequently, so long as a profit is made, the long-term and unintended consequences of their actions “do not concern” the capitalists. Similarly, classical political economy examines only the immediately intended effects of human actions on nature. To realise the potential oneness of our relationship with nature demands “a complete revolution in the hitherto existing mode of production, and simultaneously a revolution in our whole contemporary social order”.[[102]](#footnote-102) So Engels’s insights into the emergence of humanity as the most conscious part of nature leads to the conclusion that revolution is necessary if the social consequences of this insight are to be realised. This revolutionary perspective is best understood as an enriched vision of the practical materialism he and Marx had first outlined in *The German Ideology*.

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