

COMPLEXITY AND ABSTRACTION OF NATURE IN ECONOMIC THOUGHT

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*Für meinen Vater,
bei Fahrten übers Land
von Pferdestall zu Pferdestall
erklärst du mir die Welt
und ihre Geschichte.*

*Für meine Mutter,
deine Liebe zur Welt,
dein lachendes Herz –
du verstehst, worum es geht
und wie man es sagt.*

*Für meine Eltern,
für Nächte im Zelt und Tage in Wanderstiefeln,
für Käse am Stück beim Blick übers Tal
und für jedes vorgelesene Wort —
ich trage sie alle in mir.*

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1. Introduction

1.1 A persisting tension in the history of thought: the mechanistic and the organicist worldview

To connect the three papers, this introduction offers two interpretive lenses. The first, drawn from intellectual history, traces the notion of a long-standing tension between mechanistic and organicist worldviews. The second focuses more narrowly on the connected ontological and epistemological consequences of that tension: how economists have understood and dealt with the *complexity* of reality — and specifically nature — by *abstraction*. These lenses are not independent; rather, the second emerges from the first. Different worldviews generate different ontologies of complexity, and thus inform the kinds of abstraction economists employ. Taken together, these frameworks illuminate the conceptual currents underlying the treatment of nature in economics — currents that surface, in different ways, across all three papers.

The framing of the tension between mechanistic and organicist worldviews is not intended as a rigid binary or a totalising argument about economic theory. Rather, it serves as a heuristic — a lens to interpret the conceptual trajectories and the ontological and epistemic commitments that have shaped the field. The following prelude offers not merely a review of existing intellectual history, but a constructive framing that situates the three papers within a longer narrative of intellectual history and the philosophy of science. While the tension between worldviews remains largely implicit in the papers themselves, it provides a through-line that lends coherence to their distinct case studies and helps clarify their differing positions on complexity and abstraction.

As scholars like Berlin (2013), Merchant (1980, 2018), and Worster (1994) have argued, the mechanistic worldview, rising to prominence with the Scientific Revolution, reconstructed nature as inert, decomposable, and governed by universal laws, legitimating its control and exploitation. In contrast, older organicist traditions — rooted in classical, medieval, and Renaissance thought, and later revitalised through Romanticism and ecological thought — emphasised irreducibility, interdependence, and often the intrinsic value of nature. Though sometimes reduced to a binary opposition, this contrast is better understood as a recurring and evolving tension within modern thought, shaped by shifting social, philosophical, and scientific contexts.

Framing the history of economic thought within this broader intellectual landscape underscores that the treatment of nature in economics has never been only a matter of internal disciplinary debate or policy priorities. It has also reflected deeper and often unaddressed assumptions in

the philosophy of science. This dissertation argues that reconnecting economic thought to these deeper intellectual undercurrents — particularly the tension between abstracting *from* complexity and abstracting *with complexity in view* — not only clarifies the marginalisation of nature in economic reasoning but also contributes to ongoing reflections on the future direction of the discipline.

The tension between mechanistic and organicist worldviews becomes particularly vivid when traced through the history of environmental and ecological thought. Merchant (1980, 2018) and Worster (1994), among others, have mapped how the rise of mechanistic science during the Scientific Revolution redefined nature as passive, decomposable, and manipulable — a transformation that underwrote new forms of control, extraction, and commodification. Nature, once imbued with moral and spiritual significance, became external to human purpose — something to be optimised, dissected, and later priced. In *The Death of Nature* (1980), Merchant famously interpreted this shift through figures such as Descartes, who reduced animals to automata; Newton, who modelled the cosmos as a vast clockwork; and Bacon, whose rhetorical framing of science invoked the interrogation of nature by force.

By the Enlightenment, this mechanistic ethos had come to influence conceptions of society, economy, and human behaviour, not just the natural world. As Berlin (2013) observes, Enlightenment thinkers shared a deep faith in reason and systematisation: all genuine questions could, in principle, be answered, and all true answers must cohere. Knowledge, in this rationalist vision, became the path to social harmony. Yet even at its height, Enlightenment rationalism faced resistance. The Romantic movement of the late eighteenth century marked what Berlin calls “the greatest single shift in the consciousness of the West” (Berlin 2013, p. 2). Romantic thinkers rejected the championing of rationalism and universalism of Enlightenment thought, affirming intuition over analysis, the singular over the general, and lived experience over theoretical systems. According to Berlin, figures like Hamann, Goethe, and Herder cast doubt on reason’s sufficiency, arguing that knowledge arises through embeddedness in culture, language, and nature.

Before this tension re-emerged in early twentieth-century ecology, it was already playing out through key scientific developments in the nineteenth century — notably, in the formulation of evolutionary theory and thermodynamics. Daggett (2019)¹ provides one narrative of how these concepts interacted with the mechanistic *Zeitgeist* of the period. She shows how evolution and

¹ Daggett’s work primarily engages with the history of energy as a concept and its role in capitalism’s imperial and exploitative history, disentangling the convoluted notions of energy and work. However, in doing so, she also engages with the presented tension of worldviews and demonstrates its ongoing relevance in the history of ideas.

thermodynamics, though distinct, became culturally entangled. Evolution, grounded in observable life processes, appealed to both liberal and socialist imaginaries of social change. Thermodynamics, by contrast, introduced abstract concepts — energy, entropy, efficiency — that quickly acquired moral and political significance. According to Daggett, these metaphors were mobilised to support imperial, capitalist, and industrial projects, reinforcing a mechanistic ethic of labour, restraint, and productivity (Daggett 2019, pp. 55–56).

Yet thermodynamics also introduced a philosophical challenge. While its first law — energy conservation — aligned with the mechanistic vision of a closed and stable system, the second law — entropy — disrupted this closure by implying inevitable decline. This tension, which Daggett (2019, p. 50) calls a “paradox at the heart of the concept of energy — between balance and change, or stability and progress”, spurred the development of what she terms an *organic metaphor*. This metaphor was not a single, unified theory, but a loose constellation of ideas “across science, politics and academic thought” that blended thermodynamics and evolutionary theory to conceptualise life and civilisation as self-organising, patterned systems of matter-energy and information exchange (Daggett 2019, p. 113).

Merchant (2018, p. 282) similarly reads this period as one in which thermodynamics and evolutionary theory jointly contributed to a “depressing human story of decline from an original Eden”, reinforcing cultural anxieties about disorder, decline, and meaninglessness. Yet both Merchant and Daggett argue that these anxieties also paved the way for organicist philosophies to re-enter scientific and cultural discourse — especially through early ecology and systems thinking. Drawing from Romantic traditions that had long challenged mechanistic tendencies for reductionism, these philosophies gained renewed scientific legitimacy by framing life and society as emergent, self-organising systems. While Daggett (2019, pp. 113, 114) emphasises that these organicist currents were varied and at times contradictory, they shared a rejection of “the mechanistic explanations of life that were increasingly gaining traction as physics rose in stature among the sciences”.

Importantly, as Daggett emphasises, these organicist currents did not reject scientific rigour. They situated themselves between mechanists and vitalists, accepting physical laws while insisting on irreversibility, interdependence, and emergent complexity (Daggett 2019, pp. 113–115). This intellectual shift, she argues, helped popularise systems thinking across the sciences and humanities in the twentieth century (Daggett 2019, pp. 113–114).

Trentmann (1994, p. 615) frames these developments more broadly as part of the “ambivalence of modernity”, noting that the rise of ecological thinking grafted “a scientific on to a metaphysical discourse of wholeness”. This, he argues, promised to “overcome the division between the machine and the soul, science and religion, that had structured Western culture in the nineteenth century”, suggesting that contemporary ecological critique reflects a “continuously revolving spiral of intertwining strands of civilization and its discontents” (Trentmann 1994, p. 615).

Rather than representing a simple opposition, then, the mechanistic and organicist worldviews evolved in tension and dialogue, shaped in part by the very same scientific developments. This tension reverberated through both natural and social sciences. What I refer to in this introduction as the *organicist worldview* owes much of its historical credibility to these moments — when physics itself provided not only the tools of reduction, but also the grounds for a more relational and open-ended vision of life and order.

However, economics — specifically neoclassical economics, which began to take shape in the second half of the nineteenth century — developed along a different trajectory. While it emerged in parallel with thermodynamics, it modelled itself largely on classical physics by adopting a mechanistic framework that modelled individuals as utility-maximising agents and the economy as a deterministic system tending toward order and balance. In doing so, it largely ignored the ethical and systemic dimensions articulated in organicist thought. Recently, Jeremy Walker (2020, pp. 130-153) echoed earlier voices like Georgescu-Roegen (1971) and Mirowski (1989) in arguing that both ecology and economics derive epistemic authority from thermodynamics, albeit in distinct ways. Whereas neoclassical economics embraced the first law — depicting the economy as a closed, self-equilibrating system — it neglected the second, along with the implications of entropy, irreversibility, and ecological degradation.

It has thus been widely argued that economics — particularly neoclassical economics — remained largely unaffected by the philosophical challenges posed by developments in the natural sciences — instead, it continued to advance along Enlightenment lines, shaped by empiricist, positivist, and utilitarian currents (Mirowski 1989; Blaug 1992). This trajectory, which came with a stark tendency towards mathematical formalism, has famously been described by Mirowski (1989) as reflecting a kind of “physics envy”, or, as Blaug prefers, “mathematics envy” (Blaug 1992, p. 167). Georgescu-Roegen distinctly noted that economics retained its commitment to mechanistic assumptions even after these had been displaced within the natural sciences:

All in all, the wholesale attachment of almost every economist of the last one hundred years to the mechanistic dogma is still a historical puzzle. While it

was once true that physicists, mathematicians, and philosophers were one in singing the apotheosis of mechanics as the highest triumph of human reason, by the time Jevons and Walras began laying the cornerstones of modern economics, a spectacular revolution in physics had already brought the downfall of the mechanistic dogma both in the natural sciences and in philosophy. And the curious fact is that none of the architects of ‘the mechanics of utility and self-interest’ and even none of the latter-day model builders seem to have been aware at any time of this downfall (Georgescu-Roegen 1971, pp. 2–3).

Georgescu-Roegen, like Walker later, underscores how economists failed to absorb the full ontological and epistemological implications of thermodynamics — in particular entropy — and evolutionary theory, and its effect on key components of standard economics — insights that challenge the assumptions surrounding equilibrium states, predictability, and reversible causality². While this represents a strong critique of the development of neoclassical economics, it is one echoed even by sympathetic commentators such as Blaug (1992), and even in its weakest form still conforms with the idea of a dominant mechanistic lineage within the discipline.

1.2 Complexity and abstraction: ontological commitments and methodological consequences

The philosophical tension between mechanistic and organicist worldviews manifests both in the way reality is understood and how knowledge about it is produced. Within economics, this tension finds its strongest expression in the way the discipline handles *complexity* — and the kinds of *abstraction* it employs to make complexity tractable.

In this dissertation, complexity is not defined in the technical sense of complexity science or systems theory, but in a broader ontological sense: as a condition marked by open systems, emergent properties, irreversibility, ethical entanglement, and fundamental uncertainty. It reflects the dynamic, historically embedded, and relational character of (social) reality — one that resists simplification and challenges reductionist modelling. This understanding aligns with many heterodox traditions (Fullbrook 2008), and is most explicitly articulated in Critical Realism, particularly in the work of Roy Bhaskar³ and Tony Lawson (1997, 2003), who applies the idea to economics.

² According to Georgescu-Roegen, only Alfred Marshall, with his biological metaphors, grasped the full implications of this critique (Georgescu-Roegen 1971, p. 11). Partially aligning with this interpretation, the first paper notices and highlights Marshall’s hesitation to commit to certain aspects of marginalism, while the second and third papers emphasise Keynes’s role in arguing for a different approach to economics — one strongly influenced by Marshall and the Cambridge tradition.

³ For a detailed account by some of the most prominent contributors to the tradition of Critical Realism, see Archer et al. (1998).

John B. Davis (2009, p. 83) summarises Lawson’s social ontology of complexity — as articulated in Lawson (2006) — as intrinsically dynamic or processual, interconnected and organic, structured, emergent, and inclusive of value, meaning, and polyvalence. Many of these characteristics closely parallel what Dow (2002) describes as an open system:

An open system [...] is one for which not all relevant variables are known (because of the complexity of the system), where the boundaries of the system cannot be specified (because of creative human behaviour for example, and also because we understand the system in terms of subsystems whose closure is only provisional); where interrelations within the system (between individuals) change; and where knowledge is rarely at the extreme of either being held with certainty or of being truly random — it is generally held with some degree of uncertainty. Further, since action stems from an ‘internal’ individual intentionality rather than an ‘external’ rationality, individuals themselves may change their nature (Rotheim, 1998) (Dow 2002, p. 140).

This understanding of complexity, however, brings with it the necessity — and the risk — of abstraction. Following Lawson, this dissertation adopts a broad definition of abstraction as the temporary foregrounding of certain aspects of reality to better understand the whole — an essential method, provided the dynamic and relational nature of the object is kept in view (Lawson 1997, p. 227). Abstraction is not about denying the rest of reality, but about focusing attention in a way that ultimately deepens understanding. In this sense, abstraction is both methodologically unavoidable and epistemologically neutral: its value depends on how its scope, focus, and level of generality are defined in relation to the phenomenon under investigation.

Yet abstraction, while necessary, can also be misapplied. Lawson, drawing on Dobb (1972 [1937]), critiques mainstream economics for reducing abstraction to a formal procedure of generalisation — one that strips away empirical relevance in favour of analytical convenience. In Dobb’s words, what inappropriate⁴ “abstraction gains in breadth it more than loses, as it were, in depth — in relevance to the particular situations which are the focus of interest” (quoted from Lawson 1997, p. 233). In that sense, Lawson (1997, p. 234) identifies what he sees as a fundamental misunderstanding of abstraction in modern mainstream economics and formulates a strong critique:

For in modern mainstream economics abstraction is interpreted not only, and not even mainly, as the legitimate activity of leaving momentarily out of focus something that is real. Rather, any explicit reference to the term is taken almost exclusively to denote the (typically illegitimate) activity, or result, of excluding something real, of assuming it away entirely. In place of abstraction as a one-sided focus upon an aspect of a concrete entity, an aspect brought momentarily into closer view, economic modelling thus interprets abstraction as a focus upon the aspect in question as though it existed in isolation — and

⁴ Lawson uses the term “positivistic” (Lawson 1997, p. 233).

typically as though it were free of internal instability as well (Lawson 1997, p. 234).

Building on this insight, this dissertation proposes that different philosophical worldviews — broadly characterised here as mechanistic and organicist — tend toward distinct uses of abstraction. Again, these should not be understood as rigid or mutually exclusive categories, but as ideal-typical orientations that highlight contrasting tendencies in how complexity and abstraction are approached. More mechanistic perspectives typically lean toward abstraction as generalisation, seeking stability by simplifying differences, and accepting isolation based on an atomistic understanding of reality. While perspectives on the organicist side of the spectrum tend to treat abstraction as a means to navigate and reveal structured complexity, while emphasising the significance of heterogeneity, process, and relationality.

This framing sets the stage for the first paper’s examination of how land lost its status as a distinct factor of production in economic theory. *“Losing Ground: On the Marginalisation of Land in Economic Theory”* interprets this marginalisation as part of a broader epistemic shift toward *analytical homogenisation*: the desire to abstract from physical and conceptual heterogeneity in pursuit of formal coherence. Across key moments in the discipline’s history, this impulse increasingly privileged general categories over qualitative distinctions. The paper surveys the literature on the marginalisation of land and identifies both external drivers — such as changing class dynamics — and internal methodological shifts. It highlights a series of episodes that illustrate this broader tendency: the marginalist revolution, the empirical turn, the rise of “high theory,” the capital controversies, and post-war growth debates.

This stream of analytical homogenisation during the formative decades of neoclassical economics culminates in Lionel Robbins’s *Essay on the Nature and Significance of Economic Science* (1932). While Robbins’s definition of economics as the study of “human behaviour as a relationship between ends and scarce means which have alternative uses” (Robbins 1932, p. 16) was not universally accepted at first, it soon became the dominant framing of the discipline (Backhouse and Medema 2009). At the time, economists like Keynes — following Marshall and others — still distinguished between the “economic” and “non-economic” domains, with the economic being chiefly understood as the material side of life.

The second paper on *“Keynes and the Preservation of Natural Beauty: Philosophical Foundations and a Natural Case for Planning”* argues that this categorisation of economic and non-economic aligns for Keynes with a deeper philosophical dichotomy between the analytical and the intuitive faculties, representing two different ways of accessing their values. Within this differentiating framework any attempt to formalise a trade-off between these incommensurable

notions of value, if possible at all, requires direct insight and judgement just as much as analysis and therefore requires a cooperation of the faculties. By contrast, Robbins promoted a definition of economics as an all-encompassing science of scarcity and choice, anchored in the concept of opportunity cost. As Banzhaf (2024, p. 113) explains, where earlier economists might have seen “intangible or spiritual considerations such as the love of wilderness” as clearly non-economic, Robbins’s analytical lens rendered these preferences part of the same economic calculus. In that sense, wilderness becomes a scarce resource, and decisions about its preservation or development become economic choices — often suggesting quantification.

This redefinition of economics signals a deeper philosophical divergence. As argued in the second paper, Keynes rejected the notion that economics could be reduced to a purely technical discipline devoid of intuition and ethical reflection. For him, economics was a *moral science*, necessarily entangled with value judgements and introspection. Robbins, however, sought to remove the difficult ethical and political questions surrounding ends from economic analysis, focusing only on means and thereby narrowing economics to a mono-methodological framework (Banzhaf 2024, p. 115). By defining all action in terms of constrained optimisation, it implied that all values could be rendered comparable, and therefore, against methodological difficulties, quantifiable. Keynes, by contrast, upheld — even if often only implicitly — a more pluralist approach. The economic and the non-economic wield similar analytical relevance but require different means of understanding. The value of natural beauty or art, for instance, cannot be formally weighed against material gain in monetary terms — and any attempt to do so would risk obscuring rather than clarifying.

His criticism of Robbins and of highly formalist economics more broadly, which he warned to be a “pseudo-analogy with the physical sciences” that “leads directly counter to the habit of mind which is most important for an economist proper to acquire” (CW XIV, p. 300) — namely the faculties of intuition and judgement — should not be mistaken for passing remarks. As the second paper demonstrates, these concerns emerge with clarity in an overlooked context: Keynes’s consistent engagement with the cause of rural preservation.

Despite his visible, even if scattered, support for efforts to protect rural landscapes and their natural beauty, this aspect of his biography has received no attention in the literature. The paper offers an original and sustained exploration of this involvement, showing how it aligns with Keynes’s broader ontological, epistemological, and ethical commitments, and how it informed his views on the role of the state and the necessity for planning more generally. Whether discussing econometrics with Harrod, criticising the overextension of the “economic rational”, or

reflecting on the “Benthamite worm” gnawing at civilisation’s moral core, Keynes consistently insisted on a less economically reductive, and more humanistic vision of economics.

At the same time, it is important to acknowledge that Keynes did not always apply his own philosophical ideals consistently, and his work includes abstractions and aggregations that arguably reflect the very tendencies he sought to resist. Yet it is precisely this tension — between principle and practice — that makes a deeper investigation of his thought particularly valuable for the history of economic thought, not least because it helps clarify contested interpretations of Keynes’s legacy and the philosophical stakes of his economics. This paper argues that his engagement with rural preservation offers new and independent evidence to support such a reappraisal. This evidence not only supports specific readings of Keynes’s biography, but also complements interpretations of his work — namely Post Keynesian interpretations which argue that his true contribution lies not merely in technical insights such as the importance of effective demand, a specific consumption function or the multiplier, but in a broader philosophical and ethical vision that mainstream economics has largely overlooked.

His 1937 article, emphasising fundamental uncertainty and therefore clarifying the ontological foundations of *The General Theory*, early philosophical essays, biographical reflections, and his dissertation on probability reinforce this reading. His insistence on irreducible uncertainty, on judgement, psychological complexity, and ethical concern, marks him as a part of an alternative intellectual tradition — one that would later underpin both Post Keynesian and ecological critiques of the mainstream. Keynes’s consistent — though never prominent — involvement in the rural preservation movement is in that sense philosophically telling, bringing together central themes of his work.

The preservation movement itself can be understood as a convergence of a diverse set of intellectual and political streams (Sheail 2002; Sheail 1981). It drew on Romantic and Arcadian ideals, early ecological sensibilities, town planning, and architecture. It was both backward- and forward-looking (Readman 2008; Matless 1998), and can be read as a complex synthesis of the two worldviews — a distinct intellectual response to modernity’s interplay of scientific progress, industrial expansion, and non-economic values. As seen in Keynes’s own advocacy and his alternative approach, it articulated an ethical and philosophical position toward nature that had no real analogue in the emerging mainstream of economic science.

Meanwhile, economics continued its distinct trajectory. Post-war reconstruction, decolonisation, and Cold War competition helped consolidate a global growth consensus, in which progress came to mean industrial expansion, rising productivity, and GDP growth. Within this

model, nature was treated primarily as a resource input, an externality to be managed, or a constraint to be optimised around. As Merchant, Worster, Daggett and Walker jointly argue, the mechanistic worldview had by this point crystallised into the common sense of policy and science. Nature was no longer just a moral, spiritual, or social concern but a thoroughly rationalised object of control and a resource. In economics, this translated into the marginalisation of land and natural resources from core theory, confining them to subfields such as agricultural economics, land economics, and, later, environmental and resource economics.

These neoclassical responses to environmental challenges however preserved the neoclassical philosophical commitments. As Banzhaf (2024) notes in his critical appraisal, environmental economics became a discipline tasked with “pricing the priceless” — translating possibly incommensurable values into calculable trade-offs. Though influential in policy discourse, this approach has been criticised for avoiding deeper ethical and philosophical questions — not only about ecological degradation and justice, but about the very assumptions it makes regarding value, agency, and the human relationship to nature (Franco and Missemmer 2023, pp. 150-152).

By contrast, ecological economics — examined in detail in the third paper, titled “*Three Pioneers of (Social) Ecological Economics: On (Post) Keynesian Influences and the Intellectual Roots of E.F. Schumacher, Kenneth Boulding and Nicholas Georgescu-Roegen*” — emerged as a radical attempt to reorient economic thought around a different set of philosophical and ethical commitments. This reorientation resonates with other heterodox traditions — most notably Post Keynesianism — and has sparked a small but growing number of investigations into potential synergy (Gowdy 1991; Holt et al. 2009; Kronenberg 2010; Fontana and Sawyer 2016). As the paper argues, the relationship is not merely one of shared theoretical tools or policy stances, but of deeper philosophical and ethical affinities, which can be traced historically. Keynes, as discussed in the earlier sections, advocated a distinct conception of economics, which influenced figures like Schumacher, Boulding, and Georgescu-Roegen, and helped shape an intellectual lineage that would later feed into the development of ecological economics.

The paper explores this lineage through the lives and work of these three pioneers and therefore suggests that important aspects of an organicist worldview can be found in Keynes as well as in both ecological and Post Keynesian economics. It draws on a wide range of materials — including published works, autobiographical reflections, biographical accounts, interviews, and correspondence — to trace both intellectual affinities and networked connections to Keynes and Post Keynesian thought, whether through direct influence, shared philosophical commitments, or personal and institutional relationships. These traditions are by no means identical,

but they share a common impulse: to challenge the dominant paradigm's ontological, epistemological, and ethical foundations along the lines of complexity and abstraction. In this sense, much of Keynes's thought aligns with the philosophical core of ecological economics, even if his influence on the three pioneers discussed in the paper was not equally prominent or explicit.

1.3 Bringing the argument into view

At its core, this dissertation asks what kind of abstraction economics requires in a world marked by ecological crisis and ontological complexity. Rather than treating complexity as an obstacle to be simplified, the papers suggest it must be engaged on its own terms — ethically, historically, and philosophically. Doing so reveals not only the blind spots in economic reasoning, but also the broader worldviews that have shaped what is foregrounded, what is excluded, and what is deemed relevant.

Among all objects of interest, nature stands out as an extreme test case for this philosophical choice. Its complexity — spanning ecological, social, ethical, and material dimensions — makes it especially resistant to reductionist abstraction. Yet its ethical and existential significance raises the stakes of how we choose to model and manage it. If economics is conceived not as the science of scarce means in a world of tractable complexity, but as the study of social provisioning under conditions of fundamental uncertainty and systemic complexity, the role of nature shifts profoundly. Arguments that justify abstraction from nature for reasons of empirical irrelevance or analytical tractability lose much of their force. What becomes visible instead, as this dissertation shows, is the extent to which such abstraction reflects ontological and ethical commitments — often mechanistic, often instrumental — that have marginalised nature, sometimes by design, sometimes by neglect. In this light, the role of judgement and intuition are reappraised as crucial epistemic devices — quintessential for using abstraction with the appropriate vantage point, scope, and level of generality.

Keynes once noted that “we shall only change our policies if we change the philosophy underlying them” (CW XXVIII, p. 347). The same applies to economics itself. Can a discipline that has long treated nature as external and inert meaningfully address ecological crisis? The 2008 financial crisis exposed the fragility of macroeconomic models built on equilibrium concepts and rational expectations. The climate crisis reveals similar limitations in environmental economics, where models that price externalities struggle to address irreversibility, degradation, and moral urgency.

If economics is to speak meaningfully to such a world, it must reckon with complexity — not only as a methodological challenge, but as an ontological condition. This requires a different kind of abstraction: one that remembers what it leaves out, and one that recognises values like beauty, justice, and dignity not as external to economics, but as central to its purpose. By tracing how economic thought has navigated — and often neglected — the complexities of nature, this dissertation recovers overlooked intellectual pathways that open new space for economics to engage more honestly with the realities of a world in ecological crisis.

1.4 Potential for further research

While each of the three papers explores distinct facets of this broader philosophical and historical landscape, they also point beyond themselves — toward unresolved questions about how economic thought has engaged with nature, complexity, and underlying philosophical worldviews. While the broader narrative of Enlightenment rationalism, the mechanistic worldview, and the domination of nature has been explored across disciplines, it remains comparatively underdeveloped within the history of economic thought. Further historical work could help clarify neglected tensions and illuminate how nature has been conceptualised, marginalised, or reframed through economic abstraction. The integration of ecological concerns into economic reasoning, and the philosophical affinities between ecological and Post Keynesian traditions, offer promising sites for continued inquiry — both to deepen existing interpretations and to trace connections that have remained obscured.

Personally, I see particular potential in connecting these questions to the emerging field of energy humanities, adding to work such as that of Daggett and Walker. The concept of energy, as their work has shown, was not simply a scientific discovery but a cultural and philosophical transformation — one that reshaped institutions and disciplines across the social sciences. Exploring how energy entered economic reasoning, and how it shaped the metaphorical and methodological structures of economic thought, could further clarify the conceptual foundations of modern economics and its treatment of nature.

Nature — understood as complex, layered, and irreducible — offers a particularly rich site for philosophical reflection, raising questions not only for economic theory but also for the philosophy of science more broadly. As this dissertation suggests, tracing how economists have approached or abstracted from the natural world can support a more critical sociology of economics — one that interrogates the epistemic and institutional assumptions through which nature has been rendered external or instrumental. Such work also enriches our understanding of the discipline's evolving relationship to the ecological realities of the Anthropocene.

1.4.1 Losing Ground: On the Marginalisation of Land in Economic Theory

The first paper opens a series of questions that remain far from settled. In particular, the precise moments when land lost its status as a distinct factor of production remain notoriously difficult to pin down. While the paper brings together a range of arguments external and internal to economic thought, it ultimately suggests that this marginalisation was not the result of a single theoretical resolution but rather a more contingent process of redirection. This interpretation implies that further historical research is needed to uncover the small, often dispersed moments of conceptual change: moments that may appear minor on their own, but which, once contextualised, illuminate the broader trajectory through which land was gradually abstracted from.

Tracing this story remains difficult precisely because some of the dominant explanations — subsumption under capital, or the emergence of land economics as a separate field — can seem so self-evident. Yet, as the paper shows, economists continued to grapple awkwardly with the treatment of land well into the twentieth century, suggesting that the theoretical settlement was neither stable nor complete. Further work, then, could continue to piece together these unresolved tensions, helping us better understand how the marginalisation of land mirrored the marginalisation of nature in economics more broadly.

1.4.2 Keynes and the Preservation of Natural Beauty: Philosophical Foundations and a Natural Case for Planning

The second paper opens a promising avenue for further research into the intellectual and cultural context of the interwar years and early twentieth century, particularly in Britain. One compelling direction would be to more fully integrate the emergence of ecology as a scientific discipline into the story. As the paper hints, the early ecological movement and the rural preservation cause were deeply embedded in overlapping intellectual networks, often shaped by strong class structures, elite education, and the informal cliques of Oxbridge intellectual life. Works like Collini (2007) *Absent Minds: Intellectuals in Britain* offer compelling evidence of this dynamic, suggesting that these networks facilitated not just social exchange but genuine cross-fertilisation between fields — including, as shown in this dissertation, economics, planning, conservation, and the early environmental sciences. Mapping this intellectual milieu in greater detail could significantly enrich our understanding of the era's ecological and economic thinking.

A second direction would be to examine the broader presence of economists within the rural preservation movement. Beyond Keynes, which other economists were involved, and what po-

sitions did they take? Did the movement itself reflect the deeper philosophical and ethical tensions traced in the paper? What more, in the context of rural preservation, can be said about the curious tensions between aesthetic socialism, materially oriented socialists, the Fabian Society, the labour party and the widespread consensus of entrenched Treasury orthodoxy? These questions intersect fruitfully with what appears to be a limited literature on economists as public intellectuals — see, for instance, Godden (2013) — and the trajectory of the economics profession during the twentieth century. The rural preservation movement's relationship to land value taxation, Treasury scepticism, and the economic policies of the Labour Party — all marked by different degrees of orthodoxy — could shed light on the heterogeneity within the rural preservation movement itself and the role economics played in shaping or resisting its goals.

Finally, these lines of inquiry could help illuminate the evolving concept of energy in both intellectual and material terms. The interwar years saw a fundamental shift in Britain's energy matrix — electrification of the countryside, the rise of oil and gas, and changes in patterns of production and consumption. The preservation movement responded to, and at times resisted, these changes. Figures like Patrick Geddes, who influenced some of the most prominent planners in early twentieth century Britain and operated at the intersection of planning, sociology, and “social energetics” offers a bridge between the energy humanities and the social and economic sciences. Further research might explore how economic reasoning, energy transitions, and environmental sensibilities coalesced in this period — and how these debates continue to inform the ecological imagination today.

1.4.3 Three Pioneers of (Social) Ecological Economics: On (Post) Keynesian Influences and the Intellectual Roots of E.F. Schumacher, Kenneth Boulding and Nicholas Georgescu-Roegen

The third paper lays the groundwork for a research agenda that could further explore the shared philosophical and ethical foundations between ecological economics and Post Keynesianism. One promising direction would be to expand the kind of work Clive Spash has initiated in his *Foundations of Social Ecological Economics* (2024) by systematically identifying overlaps between heterodox schools — not just on theoretical or policy positions, but at the level of underlying worldviews. This would involve tracing these affinities historically, to better understand how different traditions arrived at parallel critiques of mainstream economics and shared commitments to pluralism, uncertainty, ethics, and ecological embeddedness.

A second, related avenue would be to revisit the question of intellectual genealogy. If we understand social ecological economics as a radical paradigm, distinct not only in ethics and policy but in its ontology and epistemology, then who are its true pioneers? Beyond the figures here discussed — such as Boulding, Georgescu-Roegen, and Schumacher — are there lesser-known thinkers whose contributions deserve renewed attention? Revisiting the roots of this paradigm with today's conceptual map in mind could help sharpen our understanding of where it departs from the mainstream, how it evolved in dialogue with other heterodox traditions, and where it may go next. In short, the paper invites a broader intellectual history of heterodox traditions — one that goes beyond influence to consider deeper philosophical convergence. Franco and Missemer (2023) provided a path paving effort in this direction, but as they say, much is left to do (Franco and Missemer 2023, p. 144).

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2. Losing Ground: On the Marginalisation of Land in Economic Theory

2.1 Introduction

As humanity is facing an imminent ecological crisis, interest in economic research, which acknowledges biophysical limits of our planet, is increasing. This has not only been reflected in the emergence of several subdisciplines (like environmental and resource economics, ecological economics etc.), but also in the increased interest in the intellectual history of those subdisciplines. Martinez-Alier's seminal 1987 book *Ecological Economics, Energy, Environment and Society* for example shows how the concept of energy flows dates as far back as the formulation of thermodynamic theory in the late nineteenth century. Castle et al. (1981) provide a history of natural resource economics from 1946 to 1975, showing how the discipline emerged from the subdisciplines of agricultural and land economics. Spash (1999) shows the development of environmental thought in economics with a special focus on the late 20th century. Røpke's (2004) offers an investigation into the early history of institutionalised ecological economics. Recently, Franco and Missemer (2023) illuminated the intellectual history of ecological economics more broadly, while Banzhaf (2024) gave an account of the history of environmental economics. Most of these intellectual histories focus either on orthodox subdisciplines or on elements of heterodox economics, and demonstrate impressively how many writers, economists, and natural scientist alike, were analytically close to modern ecologically aware approaches, or how neoclassical economics slowly embraced environmental issues.

However, all of these remarkably early considerations of nowadays crucially important issues such as historical time, ecological limits, energy in economics or social value of nature mostly laid outside of standard economic discussions of their time. This paper argues that one of the reasons for the late and limited reappearance of these topics in the core of the economic science can be found in the marginalisation of land as a distinct factor of production in streams of thought relevant for the emerging orthodoxy of the twentieth century. Any model or specific theory based either on production functions considering capital and labour only, or based on assumptions of extreme substitutability and disaggregation, such as neoclassical growth models and general equilibrium models respectively, were bound to ignore issues of natural agents and the inherent physical and social complexity.

Obviously, one view on science would prescribe to a scientific orthodoxy a close relation to the prevailing *Zeitgeist*. Therefore, it is important to acknowledge that some ecological issues such

as planetary boundaries did not play the same role they did ever since the publication of the *Limits to Growth* of the Club of Rome in 1972. It is equally important to consider the late formation of a dominant, mainly neoclassical orthodoxy in economics and the simultaneous importance of many currents of thought before the mid-twentieth century. The following investigation into the marginalisation of land as a distinct factor of production representing natural agents, natural requisites or often even more broadly understood, nature, within orthodox twentieth century macroeconomic discussions is thus not simply a critique of that development. This paper rather aims to reconstruct controversies with a special focus on tracing those arguments, which led to the shift in focus away from land as a special agent of production.

The reasons have often been commented on in passing, and seldomly addressed comprehensively. This paper therefore contributes a critical survey and complementation of those scarce and scattered earlier contributions that addressed the marginalisation of land in economic theory. It further adds to the more common arguments of political struggles, empirical relevance, and formal elegance the broader notion of an intellectual trend in economics — the desire for *analytical homogenisation* or *analytical integration*. It will become clear that many discourses that touched upon the role of land and nature, especially in the *very* long nineteenth century in the history of economic thought, were based on this desire.

In the course of scientific exchange concepts emerge to explain specific phenomena, ones propounded they can take shape within discourse, slowly gaining clearer contours due to reasonable agreements and disagreements in the field. These concepts, ones sufficiently clear in contour were then applied to new and old phenomena in the hopes of finding comparability and compatibility, leading in most cases to higher analytical homogenisation in the hopes to reduce complexity of the real world. Concepts as diverse as utility, scarcity, productivity, diminishing returns, marginalism, differential rent, maintenance, depreciation etc. were increasingly broadly applied. The pursuit of analytical coherence broadened the conceptual scope of economics, but often by narrowing its empirical grounding — particularly its sensitivity to the physical and social complexities inherent in natural agents like land.

Clearly this is a classic interpretation of the history of economic thought and some might see it as a truism of intellectual history⁵, however this truism has important implications for land and natural agents which have not been comprehensively illuminated. The road that leads from the origins of classical political economy to modern economics as its own discipline is paved with

⁵ Not everyone might agree. Social scientists on the side of methodological pluralism don't necessarily express the same desire for analytical homogeneity.

the introduction of concepts, models and theories and the hopes to apply them widely — and although the marginalisation of land within standard economic theory can clearly be understood to have been an unfortunate development, it can also be shown to have been to a large degree a side effect of said desire for analytical homogeneity.

Section 2.2 will summarise and comment on some of the explanations that have so far been offered to explain the marginalisation of land as a distinct factor of production. Section 2.3 is concerned with classical political economy, and its heritage. The focus lies on Ricardian rent theory and the confusion and frustration within its drawn-out reception, cumulating in marginalism. Section 2.4 explores aspects of capital controversies and the idea that land is subsumable in capital. Section 2.5 addresses the question if the marginalisation of land was a universal approach amongst the most eminent protagonists of western economic thought or if there were exceptions, chiefly relating to Marshall. Section 2.6 offers further arguments that have not yet been considered before in the scarce literature on the question and section 2.7 concludes.

2.2 The stories so far...

Hubacek and Van den Bergh (2006) give a detailed and thorough⁶ survey into the changing concepts of land, emphasising not so much a marginalisation of the concept, but a move from “single to multi-disciplinary approaches”. They clearly show that land’s survival at the margin of standard theory and at the core of entire subdisciplines is testament to its qualitative richness — correctly suggesting that the resulting complexity posed a substantial barrier to the desire for analytical homogenisation of neoclassical economics (Hubacek and Van den Bergh 2006, p. 16). Many important aspects of the story and its commentators are mentioned with great clarity — however, crucial moments, for example in rent and capital theory discussions are merely mentioned, while a large part of the paper is devoted to its role in modern subdisciplines.

Another thorough investigation comes from Ryan (2002), who considers the question of how land as a factor of production still features in most introductory textbooks, but immediately disappears in advanced texts. With respect to the marginalisation of land as a factor of production, naturally several arguments are provided, however, mostly focusing on the subsumption of land within capital.

In 1971, Georgescu-Roegen offered a damning critique of neoclassical economics, condemning its total adherence to the mechanical worldview so admired by its founding figures — Jevons,

⁶ This is also the latest account the author can find.

Walras, and Irving Fisher among them. He argued that such a mechanistic approach “can neither account for the existence of enduring qualitative changes in nature nor accept this existence as an independent fact” (Georgescu-Roegen, 1971, p. 1). In his view, it is puzzling that the revolution of thermodynamics did not affect the total devotion of economics to mechanics. He notes that no economic models of the time entail “a variable standing for nature’s perennial contribution” and confine themselves to “Ricardian land, which is expressly defined as a factor immune to any qualitative change” such that we “could very well refer to it simply as ‘space’” (Georgescu-Roegen 1971, p. 2). However, even this spatial dimension appears to have been largely absent from early neoclassical economics. Commentators such as Blaug (1979, p. 21) and Rahman and Dimand (2021, p. 254) note that spatial considerations were effectively ignored by the mainstream of the discipline. Isard (1956, p. 25) famously described this as a bias among pre-1940 Anglo-Saxon economists toward operating in “a wonderland of no spatial dimensions.” In this sense, neoclassical economics not only abstracted from land’s materiality, but often failed to account for space altogether.

Georgescu-Roegen further argued that the focus on money, the centre piece of the “businessman’s view on economic life” veils the physical qualities and everything that nature has to offer that are, according to Karl Marx, provided gratis (Georgescu-Roegen 1971, p. 2) — an argument this paper will substantiate with respect to land and which has been a core aspect in all capital controversies. This argument was echoed in 1989 by Georgescu-Roegen’s former doctoral student Herman Daly, and his co-author John B. Cobb, when they commented on the disappearance of land. A common argument has been that especially the American economists at the turn of the 20th century started to subsume land in capital, based on proclaimed analytical analogies (Daly and Cobb 1989, p. 110; Pasinetti 2015, p. 46). They argue that treating land as a commodity, exchanged in the market like any other good, along with a growing emphasis on monetary income streams rather than the factor itself, has further reduced its role in production.

Another argument put forward is the shift away from landlords as the dominant class in society (Daly and Cobb 1989, pp. 115-116). Industrial capitalism’s quick evolution, with rapidly wealth-accumulating capitalists and increasingly organised labour, left the landlords in a position of weakness. Capitalists had an interest in cheap resources and — just like labour — were in favour of low food prices, as it was an important component for low wages. Adding to this

was — according to Daly and Cobb — the competition for labour between landlords and capitalists. They argue that in the course of this intensifying class struggle landlord's interests were sacrificed to appease the growing divide between labour and capital⁷.

They make a further, novel claim regarding the influence of economic theory on this development. While the physiocrats devised their theory distinctly to proof to the mercantilist system that agriculture, understood as the free gift from nature or the continuous investment in the soil to produce a surplus, was the sole reason for value, classical economists wrote from an industrial perspective emphasising the role of labour in value creation (Daly and Cobb 1989, pp. 109-110). It is argued that the most influential economic theorists, like Smith, Ricardo or Marx, held some sort of labour theory of value which not only diminished the importance of land as providing the free gift of nature, but also framed landlord's income as unearned, leading to contempt from labourers and capitalists alike (Daly and Cobb 1989, pp. 107-111). It is a powerful argument, and, as will be seen clearly holds quite some merit — however it is the aim of the following investigation to show that not solely the notion of a *special* role of any specific factor of production in the value creation process is the reason for land's marginalisation — mainly the moments of analytical homogenisation, when the newly emerging economic principles are broadly applied, shift the focus from any physical or metaphysical conception of a special role in production, to an abstract and homogeneous understanding across all factors of production.

The ideological role of economists in this story has been most staunchly emphasised by Mason Gaffney. A devotee to the reformer, economic autodidact and land value tax campaigner Henry George, Gaffney and Harrison's *Corruption of Economics* (1994) attempts to show that the reason for the disappearance of land from economic theory was driven by an anti-Georgist sentiment in academia. Especially John Bates Clark and the Chicago School are accused of defending the interests of wealthy landowners, who were not only opposed to land taxation, but also major benefactors of certain universities. Neoclassical economics, embodied by its main early contributors, is accused of propagating a view on economics which purges any analytical access to land as a socially embedded and complex factor of production, to avoid addressing Henry George's idea of a single tax.

While the argument is intriguing and the role of ideology and political bias mostly convincing, especially for Clark, it seems overloaded when extended to other persons of interest. As Milgate

⁷ Daly and Cobb do not provide any historic evidence for their claims, but a quick glance at the history of voting rights in Great Britain gives some instantaneous weight to the argument. Between the Reform Act 1867 and Representation of the People (Equal Franchise) Act 1928, franchise based on landed wealth and wealth in general were gradually dismantled.

(1996, pp. 776-777) asserts in a review of the book, the argument, extended to Frank Knight and British economists, relies unduly on the claim of “guilt by association”. While, without a doubt, the Clarkean notion of capital had an immense influence on neoclassical economics, the evolution and eventual establishment of neoclassical economics at the core of modern standard economics, seems too complex to satisfyingly rest on Gaffney’s and Harrison’s political argument alone. Many European authors that equally shaped neoclassical economics, like Marshall, Wicksteed, Pareto and Edgeworth did not seem to be as unfair to George, and in the case of Wicksteed even highly sympathetic (Newton 1971; Blaug 2000).

Other important contributors to the development of neoclassical economics, like Menger, Jevons and Walras seemed to have had their own analytical desires irrespective of the political argument, and yet other key figures and predecessors, like Marshall, von Thünen or Böhm-Bawerk, did not as easily dispose of the idea of land as a distinct factor of production as Clark or Knight did. To explain the marginalisation of land we additionally need to illuminate key moments of the desire for analytical homogenisation in the history of neoclassical economics, with special respect to the emergence of the production function as the core element of standard production theory.

Lastly, the normative and political question of the surplus from land, understood as an unearned increment, has been addressed before. Both Gaffney and Harrison (1994) and Ryan (2002) include it in their explanations, while Stratford (2022) focuses on the normative shift implicit in the different interpretations of rent theory between the classics and modern economics. Gaffney and Harrison in their political antipathy thesis as well as Ryan use it to explain the continuous interest of some economists in the institution of land, as well as a major point of interest for economists working on issues of taxation. The aspect of rent as an unearned increment will therefore receive less attention in this paper and the reader is referred to the large literature on Henry George.

2.3 Classical economics and its reception

2.3.1 Agents of production — the triad vs. original factors

The Physiocrats studied a still mostly agrarian society, emphasising nature’s distinct quality to produce a net product, deeming manufacturing and commerce as “unproductive” — the bounty of nature was the only origin of value, in contrast to the other industries, solely capable of bringing items into physical existence (Hubacek and van den Bergh 2006, p. 7). Writers starting from the early dawn of the industrial revolution in the late eighteenth century — Adam Smith

being at the analytical and synthetical forefront — studied the “commercial society”, which emerged from a fading feudal system. At the core of the analyses were questions of value and prices, economic growth and distribution and, even given the Physiocrats great influence on Adam Smith⁸, the close study of manufacturing and emerging industrial industries.

As common-sense observations are the starting point for many great theories in intellectual history, and the feudal and liberal-commercial orders overlapped for many decades, the relevant economic agents were understood to be landowners, capitalists and workers — the classical triad, providing the economy with the essential factors of production, namely, land, capital as the stock of goods needed for production, and labour. As Schumpeter (1954, p. 531) quipped, “And, not less easily, a triad of incomes emerges to correspond to the triad of factors - rents, wages and profits”. According to him, this triad, against the resistance of some writers, fully establishes itself in the middle of the nineteenth century (Schumpeter 1954, p. 531). The resistance stemmed from writers, like the Physiocrats, who considered some factors of production on a conceptually different footing from the others.

Adam Smith himself “in Chapter 6 of the First Book of the Wealth of Nations...decomposed the price of products into three components: wages, rent, and profit” (Schumpeter 1954, p. 532) and, according to Schumpeter, goes on to suggest that the returns are *not* due to the individual factors’ contribution to production — he rather claims that the landowner’s rent and the capitalist’s profits are deducted from the product of labour, which is solely responsible for the value of the total product. To Schumpeter the only reason for this claim, given the seemingly contradicting real life observation that all factors are needed in production, is a “‘meta-economic’ meaning of an ethical color” which “agrees well with the emotional propensities and the political doctrines of sponsors of the interests of labor...” (Schumpeter 1954, p. 532). Schumpeter may have a point as Smith is commonly not understood to have held an analytically consistent labour theory of value (Dobb 1973, p. 45; Schumpeter 1954, p. 183). He did however, in reference to the Physiocrats and allegedly owing to the pre-industrial setting, believe that agriculture rather than manufacturing was the principle source of wealth (Blaug 1997, p. 35). Although he considered the division of labour to be of utmost importance, agriculture had the advantage of combining the power of the two original factors labour and land (Hubacek and van den Bergh 2006, p. 8). He therefore did not proclaim a clear triad of factors and, like many other (pre-

⁸ Cannan (1894, p. 188) suggests that the entire subject of distribution was added after Smith’s contact with the Physiocrats, leading to the common interpretation that Smith was confused about whether rent was price-determined or price-determining (Buchanan 1929, pp. 126-134).

Classical economists, rather believed in an ordering of importance of factors of production (Hubacek and van den Bergh 2006, pp. 7-13).

Marx, who adopted a complete labour theory of value, “had therefore plenty of reason to rise in wrath against the triad of factors and to condemn it as a piece of vile apologetics that, reducing colorful struggles of social classes to colorless allocations of returns to co-operating factors, emasculated capitalist reality” (Schumpeter 1954, p. 533). Schumpeter, revealing his own tendency for analytical homogenisation, claims that many writers’ reluctance to accept the triad “was due to philosophical or political emotional causes” (Schumpeter 1954, p. 534) and that they “believed that when they were deciding what to ‘recognize’ as an agent, they were dealing with momentous real problems of analysis and, still more important, of social justice” (Schumpeter 1954, p. 535). However, those writers’ anxious reluctance to accept the triad was justified, as doing so began to diminish the importance of the “original factors”, and with it the importance of land. The first step was to focus on the idea that all three factors are needed in production.

David Ricardo⁹, who famously held a labour theory of value himself¹⁰, whatever his reasons may have been, did not rise in the same wrath and rather embraced the triad of factors using them for his special focus on distribution. However, the role of land in his theory holds a curious place. On the one hand he wanted to get to the nucleus of distribution theory, which he believed to be the relationship between wages and profits and therefore meant to “get rid of rent” beforehand (quoted from Bidard and Erreygers 2015, p. 255). On the other hand, he gave land a special place by determining rent to be a surplus outside of production cost, focusing on the unique characteristics of land. Clearly the special focus owes to the historical context of the corn laws (Pasinetti 2015, p. 41; Blaug 1997, p. 105), but also firmly rests on land’s peculiar features of fixity in supply, indestructible differential qualities of fertility and location, and the fact that it provides the space for any socio-economic activity — features that were extensively discussed by those seeking to extend, revise, or outright reject the theory.

Despite the ambiguous role Ricardo gave to land, he analytically embraced the triad. John Stuart Mill, who was during his time “regarded as the embodiment of Ricardian orthodoxy”, would through his “loyal championship (as well as popularisation)” of Ricardo’s main doctrine further

⁹ The author is aware of the persisting struggle surrounding the proper interpretation of Ricardo with respect to the notion of a dual development, as in a break between classical and neoclassical economics (Dobb 1973; Schumpeter 1954), or continuity (Hollander 1996). However, the argument that many aspects of the marginalisation of land as a factor of production are due to a desire for analytical homogenisation of almost all writers of the time and especially the writers reacting to Ricardo seems relatively aloof of the discourse over continuity. Clearly, the following short exposition of Ricardian doctrine however is somewhat necessarily taking sides.

¹⁰ Although even this has been debated in the long history of reception of Ricardo’s doctrine (Blaug 1997, p. 111).

establish the triad amongst English and American economists in the middle of the nineteenth century (Dobb 1973, pp. 96, 121, Warburton 1928). Schumpeter notes a similarly strong influence for Jean-Baptiste Say on the continent (Schumpeter 1954, p. 534). Say is an interesting case when it comes to the establishment of the triad where *all* factors of production work together on a similar footing in the process of production, further contrasting the idea of any one factor being of special importance, and further “generalized ‘land’ into ‘natural agents’ (Schumpeter 1954, p. 534). While his approach did emphasise the physical reality of nature’s prime role in production, it also allowed him to abstract from it almost entirely — he is therefore a predecessor and prime example for the early desire for analytical homogenisation. Say is of further special interest as he was a contemporary and intellectual sparring partner of Ricardo and overall “strongly influenced the reception and dissemination of classical political economy” and “shaped the assessment of Ricardo’s economic theories in France and major parts of Continental Europe, including the German-speaking countries and Russia, for several decades” (Gehrke 2015, p. 499).

Say’s *A Treatise on Political Economy* was first published in 1803, however underwent several changes, especially due to the academic exchange (and dispute) with British economists like James Mill and David Ricardo (Hollander 2017). The fourth edition, the penultimate during his lifetime, published in 1821 was translated into English — here, although Say principally used the classical triad of factors and their incomes (rents, profits and wages), we can see the attempts to generalise the theory of production in economic terms, and the desire for analytical homogenisation along the lines of utility.

At the outset Say starts with a detailed discussion of the physical process of production and notes how the husbandman does not receive his harvest from nothing, but from “a powerful agent; that is to say, of Nature, and merely directs an operation, whereby different substances previously scattered throughout the elements of earth, air, and water, are converted into the form of grains of wheat...industry is nothing more or less than the human employment of natural agents” (Say 2001, p. 27). However, he goes on to argue that although it is an exclusive power of natural agents to create matter, earlier writers were ignorant to believe that no industry other than that “which procured the raw materials” was productive (Say 2001, p. 27). To him it is obvious “that wealth consists, not in matter, but in the value of matter; because matter without value is no item of wealth” (Say 2001, p. 27).

Value is defined as utility, more specifically as “this inherent fitness or capability of certain things to satisfy the various wants of mankind” (Say 2001, pp. 25-26). Based on this notion of

use-value he directly criticises Smith for believing that “all values produced represent pre-exerted human labour or industry, either recent or remote; or, in other words, that wealth is nothing more than labour accumulated” and the Physiocrats for believing that “labour produces no value without consuming an equivalent; that, consequently, it leaves no surplus, no net produce; and that nothing but the earth produces gratuitous value” (Say 2001, p. 31).

Against these notions he argues that a “particular product is rarely the fruit of one branch of industry exclusively” (Say 2001, p. 27) and provides the example of a table, where the agricultural industry provides the wood from felling the tree and the manufacturing industry provides its form, and of coffee where the commercial industry delivers the product to the consumer. Interestingly given the advent of earlier neoclassical and thoroughly marginalist writers, Say qualifies the assertion that these “three branches of industry...may at pleasure be again infinitely subdivided” — he acknowledges the extreme physical diversity of industries and services, but instantly emphasises that “they are uniform in their mode of contributing to the act of production” (Say 2001, p. 27). As he conceives of production as a conjoint process of adding or increasing utility, he does not make a difference between the supposedly *original* factor of natural agents or productive capital as they are “often so interwoven...that it is difficult, or perhaps impossible, to assign, with accuracy, their respective shares in the business of production” (Say 2001, p. 31)¹¹.

As Schumpeter argues, with Say we find a focus on the *services* of the productive agents and therefore a focus on the *pricing* of these services (Schumpeter 1954, p. 534). Daly and Cobb (1989, pp. 113–117) argue that the emphasis on rent, rather than on natural agents and their physical characteristics, shifted analytical attention away from the factors of production themselves — and from their inherent and potentially significant heterogeneity — toward the monetary valuation of the services they render.

One important aspect in the marginalisation of land is not merely the increased abstraction in economic analysis, expressed in the growing emphasis on prices rendered in monetary terms — although that may be seen as one of its consequences. Rather, it concerns the long, contested,

¹¹ In fact in that sense, the famous recurring subsumption argument is already foreshadowed in Say: “The labour performed by natural agents, and that executed by pre-existent products, to which we have given the name of capital, are closely analogous, and are perpetually confounded one with the other: for the tools and machines which form a principal item of capital, are commonly but expedients more or less ingenious, for turning natural powers to account [sic]. The steam engine is but a complicated method of taking advantage of the alternation of the elasticity of water reduced to vapour, and of the weight of the atmosphere. So that, in point of fact, a steam engine employs more productive agency, than the agency of the capital embarked in it: for that machine is an expedient for forcing into the service of man a variety of natural agents, whose gratuitous aid may perhaps infinitely exceed in value the interest of the capital invested in the machine” (Say 2001, p. 36).

and at times confused period of assimilation that followed the formulation of the Ricardian rent theory. What follows argues that the debates surrounding the law of rent not only contain numerous moments of analytical homogenisation, but also reveal a distinct sense of frustration arising from the protracted and often inconclusive process of scientific deliberation on this complex aspect of economic theory. In this sense, the move toward homogenisation was not simply a methodological choice, but also the result of a deeper analytical frustration — one rooted in the struggle to stabilise and formalise an unruly concept. A frustration, it could be said, that lingered unresolved over more than a century: from 1815, when “all influential scholars became convinced that political economy had at last been enriched by a solid theory of rent” (Pasinetti 2015, p. 40), to 1928, when Cobb and Douglas concluded their now-classic paper by proposing to incorporate “the third factor of natural resources” in the hope of seeing “what light it throws upon the laws of rent” (Cobb and Douglas 1928, p. 165).

2.3.2 The Ricardian theory of rent: debates, confusion, and analytical consequences

Although most of the criticism levelled at Ricardo after his death, as Dobb (1973, p. 98) notes, was directed primarily at his theories of value and profit — with his theory of rent receiving comparatively less attention — this exposition concentrates on the essential elements of his rent theory, given its immediate relevance to the role of land. Where appropriate, however, aspects of the theories of value and distribution will also be discussed. The aim is to highlight how the drawn-out reaction to Ricardo, and in extension to Smith as the most influential classical economists, in different areas of economic theory led to the marginalisation of land.

Ricardo made use of two important arguments that emerged from the debates on the corn laws¹² ¹³. One principle was that of the differential rent, firmly resting on the assumption of differences in quality of fertility or location, even in static conditions. The produce of the least productive land under cultivation still has to pay for the expanded capital and labour — therefore any land of higher quality will provide a surplus called rent, with the land on the margin of cultivation paying no rent at all. Implicit is the assumption that only agricultural land is considered and that it is overall scarce. The second argument is that of diminishing returns to scale in agriculture. In a dynamic context the extensive margin arises — the assumption being that due to rising demand for agricultural produce, land of consecutively lesser quality will be cultivated, leading to diminishing returns to the increasing factor land, in turn also leading to differential rent. On the intensive margin it is assumed that consecutive doses of the homogeneous compound factor

¹² The five famous essays by Malthus, West, Torrent and Ricardo, which appeared in the span of three weeks of February 1815 (Pasinetti 2015, p. 36).

¹³ The following summary is based on Blaug (1997), Pasinetti (2015), and Bidard and Erreygers (2015).

capital+labour¹⁴ to the same plot of land, holding land equal, will lead to diminishing returns. The result is that the previous, more productive dose of capital+labour, gives rise to rent compared to the last and less productive dose. In Ricardo's words "rent is always the difference between the produce obtained by the employment of two equal quantities of capital and labour" (Ricardo 1817, p. 71). Ricardo explicitly assumes away sufficient technological progress in agriculture, meaning that the law of diminishing returns remains in effect, regardless of any increasing returns to labour and capital in manufacturing (Pasinetti 2015, p. 43). Therefore, Ricardian rent emerges as a consequence of differential quality as well as scarcity of land (Hübacek and van den Bergh 2006, p. 9).

Although all the important elements of the economic rationales involved in these arguments are intricately interwoven, a systematic — though suggestive and not exhaustive — approach to tracing them through the discussion of the following century, may be helpful to unveil the role the different concepts made in abstracting away from land in the process. What Kurz (1999) argues concerning the role of *intensive* diminishing returns and the differential argument over all with respect to the genesis of marginal productivity theory, applies to several of these important aspects: "Obviously, the idea of the universal applicability of that principle did not emerge suddenly in the early 1870s but was elaborated in the course of a process stretching over some five decades from the 1820s onwards" (Kurz 1999, p. 130).

2.3.2.1 Scarcity

Scarcity, with respect to land, would play an exceptional role in the analytical homogenisation of land and capital. As another perspective on the fixity of the supply of land, it touches upon the question of permanence, exhaustibility, and maintenance; perpetual differences in quality (like location and fertility) distinct from other factors of production; elasticity of supply and substitution; as well as the historical perspective of the availability of arable land in an "old" and in a "new" country.

The focus on scarcity — long associated with economics as the "dismal science" and later championed by Lionel Robbins as its chief ordering principle (Backhouse and Medema 2009) — was central to Ricardo's theory of value. In his view: "Possessing utility, commodities derive their exchangeable value from two sources: from their scarcity, and from the quantity of labour required to obtain them" (Ricardo 1817, p. 12). This marked a shift from the Physiocrats and Adam Smith, who emphasized land's unique ability to generate a surplus in the form of rent.

¹⁴ As labour and capital are applied to land in fixed proportion one could also speak of a two-factor model.

However, Ricardo corrected Smith's assumption that agriculture was inherently the most productive sector. Instead, he argued, according to Hollander, that rent was not simply a reflection of productivity but also of scarcity conditions — if land were more abundant, rent would fall to the benefit of workers and capitalists. Likewise, if natural forces became scarce in manufacturing, a form of rent would emerge at the expense of wages and profits (Hollander 2017, p. 11). Schumpeter, in shock of the “primitivity of the analytical apparatus of the time” and the discussion of Ricardo and Malthus about “whether the rent of land owed its existence to the ‘bounty’ or the ‘niggardliness’ of nature” resorts to an exclamation of disbelief how “two able men could actually discuss whether the return of a factor is due to its productivity or its scarcity!” (Schumpeter 1954, p. 511). According to Schumpeter, Say, while rallying the principle of utility, did not consistently¹⁵ add scarcity to his theory of value either (Schumpeter 1954, p. 571).

Nassau William Senior, the first professor of political economy at Oxford, lecturing before 1830 and publishing his *Outline of the Science of Political Economy* in 1836, followed J.B. Say in treating value as depended on utility, but added scarcity and transferability as the most important aspects (Dobb 1973, p. 106). Senior, other than adding scarcity as an all-encompassing ordering principle early on, possibly contributed to the marginalisation of land in another, rather peculiar way. Singling out land and nature, he anticipates arguments of subsuming land in capital in a reverse order and further treating the factors of production on an equal footing with a focus on the payments. Against Ricardo's theory of profits as a residual after subsistence wage payments, Senior, subscribed to an abstinence theory of profits (Dobb 1973, pp. 103-104). According to Dobb (1973, p. 104) Senior argues “that Labour and Nature are the only primary productive powers”, but they need abstinence, “which stands in the same relation to Profit as Labour does to Wages”. An interesting qualification follows:

Capital continually tends to approximate to Land (and hence Profit to Rent) by losing its mobility once it is invested in durable goods....'for all useful purposes, the distinction of profit from rent ceases as soon as the capital from which a given revenue arises has become, whether by gift or by inheritance, the property of a person to whose abstinence and exertions it did not owe its creation. The revenue arising from a dock or a wharf or a canal, is profit in the hands of the original constructor. It is the reward of his abstinence in having employed capital for the purposes of production instead of for those of enjoyment. But in the hands of his heir it has all the attributes of rent. It is to him the gift of fortune, not the result of a sacrifice' (Dobb 1973, p. 104).

William Jevons did subscribe to the classical treatment of rent (Stigler 1941, p. 15), however, applied the scarcity principle in a way which foreshadowed the marginal productivity theory

¹⁵ An interesting exception is his understanding of land rent being almost exclusively the result of scarcity and demand (Hollander 2005, p. 54).

which would place all factors of production on the same footing. Stigler (1941, p. 15) argues that Jevons “emphasizes the fact that no productive agent — he speaks specifically of labor — is a cause of value...He sees with increasing insight in the second edition that all productive factors bear the same relationship — that of scarcity- to value” — Stigler quotes Jevons :”We must regard labor, land, knowledge, and capital as conjoint conditions of the whole produce, not as causes each of a certain portion of the product” (Stigler 1941, p. 15).

2.3.2.2 The law of diminishing returns — fertility and location

Pasinetti (2015, p. 44) argues that “unlike the theory of rent, the Law of diminishing returns in agriculture did not meet general acceptance, even at the time it was presented” and thereafter. The law was contested for several reasons, both on the intensive and the extensive margin. James Anderson (1777), who had priority in propounding the argument of differential rent¹⁶, argued against the law of diminishing returns based on personal agricultural experience. He agreed that in the process of population growth inferior land would be brought into cultivation, but argued that the productivity of the soil would, due to sensible agricultural practices, increase over time (Pasinetti 2015, p. 41). While Anderson believed in the eventual enhancement of the *quality* of the *soil* to increase, other commentators related to historical empirical evidence for England and argued that general technological advances in agriculture refuted the law of intensive diminishing returns (Pasinetti 2015, p. 44).

However, Ricardo carefully assumed away sufficient technological progress and, according to Marshall, spoke “carelessly as though there were an absolute standard of fertility” (Marshall 1920, p. 136) — famously encapsulated in the phrase that rent “is that portion of the produce of the earth, which is paid to the landlord for the use of the *original* and *indestructible* powers of the soil” (Ricardo 1817, p. 67, own emphasis). Over a hundred years later this phrase was still the subject of debate (Kaldor 1937). It was interpreted in two ways. Firstly, that land is fixed in total supply¹⁷, secondly that its fertility, the power of the soil, is fixed. As argued, this view had been attacked by Anderson, who believed in the improvement of the soil. Based on breakthroughs in chemistry, like those of “Justus Liebig and other agricultural chemists of the 1840s combined with the observable depletion of American soils by one-crop farming” gave many commentators, including Karl Marx, reason to believe that the soil could be *depleted* (Hubacek and van den Bergh 2006, p. 12). While this would at first sight support the idea of diminishing returns to agriculture, is also meant that fertility could be understood as the product

¹⁶ Although apparently unknown to the authors of the famous five essays (Pasinetti 2015).

¹⁷ This issue will be further addressed in the context of the capital debates.

of human investment and therefore open to conscious improvement — this was a cornerstone of the argument, especially of American economists towards the end of the nineteenth century, that land was analytically close to capital.

On the extensive margin historical evidence was rallied — for example by H.C. Carey (1837) — against the idea that cultivation regressed from the best to the worst soil, as settlers in the United States clearly did not pay strict attention to the absolute fertility of the plots first brought under cultivation (Pasinetti 2015, p. 44). A question debated for decades. However, in his *Principles* Marshall came to Ricardo's defence arguing that Carey misinterpreted Ricardo. Any confusion "was due not to careless thinking but only to careless writing" resulting in an inexact "wording of the law of diminishing return" (Marshall 1920, p. 136). According to Marshall, it should have been obvious to faithful critics of Ricardo, that he was not concerned with an absolute standard of fertility. New settlers seek out the land best adapted for their purpose, promising the highest returns — they would not just consider the fertility of land, but also its security from "enemies and wild beasts" and the distance to markets (Marshall 1920, p. 136). This point equally applies to England as farmers focus on the value in exchange, rather than the total product (Marshall 1920, p. 137). However, he asserts that "Ricardo, and the economists of his time generally were too hasty" in not accounting for the positive effects of increased organisation, the fourth factor of production that Marshall introduced (Marshall 1920, p. 137). The effect of increased population, even in an "old" country like England, did not necessarily lead to diminishing returns on the extensive margin, as disadvantages from working decreasingly fertile land could be counteracted by increased access to demand, infrastructure, knowledge, other necessities, and enjoyment (Marshall 1920, p. 137)¹⁸.

Interestingly, compared to fertility, location was not as vehemently debated. While the permanence of soil quality was open to discussion, the invariability and inherent heterogeneity of location could hardly be denied. Pre-World War II neoclassical economics mostly abstracted from spatial features, with Marshall, as per usual, being an exception¹⁹ within the neoclassical tradition. However, many classical economists — still thoroughly preoccupied with the physical aspects of production — did touch upon the subject.

Smith for example acknowledged that the "rent of land not only varies with its fertility, whatever be its produce, but with its situation, whatever be its fertility" (Smith 1776, p. 126). Similarly, Ricardo acknowledged the specificity of location even in comparison to other aspects of

¹⁸ Marshall's careful differentiation between the individual and social aspects of the factor land will be discussed in detail in section 2.5 (p. 51 ff).

¹⁹ Most likely owing to the influence of von Thünen's writing (Groenewegen 1995, pp. 150-153).

quality and quantity arguing that if “all land had the same properties, if it were unlimited in quantity, and uniform in quality, no charge could be made for its use, unless where it possessed peculiar advantages of situation” (Ricardo 1817, p. 70). These qualitative considerations, common to classical economists, were abstracted from in the advent of the “marginalist revolution”. A curious special place is occupied by the authors who Blaug (1979) termed as the pioneers of “the German hegemony of location theory” most distinctly related to the work of Johann Heinrich von Thünen.

As described by Blaug (1979) and Kurz (1999), von Thünen (1826) too considered differences in fertility and location, as well as extensive and intensive diminishing returns in agriculture. However, in his basic model differential rent of homogenous land arises solely due to differences in location, or more specifically distances from the market, highlighting the importance of transportation costs. An intricate systematic analysis is employed considering perishability, weight, and bulkiness. Nevertheless, this special focus on the locational quality of land was a curious exception. Even the more specific discussion surrounding the analytical comparability of land and capital during the capital debates, abstracted from location. In any case, and somewhat curiously, one could argue that the analysis of von Thünen, irrespective of its focus on location, assisted in the marginalisation of land as a factor of production as it was employed in highly theoretical terms (Blaug 1979, p. 24), employed marginal reasoning and “assumed general applicability of the principle of scarcity rent to the explanation of all distributive variables” (Kurz 1999, p. 143).

The combined application of the marginal principle and the law of diminishing returns — both inherent in Ricardo’s theory of differential rent — was later taken up in what is commonly called the marginal revolution. However, as Pasinetti (2015, p. 46) emphasizes, the marginal revolution applied these concepts exclusively to the intensive margin: “The principles of diminishing returns were thereby shaped in the form of diminishing returns to changing proportions” of factors, understood as substitution — this process increasingly demanded a conception of homogenous factors of production and “a series of assumptions were introduced in order to assimilate the characteristics of all factors of production (and, most of all, of capital) to the characteristics of land” (Pasinetti 2015, p. 46). The result was the neoclassical marginal productivity theory and the emergence of the two-factor neoclassical production function.

2.3.3 The expansion of rent theory: marginalism and production functions

The following will directly inspect two seminal contributions to the literature. John Bates Clark’s *Distribution as Determined by a Law of Rent* (1891) and Philip Wicksteed’s *An Essay*

on the Co-ordination of the Laws of Distribution (1894). Clark is a key figure in this discussion, as he was the primary proponent of the idea that land could be subsumed under capital, while Wicksteed played a crucial role in developing the concept of production functions and the equal treatment of factors of production.

To perceive production as a process expressible in functional form has been common, both implicitly and explicitly, before Philip Wicksteed (Humphrey 1997; Lloyd 2001). However, it could be argued that Wicksteed gave the first thoroughly mathematical formulation in the context of marginal productivity theory, in any case the first with n goods and n factors (Blaug 1975, p. 48), and continues the tradition of increasingly viewing factors of production on the same analytical footing. His 1894 Essay is seen as a milestone in the history of the marginal productivity theory (Stigler 1941, p. 323; Blaug 1997), at the very least owing to the seminal contribution to the “adding-up problem” and the continued discussion this arose into the 1930s (Blaug 1997, p. 419; Robinson 1934). The adding-up problem addresses the internal consistency of marginal productivity theory and posed the general question: if all components were paid their marginal product and were added up, would they completely exhaust the total product — an issue specific to the marginal productivity theory, as classical distribution theory explicitly worked with residuals (Stigler 1941, XII). The drawn-out discussion that followed, but will only be touched upon, is interesting in three regards for this story.

Firstly, the discussion — which included key figures in the history of economic thought (i.e. Barone, Pareto, Marshall, Edgeworth, and Wicksell) — was thoroughly theoretical and, to a large extent, mathematically formal. Yet more than its formalism, it was the abstract character and law-like framing of marginal productivity theory that defined the debate. This is perhaps best captured in a footnote from Joan Robinson’s later reflection on the controversy:

For most of the contemporaries of Wicksteed (though not, I think, for Marshall) the ‘theory of marginal productivity’ was a formulation of a somewhat mysterious law of nature. For the modern economist it is merely a series of self-evident propositions displaying the implications of the initial assumption that the individual employer acts in such a way as to maximise his profits. It is this fundamental difference in point of view which gives what appears to the modern reader such a perverse and fantastic character to the controversies surrounding the ‘adding-up problem’ (Robinson 1934, p. 400)

However, the process — as will be seen, and as is characteristic of marginal productivity theory — involves a further abstraction from any physical heterogeneity of factors. The formulation of production functions along formalistic lines, including the application of mathematical theorems such as Euler’s theorem, led to the adoption of several assumptions that effectively homogenised the factors of production.

Secondly, inherent in the adding-up problem is the ambiguity surrounding the role of the entrepreneur. As Robinson puts it, how “can we be certain that, when the factors have been paid, the residue which is left over measures the contribution of the entrepreneur?” (Robinson 1934, p. 398). The discussion that followed emphasised the entrepreneur’s role in contrast to the other factors of production — again diminishing the distinctive status of land. Clark and Wicksteed both addressed this issue in their seminal contributions discussed in this chapter, and each introduced rather radical assumptions.

Clark simply argued that “in static conditions the entrepreneur makes no specific contribution, so that in fact the earnings of entrepreneurship are always tending to approach zero” while Wicksteed assumed, among other things, a homogenous function of the first degree paired with constant returns, thereby avoiding the question altogether (Robinson 1934, pp. 398-399). Under conditions of constant returns, normal profits, perfect competition, and the absence of uncertainty, there is no meaningful distinction between being an employer or an employee: “‘entrepreneurs’ are seen as mere hiring agents” remunerated according to the marginal product like any other imaginable factor (Steedman 2018).

All these responses and assumptions were subsequently challenged, leading to a third influence on the marginalisation of land: the debates surrounding perfect competition and the laws of return. The imperfect competition revolution, as will be argued, also shifted attention away from land. On the one hand, it questioned the assumption of perfect competition on empirical and theoretical grounds; on the other, it redirected focus toward the behaviour of the individual firm within an industry, placing less emphasis on the role of distinct factors of production or the social classes traditionally associated with them. It will further be shown that this shift brought about a significant redefinition of the concept of rent.

2.3.3.1 Phillip Wicksteed’s *An Essay on the Co-ordination of the Laws of Distribution* (1894)

Wicksteed was — quite naturally, given the moment in time — not merely concerned with solving the adding-up problem, but was primarily occupied with extending the “principle of rent” into a fully general theory of distribution (Steedman 2018, p. 47). His aim was to show that the classical economists — chiefly Ricardo — had overlooked what he saw as the obvious. In Wicksteed’s view, earlier writers had implicitly grasped the differential and marginal concept, but failed to carry out a conscious analysis that would lead to the ‘correct’ understanding of distribution: one in which all factors are rewarded according to their marginal productivity,

given utility-maximising consumers. He specifically criticises the tendency of earlier writers to use laws of distribution which were not comparable:

For in order that this may be possible it seems essential that all the laws should be expressed in common terms. As long as the law of rent, for example, is based on the objective standard of fertility of land, while the law of interest is based on the subjective standard of estimate of the future as compared with the present, it is difficult even to conceive any calculus by which the share of land and the share of capital could be added together and an investigation then instituted as to whether the residual share will coincide with what the theory assigns as the share of wages (Wicksteed 1894, p. 7).

Another moment of desired analytical homogeneity. To Wicksteed, emphasising the factors heterogeneity will not lead to a satisfactory analysis and therefore the solution lies in focusing on “the common fact of service rendered” not on “the special nature of the services rendered by several factors of production” (Wicksteed 1894, p. 7). Therefore, Wicksteed acknowledges the existence of several heterogeneous factors of production — of which land, capital and labour are the “great factors” (Wicksteed 1894, p. 7) — but at the same time aims to unite them in a common framework of marginal analysis.

When he moves on to set up the production function, he explicitly considers n goods and n factors — even risk and some other non-physical concepts like goodwill enter as factors of production (Wicksteed 1894, pp. 12-13, 33-34, 47,42). Given an “indefinite” number of factors of production — considering the consumer side as part of the same scheme — and conditions “usually regarded as normal, the marginal distribution exhausts the product” and “every factor has taken a share regulated by its marginal efficiency, there is nothing left, [...]” (Wicksteed 1894, pp. 46-47). In this way Wicksteed denies the idea that “a ‘surplus’ exists over and above the marginal distribution” and criticises the habit of “confusing heterogeneous factors” (Wicksteed 1894, 46). Continuing the tradition of focusing on the services rather than the factors, he criticises the — to him faulty — idea of a surplus as the result of confusing managerial skill or other harder to grasp factors of production like monopoly power with “some special building or machinery with which they happen to be associated” (Wicksteed 1894, p. 46).

He still considers one function of land to be that of an *area*. In contrast to Say’s detailed discussion of natural agents in production, Wicksteed’s notion of land does not champion nature as an essential requisite of economies beyond that of agricultural land or construction area — Wicksteed focuses on the analytical comparability of all factor’s contribution. Therefore, in the exposition of the classical rent theory, which he aims to reconcile with the marginal productivity approach, he goes on to consider — just like the classics did with capital+labour — that doses

of a compound factor of production measured in a complex unit, like pound sterling, is applied to units of land, measured in its own unit²⁰.

Towards the end of the exposition Wicksteed discusses the legitimacy of the assumptions concerned, relating to land in a different way. The idea of measuring heterogeneous factors of production in monetary terms for the sake of analytical homogeneity is defended based on competitive markets for the productive services of those factors of production. It is therefore “perfectly legitimate to start with a unit of land, assume that the command of the other factors of production is so exercised as to secure the maximum productive result, and then treat the product as a function of land and pounds sterling” (Wicksteed 1894, p. 39). However, he directly qualifies that this is not to be mistaken with giving land a special role as it can be more convenient and equally legitimate to express “labour of some special kind in its own unit, and land, machinery, and perhaps even other kinds of labour itself, in terms of their market value in £ .s.d.” (Wicksteed 1894, p. 39).

He further emphasises the analytical equality of the factors of production — implying the non-exceptionalism of land — by pondering on the term capital and its use in economics. He warns the reader not to call everything subsumed under the common-measure “capital, and then talking of ‘capital’ as a factor of production co-ordinate with land and labour” (Wicksteed 1984, p. 40). To him capital, if anything, is the sum of all the factors of production for “when we proceed to use ‘capital’ in another sense, viz., to signify all the factors except land and labour, its old associations hang about it, and we come insensibly to think that there is some intrinsic propriety in thinking and arguing about land as measured in its own unit of acres, labour as measured in its own unit of hours, and machines, buildings, tools, power of waiting for results, etc., etc., as measured in units of gold!” (Wicksteed 1984, p. 40). This seems to be the end of the traditional triad for Wicksteed and in fact any special roles among the factors of production. The marginal conception of value in production (and consumption) challenges earlier notions of value rooted in the “gift of nature” or the “sweat of labour”. This marks the first step towards a production function devoid of any natural agents.

²⁰ Stigler (1941, p. 330) argues that “his proof in form of only two factors seems rather clearly to be dictated by the limitations of plane geometry”. This sentiment is later echoed by Solow (1955), who, in his response to Robinson’s critique of the neoclassical aggregate production function, asks: “Why does there have to be a useful concept of capital-in-general at all?” and follows with the now-famous quip: “True, one feels that if God had meant there to be more than two factors of production, He would have made it easier for us to draw three-dimensional diagrams” (Solow 1955, p. 101).

2.3.3.2 J. B. Clark's *Distribution as Determined by a Law of Rent* (1891)

Clark's 1891 article *Distribution as Determined by a Law of Rent* argues that the Ricardian law of rent "has become an obstacle to scientific progress: it has retarded the attainment of a true theory of distribution" (Clark 1891, p. 289). However, according to Clark, and as also argued by Wicksteed²¹, it provided the analytical tool necessary to formulate a general law of rent: the idea that "differential gain" governs not only rent, but also wages and interest. As Clark puts it, "Interest as a whole is rent; and even wages as a whole are so [...] both of these are rents, or differential products due to permanent agents" (Clark 1891, p. 289).

He believes — and herein lies the origin of the two-factor neoclassical aggregate production function — that in a static world, which he believes can be considered by scientific abstraction²², interests and wages can account for the whole product of society²³. Therefore, from an analytical perspective Clark believes to be able to subsume land with capital, as wages and interest account for the total product and therefore for the rent of land as well: "In this respect they are analogous to the income from land as it appears in current theories, and they in fact include that income with others" (Clark 1891, p. 289).

Clark argues that the Ricardian approach to restrict rent to the product of land stemmed from the idea that "the income afforded by things that are artificially made tends to conform to the cost of making them" (Clark 1891, p. 291). However, "land is not produced and has no normal cost" which allowed the classics to consider its product to be independently fixed: "While the annual income derived from a house tends to become a certain fraction of the value of it, the market value of a piece of land tends to become a certain multiple of its annual earnings. The cost of the thing is the starting-point of the calculation in the one case, and the income is the fixed element in the other" (Clark 1891, p. 291). This "seemingly radical distinction [...] will vanish" as Clark's analysis proceeds — an analysis in which capital is treated as a homogeneous fund and the principle of marginal substitution regulates a uniform rate of interest (Clark 1891, p. 291).

²¹ Clark is chronologically prior to Wicksteed, who himself does not claim primacy in thought, but in rigorous exposition: "Recent economic studies have displayed a marked tendency towards a complete recasting of the Theory of Distribution; but I am not aware that any satisfactory attempt has been made to state what may be called the new theory of Distribution in its entirety...In this essay I have tried, without any claim to originality, to mark out the field which such an enquiry must cover, and at the same time to offer the rigorous demonstration of some of the fundamental propositions of the new theory" (Wicksteed 1894, p. 3).

²² Clark believes this to be a realistic abstraction: "We must in this way create for our own purposes an imaginary state, in which for a time social forces and relations are stable. Yet we make in this way a study that is completely realistic, since the static forces are dominant in the world of actual business" (Clark 1891, p. 290).

²³ Only in a dynamic context does "pure profit" enter.

He asserts that there are two views on capital. One that considers concrete capital — which would soon after be called “physical capital” — which to him is of little use in theory, and the other one of “pure capital”. Interestingly, land is part of that pure capital as he believes that “in a static view pure capital is a fund of a given amount invested partly in land and partly in made instruments” (Clark 1891, p. 304). Pure capital, or “Social capital is a fund of wealth fixed in amount, though invested in a shifting list of things” (Clark 1891, p. 301). However, he does acknowledge a specific sense in which land is exceptional, particularly when explaining how the physical notion of capital is subsumed within the pure capital approach. Pure capital — i.e. this shifting list of things — can perish if it is not continuously maintained:

If an instrument is ill adapted to the service demanded of it, it will be replaced, whenever it is worn out, by a better one. Like the vital tissue of plants and animals, concrete capital, except in the case of land, perishes and is renewed; and the new tissue is sound and adapted to its purpose (Clark 1891, p. 301).

The economic rationale — the idea of depreciation — is used to generalise, however a curious exception for land cannot be avoided. When he anticipates the argument against his theory, that there is no-rent land — marginal land of the lowest productivity which just about covers the expenses of working it — but no no-interest capital and “that land and artificial instruments are in this way radically unlike”, he explains:

Good land, on the one hand, and good buildings, etc., on the other, embody pure capital; and this always pays interest. The poor land and the poor buildings, etc., embody no pure capital, and [...] yield no interest. The true difference between land and other things does not lie here (Clark 1891, p. 315).

This “true difference” however is not further explained in the text and Clark seems to simply *believe*²⁴ that land, even acknowledging its special role, can be subsumed in “pure capital”.

The concept of pure capital, or less specifically a homogeneous capital fund, was to become a very influential notion sparking debate. When arguing about the theory of capital and interest, naturally — even if only as a side issue — the question of land as a distinct factor of production arose. The following section gives insights into the capital debates around the turn of the century. The main protagonists were American economists whose concept of “Clarkian” pure capital clashed with proponents of another influential capital theory of the time — the Austrian concept of roundaboutness, represented most prominently by Eugen Böhm-Bawerk. The debate continued into a second generation of protagonists, with Frank Knight representing the Ameri-

²⁴ For the role of faith in the context of the capital controversies — and a considerable list of authors full of faith — see Cohen (2010). For the role of normativity in Clark, see Schroeter (2022); and specifically for the role of land, see Gaffney and Harrison (1994).

can pure capital tradition and Friedrich Hayek advocating for the Austrian physical capital perspective. Irrespective of who might be considered the ‘victor,’ a clear outcome was the continued entanglement of land within capital theory. This had two significant consequences for land as a factor of production. First, it reinforced the tradition of subsuming land under the category of capital during the first half of the 20th century, when capital theory remained central to economic analysis. Second, as capital theory lost prominence in the latter half of the century, land too receded further from view — culminating in its near-total irrelevance within neoclassical growth theory, which largely abandoned capital theory altogether.

2.4 The nature of capital and nature in capital

At the end of the nineteenth century Ricardian rent theory loomed over economics like an old ghost and attracted widely differing sympathy. Earlier mid-century American economists, like Carey, rejected the Ricardian notion of rent and land as distinct from capital (Ryan 2002, p. 10). They believed that the American experience of vast space and plentiful cultivatable land on the one hand, and different socio-economic circumstances on the other, made the theory born out of the old, crowded continent with its strict social class structure, inapplicable (Ryan 2002, p. 10). With American economics professionalising towards the end of the nineteenth century, gaining prestige in the old centres of economics, John Bates Clark’s 1899 publication *The Distribution of Wealth*, as well as several articles of Frank Fetter at the turn of the century sparked debates concerning the nature of capital and with it the role of land in economic theory (Ryan 2002, p. 11).

Just like other analytical threads illuminated in this paper, the question if land was distinct from capital had been addressed before Clark, and some of the arguments for analytical homogenisation appear in different places across time. For example, F.B.W. Hermann, like von Thünen a German predecessor of marginalism, referred to “Smith’s definition of capital as comprising those valuable things which, while they exist, yield their proprietors an income” to argue for the subsumption (Kurz 1999, p. 132). To him it is

astonishing that he [Smith] does not reckon land amongst the capitals, although it is a good which continues to exist while it yields an income” (Hermann 1832:48). To this Hermann adds the observation that in civilised nations most plots of land have been modified by capital investments and therefore have gradually assumed the nature of capital (Kurz 1999, p. 132).

The focus on the continues revenue streams predates the later focus on streams rather than factors of neoclassical marginalists, and the argument that land had been improved by previous

investments of capital and labour paralleled that of earlier writers, like Ricardo or Marx, perceiving capital as stored up labour. It would also be an argument repeatedly mentioned to argue for the subsumption of land in capital (Blaug 1997, p. 82).

Ryan (2002) describes several further arguments emphatically put forward by American economists like Fetter and Irving Fisher. One argument was the irrelevance of the difference for the regular business practices (Ryan 2002, p. 12). In 1928 Clark Warburton surveyed American textbooks from the start of the nineteenth century up to the late 1920s to compare the economic terminology with respect to factors of production and distributive shares. He noticed a tendency of economists to align their theories with the practical habits of businesses to group payments from the same sort of productive element or to simply distinguish types of property (both capital and land) according to the mode of calculation.

This tendency curiously relates to a point made by Daly and Cobb (1989, p. 98) about Richard T. Ely, founder of the American Economic Association, who published an *Outline of Land Economics* (1922) where he “expressed his puzzlement about the neglect of land by economists” given the obvious fact that it is a requisite of production. In line with the argument of this paper Daly and Cobb comment that

Some clue to the lack of attention to land as a factor of production can be found in Ely’s treatment, especially the process of abstraction that goes on as he defines his task. He notes, first, that “land, as used by economists, means the forces of nature so far as they have economic significance.” He then points out that land is studied by many disciplines so that the question for land economics is the distinctiveness of the economic approach. “What is it that marks out a field for land economics? It is the concept of property” (p. 3). In a footnote he comments that his original intention was to entitle the work, “Landed Property and the Rent of Land (Daly and Cobb 1989, p. 98)

Land’s physical distinctness is abstracted from in an economical-analytical sense and a legal-terminological sense. This alignment between economic theory and business practice — visible, for instance, in balance sheet terminology and the tendency to express inputs in homogeneous, often monetary units — would later lend itself neatly to the empirical turn in economics.

Another argument was that land, when viewed from a dynamic perspective, could be considered augmentable and therefore not fixed in supply. It was claimed that new land could be developed through human effort to yield constant revenue streams, making it — in this respect — indistinguishable from capital. This reasoning later served to justify the full abstraction from land in economic models. For instance, in his foundational contribution to growth theory, Solow (1956, p. 67) — whose model would become a workhorse of neoclassical economics — explicitly

excludes land from the production function, assuming instead that there is “no scarce non-augmentable resource like land”. He justifies this by noting that constant returns to scale are “the natural assumption to make in a theory of growth”, whereas including land would introduce decreasing returns and make the model “more Ricardian”. In a footnote, he further qualifies the assumption, suggesting that the model still applies to cases where “arable land can be hacked out of the wilderness at essentially constant cost” (Solow 1956, p. 67).

These arguments — that land is neither fixed in supply nor original in any fundamental sense — were also directed at the Austrian theory of capital, with Böhm-Bawerk at the forefront in defending the distinct role of land on multiple grounds. The Austrian School, originating with Carl Menger, introduced the concept of marginal utility in his *Grundsätze der Volkswirtschaftslehre* as early as 1871. Böhm-Bawerk expanded this framework by developing the Austrian theory of capital and interest, most notably through his concept of “roundaboutness”. This refers to the idea that production unfolds over time, with original factors (land and labour) used to produce capital goods, which in turn generate final output across time (Blaug 1997, p. 480). In this context, Böhm-Bawerk insisted on treating land as a distinct factor: fixed in supply, costless, immobile, and yielding a qualitatively different income. He viewed land’s role as unique both in the production process and in the social structure. This insistence led George Stigler to dismiss the position as “classical and naive”, arguing that under static assumptions, all factors are fixed in supply (Stigler 1941, p. 193). According to Stigler, even Menger questioned Böhm-Bawerk’s consistency in “calling all land ‘land’, no matter how much capital and labor have been extended upon it, while other natural products – fruit, wild trees, etc.-are reckoned as capital as soon as labor has been expended upon them” (Stigler 1941, p. 193). Böhm-Bawerk, however, stood by his distinction, calling the inconsistency “unavoidable and healthy” and “the distinction between capital and land as too important to abandon” (Stigler 1941, p. 193).

However, Ryan (2002, p. 12) notes that proponents of the subsumption argument, such as Fetter, may have misunderstood Böhm-Bawerk’s point about the differentiation of goods based on their “permanence” or “non-reproducibility”. In this context, Gaffney (2008, p. 122) argues that the Austrians retained an insight originally emphasized by Ricardo, but later ignored by modern economists sceptical of Ricardian rent theory. Ricardo had noted that value varies with the durability of capital — an observation the Austrians implicitly respected through their definition of the “period of production”. Within this framework, land is necessarily distinct from capital, as it has no “period of production”.

The question is therefore not just one of fixity of supply, man-made or not, but also one of permanence and non-permanence, all with respect to the static and dynamic dimensions. This round of debate (Fetter criticising Böhm-Bawerk) at the turn of the century, was carried over into a second generation of economists and again features the strong will to homogenise along economic terms to overcome the more complex physical notion of land and capital. The Austrian capital notion was adopted by Friedrich Hayek and then attacked by Frank Knight in the 1930s²⁵.

Hayek/Knight/Kaldor controversy

Nicholas Kaldor (1937) surveyed and commented extensively on the Hayek/Knight²⁶ controversy. Notably, by 1937, discussions of land as a distinct factor appeared only in passing and primarily in relation to capital theory. However, some important points emerge. A key issue in the Hayek-Knight debate was the permanence of resources. Whereas Ricardo and other classical political economists treated the fertility of the soil as indestructible, the discussion had now evolved into questioning whether any natural resource truly possessed “indestructible powers”.

According to Kaldor, Knight first distinguishes between resources and the services they provide. For Knight, services cannot be conceived as a stock but only as a flow over time, much like light or electricity, which “flow, but cannot exist as a stock” and therefore cannot be stored or transferred (Kaldor 1937, p. 203). Once consumed, they are gone. Kaldor reinforces this point with the analogy that one “cannot bottle up sunshine”, except by transforming its energy into another object, such as oranges — a process that constitutes consumption through production (Kaldor 1937, p. 203). While the analogy may seem dated today given advances in solar energy storage, Kaldor extends the argument to labour hours, which still cannot be stored in any meaningful sense.

However, the more fundamental argument concerns the resources themselves. Kaldor, aligning with Knight, considers the notion of permanent resources a “fiction”, valid only in a static or stationary analysis, since no resource — neither land nor labour — can provide services without continuous maintenance. He asserts that “no type of natural resource possesses ‘indestructible powers’ [...] the best that can be expected is that the flow of services can be kept up permanently by continued maintenance” (Kaldor 1937, p. 204). In a footnote, he acknowledges that sunshine is an exception, but an economically irrelevant one, since it cannot be appropriated or valued

²⁵ See Cohen (2006) for a great exposition of the debate including a detailed timeline.

²⁶ Cohen (1998) went as far as calling it Hayek/Knight/Kaldor controversy.

in markets (Kaldor 1937, p. 204)²⁷. Even “sheer area (involving exposure to light and rainfall and power to support structure)” cannot be considered an “original and indestructible power of the soil”, as it can be eroded or reduced without maintenance — for instance, riverbanks being washed away (Kaldor 1937, p. 204).

While this perspective clearly shifts the focus away from lands peculiarities and the argument is meant to analytically homogenise the factors of production, it remains an important observation from a modern ecological perspective — nature may be original in the sense of essential for life, but it is not *indestructible*. Land for example, Kaldor argues, can be “consumed” as in run down if not maintained and some resources like coal and oil cannot be maintained at all and are simply used up. We do see the origin of what was later to be coined the concept of “weak substitutability”, when Knight suggests that while some resources may be exhausted, they can in principle be “maintained” through perfect substitutes (Kaldor 1937, p. 204). Eventually, Kaldor agrees with Knight that no useful distinction between permanent and non-permanent resources can be drawn since any resource has to be “maintained”²⁸ to yield a service stream.

A related but not identical issue concerns the distinction between “original” and “produced” factors that is contained in the Austrian notion of roundaboutness. Here, too, Kaldor follows Knight’s rejection of this distinction, echoing previous critiques that it fails to hold in the real world. Any so-called “original” factor inevitably incorporates inputs from other factors over time, while capital goods, once created, participate in further rounds of production. This undermines the idea of a clear one-way causality from original to produced factors. Consequently, the concept of roundaboutness loses meaning, as “the ‘investment period’ for certain services invested on a particular date (or, rather, for a small portion of those services) might be infinity” (Kaldor 1937, p. 206).

²⁷ Interestingly, Ricardo also made this argument when he opposed Malthus’s claim that land owed its rent to inherent and original productivity. Ricardo stated, “Can anyone doubt that if a person could appropriate to himself the wind and the sun, he would be able to command a rent for the uses to be derived from them?” (quoted from Hollander 2005, p. 54).

²⁸ Although Kaldor clearly applies the terminology of capital theory to various contexts to illuminate the issue at hand, his use of the concept of “maintenance” aligns with the broader argument of a desire for analytical homogenization — the attempt to extend economic concepts as widely as possible. Consider the wording in the following passage from the article: “The point is equally obvious in the case of labour. The services flowing from a labourer could not be forthcoming unless he is given food nor could he be replaced after his death unless children are ‘maintained’ until they reach the age when valuable services begin to flow from them (during their ‘construction period’)” (Kaldor 1937, p. 204). Similarly curious, yet not an exception in the article: “Even if the maintenance of labour does not proceed on strictly economic grounds in a world where everyone owns his own labour — since the preference for life over death cannot be expressed in marginal terms — maintained (and replaced) it must be [...]” (Kaldor 1937, p. 204). Even if this is read as tongue-in-cheek — a deliberately exaggerated application of economic reasoning — it nonetheless illustrates the broader analytical impulse to extend economic concepts into all domains, including biological and social reproduction.

Later in the survey, Kaldor argues that even if all resources require maintenance — and the distinction between “original” and “produced” factors appears confused when viewed through the lens of a complex, interrelated production process — a key distinction remains: capital can be produced, whereas land cannot. He therefore proposes “augmentability” as a criterion to distinguish capital from other resources, using this concept to deliberately support the analytical integration of land into the general category of capital (Kaldor 1937, pp. 218–219).

A year later Kaldor (1938) would, in a rejoinder to Knight, further expand on that notion arguing that “augmentability” as a definition comes close to Böhm-Bawerk’s “original” and “produced” idea, but would be “free from certain implications associated with the latter” — not all “original” resources are free gifts of nature or physically fixed in supply (Kaldor 1938, p. 171). He still argues that there “can be no doubt that most resources, *as defined and differentiated by the market*, are augmentable to some degree”, as land’s fertility can be improved, labour can be trained, new waterfalls exploited and the coal supply can be “increased at will by sinking more shafts into the earth” (Kaldor 1938, p. 172).

However, “coal in the drawing room is not the same resource as coal in the earth” and what separates these two resources is a costly augmentation process. The differentiation is important to Kaldor as he asserts that any concept of capital must explain capital accumulation and the observed diminishing returns to said accumulation. In every production process there will be a point in the life of a resource or there will be a specific resource which proves to be a nonaugmentable “invariable element” (Kaldor 1938, p. 173). According to Kaldor, Knight believes this distinction impossible, denying “the existence of nonaugmentable resources. All resources, according to him, are augmentable to a certain degree; hence all resources are capital goods” (Kaldor 1938, p. 172). On this base, and in a Clarkian fashion, Knight denies “rent” and “interest” as “different ‘shares’, coming from different sources” arguing that “All ‘shares,’ of course, the share of labour not excluded, represent the yield of some concrete agency” (Kaldor 1938, p. 172).

Nevertheless, Kaldor argues that capital accumulation, if it *reduces* the interest rate, will also *reduce* the yield of augmentable resources, while it would *increase* the yield of nonaugmentable resources — in a world with an interest rate of zero, land and labour would still yield a return (Kaldor 1938, p. 172). In that sense Kaldor does retain some differentiations relevant to land as a distinct factor of production. However, he would shortly after “repudiated not only Hayek but the entire apparatus of Austrian Capital Theory” and drop all “capital theoretic issues from his subsequent contributions to growth and distribution” (Desai 1991, pp. 54-55).

It could be argued that one result of the debate was the increasing integration of land and natural resources into capital theory, forming a conceptual foundation for mid-20th-century macroeconomic theories of growth and distribution. However, as Desai (1991) notes, capital theory itself, despite the prominence of the Cambridge Capital Controversy²⁹, declined in overall importance, and with it, so did the frequency of implicit discussions of land as a distinct factor of production.

2.5 Marshallian economics — a bastion of classical doctrine? (Quasi-)rents

Alfred Marshall's economics, which emerged parallel to Austrian economics (or as Knight called it, Jevons/Böhm-Bawerk/Wicksell/Hayek theories (Cohen 2003, p. 471)) and Clark/Knight type capital theories was another important influence on the developing orthodoxy. Ryan (2002, p. 19) even argues that the reluctance to let go of land as a factor of production in introductory textbooks is largely due to Marshall's own reluctance to do so, combined with his authority in the field — certainly, his position on land retains several classical elements, never fully letting go of the notion of “rent proper”. Whether Marshall was, in the words of Samuelson, “so afraid of being unrealistic that he merely ends up being fuzzy and confusing — and confused” (Samuelson 1967, p. 103, quoted in Backhouse 2020), remains open to debate.

His 1890 *Principles of Economics* — which went through eight editions during his lifetime, the last published in 1920 — considers four factors, referred to in his words as agents of production, thereby expanding the classical triad by adding a fourth factor: organization. He specifies, like most authors before, that land is a proxy for “the material and the forces which Nature gives freely for man's aid, in land and water, in air and light and heat” (Marshall 1920, p. 115). Relating to a more classical understanding of “requisites of production” (Marshall 1920, p. 115) and, like the Austrians, original factors of production he goes on to qualify that one could also speak of two agents of production only, nature and man, as capital and organization are simply the result of the former two (Marshall 1920, p. 116). He admits that this distinction between original and produced factors is “obviously a loose one” (Marshall 1920, p. 120), but one with a scientific reason:

While man has no power of creating matter, he creates utilities by putting things into a useful form; and the utilities made by him can be increased in supply if there is an increased demand for them: they have a supply price. But there are other utilities over the supply of which he has no control; they are

²⁹ An interesting argument — and one that deserves attention as a separate explanation for the marginalisation of land, though not further explored in this paper — is put forward by Desai: that the Keynesian revolution, with its emphasis on aggregate and flow variables, implicitly assumes malleability or at least downplays capital heterogeneity, thereby “killing capital theory” (Desai 1991, p. 54). A similar sentiment was expressed just shortly before by Georgescu-Roegen, who argued that “Keynes's definite impact on economic epistemology” was the belief that “all that counts in economics are the aggregates; structure is irrelevant” (Georgescu-Roegen 1989, p. 127).

given as a fixed quantity by nature and have therefore no supply price (Marshall 1920, p. 120).

This fixity of supply without a clear supply price for certain utilities does not only refer to fertility of the soil or location — which could partly be monetarily valued — but also rather non-economic considerations. Marshall shows considerable conceptual breadth when he notes in the following but connected chapter:

Against this [the pressure of population on the means of subsistence] must be set the growing difficulty of getting fresh air and light, and in some cases fresh water, in densely peopled places. The natural beauties of a place of fashionable resort have a direct money value which cannot be overlooked; but it requires some effort to realize the true value to men, women and children of being able to stroll amid beautiful and varied scenery (Marshall 1920, p. 138).

Marshall also comments on several occasions on the possibility of analytical subsumption of land in capital — to him it is a question of emphasising differences based on perspective. In an article in the *Economic Journal*, Marshall (1898) addresses criticisms levied against arguments made in the first edition of his *Principles*. Here he alludes to the empirical argument of the American economists making a distinction between a *new* and an *old* country, clearly arguing for a distinction of land and capital in an "old" country:

Land might perhaps be reasonably treated as a form of capital in general discussions of distribution written for a new country; where what little land was occupied at all was mainly in the hands of first settlers. But in an old country it seems essential to bring into the first prominence those characteristics of land which are not shared by other forms of capital; at all events, when one is discussing the affairs of the nation as a whole and not those of individual traders (Marshall 1898, p. 56).

Another question discussed was the distinction between the social and individual perspective. In his *Principles* he underlines the similarities that apply to the individual case, arguing that "it is true that land is but a particular form of capital from the point of view of the individual manufacturer or cultivator" and conforms to the laws of demand under competition, as well as substitution at the margin (Marshall 1920, p. 444). Therefore,

the income that is derived from a factory, a warehouse, or a plough (allowance being made for wear-and-tear, etc.) is governed in the same way as is the income from land...In each case the income tends to equal the value of the marginal net product of the agent : in each case this is governed for the time by the total stock of the agent and the need that other agents have of its aid (Marshall 1920, p. 444).

However, he qualifies this conclusion instantly, arguing that “Land is on a different footing from man himself and those agents of production which are made by man” as land has an extreme inelasticity of supply (Marshall 1920, p. 444). Earlier in the *Principles* (Marshall 1920, p. 141) he comments on a misunderstanding of the law of diminishing returns. Marshall warns about the misleading implicit assumptions when using the term “diminishing returns” indiscriminately for all factors of production, for if “land is regarded as a special instance of the general tendency to diminishing return from any agent of production, applied in excessive proportion to the other agents, one is apt to take it for granted that the supply of the other factors can be increased” (Marshall 1920, p. 141) — however, this is not the case for land. Regarding agricultural land for the nation as a whole,

the older economists rightly insisted that, from the social point of view, land is not on exactly the same footing as those implements of production which man can increase without limit [...] even the individual farmer may not always be able to get an additional ten or fifty acres adjoining his own farm, just when he wants them, save at a prohibitive price. And in that respect land differs from most other agents of production even from the individual point of view (Marshall 1920, p. 141).

These differences are further exemplified in his adherence to what he called “rent proper”. In a letter to Clark, dated 1902, he noted that he had been “looking a little” at Clark’s *Distribution of Wealth* recently again” and how he was “always struck by its power and freshness”, but how it does not lead him “to yield an inch on the controverted distinction between interest and rent proper” (quoted from Ryan 2002, p. 11). Marshall continues to argue that his assertion that interest and rent stand in “wholly different relations” to value rest on his focus on dynamics for in the long run the supply of land is fixed (Pigou 1925, p. 413). As has been shown, the question of the fixity of supply of land has been thoroughly debated, with Fetter taking the stance that capital can be fixed in the short run just as much as the supply of land can be increased in the long run (McCaffrey 2024, p. 9)³⁰.

However, Taussig (1917), an American economist sympathetic to Marshall’s approach, defended Marshall in a reply to Fetter. It exemplifies Marshall’s conception of “rent proper” not only resting on the inelasticity of the supply of land even in the long run but also on its peculiarly and permanently fixed qualities. Further, it highlights the continued confusion surrounding the concept of rent and therefore land as a factor of production. Taussig argues that even if the most recent advances in chemistry might suggest a non-permanence in the quality of the soil

³⁰ McCaffrey (2024) analyses so far unknown archival sources that show that Marshall, who generally did not often reply to criticism, did concern himself extensively with Fetter’s critique in private.

by possible depletion, and even if Fetter were correct that land's total supply is not fixed, Marshall's "admirable" argument that "there are unalterable differences in the annuities of sunshine, of heat and cold, of precipitation, received by different stretches of land" would still stand (Taussig 1917, p. 346). Therefore, it is argued that the classical notion of "rent proper" — a differential rent arising from qualities inherent to land, which is fixed in location and thus permanently varies in fertility — still holds.

Nonetheless, towards the end of the *Principles* Marshall seems to somewhat sum up that "from a social point of view land does yields a permanent surplus, while perishable things made by man do not", but the "difference between land and other durable agents is however mainly one of degree: and a great part of the interest of the study of the rent of land arises from the illustrations which it affords of a great principle that permeates every part of economics" (Marshall 1920, p. 685). Here Marshall is referring — just like Clark and Wicksteed — to the analytical apparatus of differential returns and marginal analysis. In that sense Marshall would bring forward the concept of "quasi-rents" as the surplus reward that any specialised factor of production can obtain due to a short time fixity of supply. Therefore, Marshall "extends the Ricardian rent theory to all commodities" since "according to this view 'the rent of land is seen, not as a thing by itself, but as the leading species of a large genus' (Marshall [1890] 1920: viii)" Bidard and Erreygers (2015, pp. 259-260).

The introduction of the idea of quasi-rents paired with his persistent indecisiveness whether rent was price-determining or price-determined³¹ would ultimately paint him in the eyes of most modern commentators as analytically inconsistent and hopelessly stuck between the classical and neoclassical tradition (McCaffrey 2024; Blaug 1997, p. 395). As Ryan (2002) and McCaffrey (2024) have argued, Marshall's academic authority, along with his eclectic considerations in the face of what he perceived as unmanageable complexity riddled with "subtle truths" has

³¹ Ryan (2002) in a footnote relates to an exchange of letters between Marshall and Robbins: "Lionel Robbins, decidedly not a follower of Marshall, in 1930 commented on Marshall's well-known elaboration of his views in a letter to Edgeworth: 'it is wisest not to say that rent does not enter into the cost of production, for that will confuse many people. But it is wicked to say that rent does enter into cost of production, because that is sure to be applied in such a way as to lead to the denial of subtle truths, which in spite of their being subtle, are of the very highest importance scientifically, and also in relation to the practical well-being of the world.'" (Memorials: 436) Robbins's comment was: "It is improbable that at the present day there would be found many economists who would regard it as 'wicked' to say that rent does enter into costs of production. But it is true that, if we are contemplating a stationary equilibrium of the kind conceived by the classics, the proposition that it does not, does imply, even if it does not state correctly, subtle truths which we should be ill advised to lose sight of. And it is significant that those who have urged most strongly for its retention have been those who have learnt their analysis from classical sources whereas those who have opposed it have been very largely under the influence of Clark.'" ("On a Certain Ambiguity in the Conception of Stationary Equilibrium," *Economic Journal* 40 (June)1930: 211.)" (Quoted from Ryan 2002, p. 24).

led to persistent confusion even in modern rent theory. This confusion³² surrounding the concept of rent, combined with the perceived diminishing empirical importance of rent in modern economies further led to the disinterest to engage with rent theory and in extension also land as a potentially distinct factor of production.

Joan Robinson, aiming to clear up confusion, extends her own notion of rent in chapter eight (“A Digression on Rent”) of her seminal *Economics of Imperfect Competition* (1933). Traditionally, she argues, rent had been understood as a surplus arising from the costless, free gifts of nature, with “land being understood to comprise all the other ‘free gifts’ besides mere space” (Robinson 1933, p. 102). However, according to Robinson, the “conception of rent has often been too closely interwoven with the conception of land. Particular units of factors of production which belong to the other three broad categories, labour, entrepreneurship and capital, may also earn rent” — as long as they are paid above the “transferprice” (or supply price) (Robinson 1933, pp. 102–103).

By focusing on the transferprice, Robinson highlights that from the perspective of substitution at the level of the firm or industry, land has multiple competing uses. Opportunity cost thus becomes a component of both the transferprice and the cost of production. In doing so, she contributed to a discussion that had already spanned over a century, with various economists attempting to clarify the persistent ambiguities. Much of the confusion, it was argued, stemmed from differing perspectives on land use — with the classical economists viewing land primarily as a singular-purpose input for agriculture, while marginalists introduced the idea of alternative uses. Many considered this the crux of the long-standing debate: whether rent was part of the

³² However, the distinction between ‘rent proper’ and ‘quasi-rents’ has not received the attention it deserves in discussions of Marshall’s alleged “confused” stance. McCaffrey (2024, p. 3) states that “The classical economists generally defined rent as the income of agricultural land [...] Rent thus becomes a more general phenomenon of which land rent is one specific type. In addition to broadening the theory of rent proper, Marshall also introduced the concept of quasi-rents”. This appears to misrepresent Marshall’s conception of ‘rent proper,’ as he did not broaden its scope but rather introduced quasi-rents as a distinct category. It is particularly curious that the chief reference for this claim is Dooley (1991), who provides an excellent differentiation between true rent (rent proper) and quasi-rents. McCaffrey’s interpretation seems to conflate Marshall’s attempt to explain short-run similarities between land and other factors of production with a redefinition of rent itself, overlooking the fundamentally unique characteristics of land in Marshall’s framework.

cost of production and thus price-determining, or whether it was not, and thus price-determined³³. Robinson argues in a footnote:

From the point of view of society, land, by definition, is provided free, and the whole rent is a surplus and none of it is a real cost. From the point of view of a particular industry, transfer payments are as much a part of supply price as any other element of cost, and from the point of view of an individual competitive producer the whole of rent is a cost of production. These distinctions give the clue to the somewhat confused appearance of Marshall's treatment of the subject (Robinson 1933, p. 107).

Stratford (2022) argues that Robinson thus “abandoned the earlier rent theorists’ concern with distinguishing rewards for real sacrifice and effort, and rewards for ownership and control – between earned and unearned incomes” making way for a modern theory of rent as “payment in excess of competitive price (e.g. Tollison 1982), 575)” — a definition, Stratford argues, conveniently suited for the modern efficient market hypothesis, since rents, in the Robinsonian sense, would disappear in a perfectly competitive market (Stratford 2022, pp. 354-355). One could therefore argue that the step of analytical homogenisation and redefinition of rent, paved the way for the disappearance of discussions surrounding both rent and land as a distinct factor of production within the confines of perfectly competitive market assumptions.

However, Robinson does, clearly recognize that “the problem of defining factors of production has raised a considerable amount of controversy” (Robinson 1933, p. 18), and ends up subscribing to Marshall’s four factors of production, singling out the characteristic of space:

It has been customary to speak of four factors of production: Land, Labour, Capital, and Enterprise. This traditional demarcation of factors is convenient. Each of the four traditional titles refers to a category of productive units with certain obvious characteristics in common. In the argument of Books VII., VIII., and IX. such phrases as ‘the factor land’ must be taken to mean a certain number of productive units all having the general characteristics of land, of which the most important is a unique position in space (Robinson 1933, p. 19).

Generally, she defines the factors of production as the services of productive units measured in their own natural unit, chosen as is practical (acres, man-hours etc.). She, however, emphasises

³³ Space does not allow to consider this important aspect of debate and confusion surrounding the theory of rent. However, it is a crucial aspect of the frustration surrounding the law of rent and therefore part of the reason for the marginalisation of land. Interesting historical articles exemplifying the frustration and providing further references are Macfarlane (1894) and Buchanan (1929). For the modern, neoclassical perspective in the context of Marshall’s “confusion” see Blaug (1997, p. 395), who argues that “Marshall fails to point out that the problem can be looked at not only from the short- and long-run point of view but also from the individual and the social point of view. If ‘land in an old country is approximately (and in some sense absolutely) a *permanent and fixed stock*’, as Marshall claims (chapter 10, section 3), rent is price determined even in the long run. As long as land has alternative uses, however, rent is nevertheless price determining to the individual farmer”.

the considerable degree of abstraction involved³⁴ and never let's go completely of the physical notion of distinct factors of production. She would come back to the topic of land and rent in particular, greatly expanding on the special role of land in her *The Accumulation of Capital* (1956) and, despite making extensive use of the notion of quasi-rents, never fully letting go of possibly relevant distinctions that go beyond purely economic analytical dimensions. Impressionable examples are found in the introduction when she discusses the meaning of wealth arguing that

a very important part of the natural resources of a nation is unappropriated. A deer forest and a moor where hikers roam at will are much alike in every respect except that one commands a rent and the other does not. One has as good a claim as the other to be treated as economic wealth

or later when she argues that especially industrial economies should understand that

Income consists in the kindly fruits of the earth, and capital in the fertility of the soil. Animal and human economies can flourish for a time by mining the soil, creating deserts, or by preying upon other economies, but to be viable over a long run, in peaceful conditions, an economy must be impregnated with the peasant's morality (Robinson 1956, pp. 17,34)

However, although, both Marshall and Robinson were uneasy to dismiss the Classics as freely as others and they mainly adhered to the “classical triad+1” emphasising the important role of land outside of purely economic reasons, they still put forward extensions to the rent concept which would in effect diminish the role of land as a distinct factor of production. Robinson would, unintentionally, play another role in marginalising land in the context of the Cambridge Capital Controversy, when she opened the debate with her *The Production Function and the Theory of Capital* (1953) — here, in the hopes of side-lining the aggregate neoclassical production function and discussing the inconsistencies related to the aggregate notion of capital, she exclaims in the first footnote that “throughout this essay we shall be abstracting from land as a factor of production, so we will not bother the student with it” (Robinson 1953, p. 81).

³⁴ A year later, in her article on the adding-up problem she struggles with her own solution. In a footnote regarding Wicksteed's radical use of total heterogeneity by singling out every conceivable factor of production in its own unit, she says “It must, however, be conceded to Wicksteed that, strictly speaking, it is impossible to reduce a group of non-homogeneous productive units to a common term so that they can be treated as a single factor. Any statement about the marginal productivity of a "factor" which is not perfectly homogeneous cannot be perfectly accurate. I should like to take this opportunity of pointing out that the device suggested in my *Economics of Imperfect Competition* (332) for getting over the difficulty by constructing "corrected natural units" is completely worthless” (Robinson 1934, p. 402).

2.6 The years of high theory — imperfect competition, mathematical and empirical turn and the focus on dynamics

Joan Robinson — especially her *Economics of Imperfect Competition* (1933) — plays another important role in the marginalisation of land due to her role in the Imperfect Competition Revolution, which is commonly traced back to Sraffa's (1926) fundamental critique of the compatibility between perfect competition and increasing returns to scale (Shackle 1967, p. 13). Since the Industrial Revolution, economists had widely recognized increasing returns to scale as a realistic and observable phenomenon in manufacturing. Ricardo, as noted by Pasinetti (2015, p. 43), carefully distinguished diminishing returns in agriculture from increasing returns in industry. However, the unresolved dilemma that Sraffa³⁵ addressed was how the assumption of perfect competition — where firms are price takers — could be reconciled with increasing returns, which imply that firms have an incentive to expand indefinitely until a state of monopoly or imperfect competition emerges. Sraffa's conclusion that perfect competition was fundamentally untenable under increasing returns shook the foundations of marginalist equilibrium theory and, in Hick's eyes, "threatened wreckage...of the greater part of economic theory" (quoted from Shackle 1967, p. 10).

This challenge emerged at a moment when general equilibrium theory had reached new heights of formal sophistication. Sraffa captures the drive for analytical homogenisation when he reflects on the mounting doubts and the occasional attempts to address the emerging inconsistencies:

From time to time someone is unable any longer to resist the pressure of his doubts and expresses them openly; then, in order to prevent the scandal spreading, he is promptly silenced, frequently with some concessions and partial admission of his objections, which, naturally, the theory had implicitly taken into account. And so, with the lapse of time, the qualifications, the restrictions and the exceptions have piled up, and have eaten up, if not all, certainly the greater part of the theory. If their aggregate effect is not at once apparent, this is because they are scattered about in footnotes and articles and carefully segregated from one another (Sraffa 1926, p. 536).

Therefore, despite the fundamentally realistic nature of Sraffa's critique, the prospect of the system's breakdown sparked intense debates at the highest levels of economic abstraction. The focus of analysis shifted away from the individual actors and factors of production, toward the behaviour of firms and industry-wide conditions. To retain some degree of formal coherence, even greater levels of analytical homogenisation were required — one could argue that the challenge of realistically defining factors of production became secondary to preserving overall

³⁵ Shackle (1967, p. 13) shows that Marshall, as well as Cournot himself, were aware of the issue.

consistency in the theory's core assumptions. First, attempts like Harrod's to reconcile increasing returns with perfect competition through marketing costs proved fruitless. While rising marketing costs could, in principle, offset increasing returns, their inclusion fundamentally violated the assumption of price-taking, thereby undermining the very foundation of perfect competition (Shackle 1967, pp. 32–33). Eventually, with Robinson (1933) and Chamberlin (1933), the assumption of perfect competition was abandoned, shifting the focus toward a reformulation of the theory of the firm and industry — emphasizing strategic decision-making, market conditions, and microfoundations (Shackle 1967, pp. 28–29). While Robinson retained the idea of four distinct factors of production, she did struggle with their definition — an issue that she would mostly lay to rest until her famous attack on the aggregate production function in 1953, where she, however, abstracted from land. The implicit abstraction from land became an increasingly common practice during this period, though the precise moment of its acceptance remains notoriously difficult to pinpoint — a trend that the following discussions will further illustrate.

Another important — and almost simultaneous³⁶ — moment during the “years of high theory” is the discussion following John Hicks' first mention of the concept of elasticity of substitution in his *Theory of Wages* (1932). In *The Theory of Wages*, Hicks builds upon and extends the theories of distribution — and, by extension, theories of wages — laid out in Marshall's *Principles* (1890) and Clark's *Distribution of Wealth* (1899). In the process, as he admits just three years later³⁷, he “drifts at will” between the physical and funds-based capital notion with Rothschild (1997, p. 67) even arguing that Hicks “deliberately excludes a special consideration of capital problems” (quoted from Flatau 2002, p. 48). Flatau further argues that “capital appears as a homogenous malleable factor of production” which turns out to be “‘helpful’” for an omnipresent “emphasis on substitutability” (Flatau 2002, p. 48).

Within this framework, Hicks, at one point, deliberately chooses to subsume land within capital. According to him, this is possible by assuming that we can “classify all our factors of production into two groups- whether we label them ‘work’ and ‘property’ with Dr. Dalton, or ‘labour’ and ‘capital’ ‘supposing that land can be neglected’ with Professor Pigou” (Hicks 1932, p. 119). The discussion³⁸ that ensued this first mention of the concept of elasticity of substitution —

³⁶ It appears like Hicks did not overly concern himself with imperfect competition at that time, as “for long-period analysis, it is fair to assume that the elasticity of demand to the individual seller is very high (apart from the cases of ‘bilateral monopolies’), and consequently the competitive analysis, (which, as you agree, is so much easier to handle in problems of production and distribution) is a fair approximation” (quoted from Flatau 2002, p. 48).

³⁷ See Hicks' *Wages and Interest: The Dynamic Problem* (1935, p. 456).

³⁸ Machlup (1935) provides a good, but non-final overview — as per usual the discussion did not end with this, not completely impartial, summing up (see for example Robinson 1936).

featuring prominent names like Kahn, Hicks, Robinson, Lerner and of course reference to Douglas³⁹ — was mainly carried out along abstract formal lines. In the process of deriving and refining this new concept, little reference was made to real-world factors of production. Whenever factors were explicitly mentioned and specified, they were assumed to be capital and labour, with land implicitly deemed unimportant or subsumable. In his 1935 *Wages and Interest: The Dynamic Problem* he would argue that both the Clarkian and Böhm-Bawerk theories of capital only apply to the static case, where they are “both correct” (Hicks 1935, p. 456). In setting up his own dynamics however, he embraces the common “ordinary simplifications” of economic theory, to avoid the “dangerous simplification of a stationary state” and subsumes land in capital goods, which he calls “equipment” (Hicks 1935, pp. 457-458).

The apparent diffusion of the “ordinary simplification” of subsumption is powerfully exemplified by another contribution that would prove to be influential. Earlier, Frank Ramsey, in his *Mathematical Theory of Saving* (1928), implicitly subscribed to the notion of “pure capital,” which allowed him to construct a formal Clark-type production function with homogeneous labour and capital as inputs, and the same capital good as output. Solow saw this “simple but fruitful model of capital accumulation” as “one of the legacies to economics left by Frank Ramsey” (Solow 1955, p. 101). Furthermore, Ramsey’s seminal use of dynamic optimisation techniques later made his model a cornerstone of neoclassical optimal growth theory after World War II. However, he did not explicitly justify the methodological assumptions underlying his approach — ranging from factors being paid according to their marginal productivity to the aggregation of individual preferences (Gaspard 2003), and notably, the omission of land as a factor of production. Despite this lack of explicit defence, the paper illustrates how widely accepted the subsumption argument must have already been, particularly in a dynamic context where the fixity of land’s supply was assumed away⁴⁰.

Incidentally, the same year saw another immensely influential publication that can be understood as providing an empirical dimension to the marginalization of land in economic theory. Cobb and Douglas’s *A Theory of Production* (1928) not only introduced the now-famous two-factor functional form of $Y = AL^\beta K^{1-\beta}$, but also proposed historical empirical measures of the variables involved. Among their key objectives — beyond constructing historical indices — was assessing the empirical validity of marginal productivity theory as a theory of distribution and determining whether it could take a specific functional form. To this end, they focused on

³⁹ Clearly the newly, empirically established framework by Cobb and Douglas supported these discussions.

⁴⁰ Note how even Taussig (1917), who defended the classical theory of differential rent against Fetter, agrees that land is probably not fixed from a global perspective in the long run.

the manufacturing sector, examining the relative contribution of capital and labour to total physical output (Cobb and Douglas 1928, p. 139). Consequently, they excluded the agricultural sector from the outset. Since they were “not concerned with value but with physical production,” they also omitted working capital — “for this is the result and not a cause of the process of manufacture” — as well as land (Cobb and Douglas 1928, p. 140). They justified the exclusion of land values on the grounds that “these are largely composed of the unearned increment” (Cobb and Douglas 1928, p. 140), and in that view presumably do not productively contribute to the physical output of the manufacturing sector and — within the framework of marginal productivity — make no meaningful contribution.

The final paragraph of the study indicates the persisting uneasiness with the state of rent theory and suggests why they omitted land in the — at least exclaimed — hopes to introduce it at a later stage:

Finally, we should ultimately look forward toward including the third factor of natural resources in our equations and of seeing to what degree this modifies our conclusions and what light it throws upon the laws of rent (Cobb and Douglas 1928, p. 164).

The inclusion of land, however, did not appear to be favoured by the profession at the time. The notion of capital as a malleable fund — aligned with business usage in terms of accounting values and income from property — was more conducive to empirical investigation. Cobb and Douglas therefore initiated a tradition of using this specific production function in empirical, and thereafter also theoretical, work. However, Douglas (1976) later recalled that their work initially faced significant criticism. Particularly, the small sample size, which, critics argued, could render any mathematical relationship “purely accidental and not causal” as well as the potential variability of exponents over time were criticised (Douglas 1976, p. 905). According to Douglas, Ragnar Frisch, as well as his protégé Horst Mendershausen “believed sincerely that the analysis should be abandoned and, in the words of Mendershausen, that all past work should be torn up and consigned to the wastepaper basket” (Douglas 1976, p. 905). Douglas further asserts that these opinions reflected “the general sentiment among senior American economists” — especially in Chicago — at the time (Douglas 1976, p. 905).

However, the study would have a long-lasting impact on economics and the episode — as will be argued next — clearly contributed to the marginalization of land as a factor of production. Adding to this trend was the apparent rise in statistical studies at the beginning of the twentieth century, which “indicated that a surprisingly small share of income accrued in the form of rent” (Ryan 2002, p. 19). The importance of these arguments — the empirical relevance, the Cobb-Douglas function, malleable capital, and the dynamic context — became particularly important

for the marginalisation of land leading up to and post World War II, when “modern growth theory was born” (Hagemann 2009, p. 67). Curiously, with respect to dynamics, arguments within the early modern growth theory regarding the abstraction from land appear inconsistent.

An important precursor to the neoclassical growth theories of Robert Solow (1956, 1957) and Trevor Swan (1956) came from Jan Tinbergen (1942), who “investigated the long-run development of the economy under the influence of population growth, technical progress, and capital formation and used a linear-homogenous Cobb-Douglas function” (Hagemann 2009, p. 68). The impact of the Cobb-Douglas production function and related empirical investigations is evident in Tinbergen’s comments, as he refers primarily to Douglas as the only one who had, up to that point, attempted a statistical investigation of the assumed economy-wide production function⁴¹ (Tinbergen 1942, pp. 519–520). Tinbergen, when setting up his own production function argues that “the third factor, land⁴², will not be considered here because its volume is assumed to be constant” which “for most countries will be correct” and subsumes land in capital (Tinbergen 1942[1959], p. 190–191).

Note the diverging rationales for abstracting from land between Tinbergen and Solow. For Tinbergen, the fact that land is fixed in quantity provides a reason to subsume it into capital within a long-run analysis, since, in his mind, it apparently does not influence dynamic accumulation. In contrast, Solow (1956, p. 67) assumes land is either not scarce or augmentable, and thus abstracts from it as the model would otherwise “become more Ricardian” — though he does not make explicit whether it is subsumed under capital. Toward the end of the article, while discussing the exogenously given labour and capital growth by the assumed constant savings rate and population growth rate, Solow remarks that “it would take us too far afield to go wholly classical with a theory of population growth and a fixed supply of land” (Solow, 1956, p. 88). Astonishingly, even seemingly opposing rationales lead to lands marginalisation as a distinct factor of production.

Another argument is found in *Towards a Dynamic Economics* (1948), Harrod’s second⁴³ and main pioneering contribution to modern growth theory. His introduction reveals contemporary economists’ growing preoccupation with the concept of “dynamics”, and, in fact, with the quarrels surrounding the term itself. Harrod argues that it had been abused and misused even “by our most distinguished authorities”, such as Kalecki and Hicks (Harrod 1948, p. 2). Interestingly, shortly before, in an additional note to the second edition of *Value and Capital* (1946

⁴¹ He also mentions the critique of Douglas’s work by Mendershausen (Tinbergen 1942, p. 520).

⁴² Note that the German original reads “Boden oder Natur” which translates to “land or nature”.

⁴³ The first one being his “An Essay on Dynamic Theory” (1939).

[1939]), Hicks defends his own interpretation of dynamics against that developed by Samuelson between 1938–1946. Hicks suggests that while Samuelson’s use of differential and difference equations may be more “acceptable to mathematicians” due to their focus on formal process, his own framework is better suited to incorporating behavioural aspects (Hicks 1946 [1939], pp. 335–337).

Coming from the marginalist tradition, which emphasised static, timeless general equilibrium models, this renewed attention to dynamics represents a methodological shift. It shows that the preoccupation with dynamic theory, initially triggered by the Keynesian revolution and following from critiques of static equilibrium analysis, developed into an independent project which followed its own logic of analytical homogenisation leading to yet higher abstraction. In either formulation — Hicks, Samuelson or Harrod — the conceptual groundwork was being laid for models that avoided the complexity and rigidity associated with introducing a third factor of production such as land. Accordingly, within the dynamic context it had variously been established before that land could be subsumed in capital.

Harrod (1948), after criticising former attempts at a dynamic economic theory he introduces his own assumptions, which explicitly abstract from land, however in a slightly different way. After a discussion of the history of dynamics in economics, where Harrod praises Ricardo for his “crude dynamic theory” (p. 16) and asserts that “Keynesian doctrine remains almost exclusively static” (p. 18), he proposes

to discard the law of diminishing returns from the land as a primary determinant in a progressive economy. Not that there was any fallacy in the classical treatment of this subject. I discard it only because in our particular context it appears that its influence may be quantitatively unimportant (Harrod 1948, p. 20).

Without referring to any specific evidence, Harrod chooses to abstract from land not based on its fixity or, conversely, its augmentability, but because of its apparent empirical irrelevance. While he does not explicitly subsume it in capital he continues the tradition of abstracting from it — abstractions and assumptions which Joan Robinson decidedly criticises in her 1949 review of the book.

She argues that “Mr. Harrod’s world”, while relying on capitalist institutions and capital accumulation exhibits no politics, no conflict, no history, no revolutionary discoveries, no diminishing returns to land and no need for the “rehabilitation of dust-bowls and desserts created by individualistic exploitation of the soil” (Robinson 1949, pp. 68–69, 84). “Mr Harrod’s world” must therefore “not be confused with Europe, Asia or America” and while she argues that the analysis has some merits, she qualifies rather harshly that “without a thorough examination of

the relationship of his assumptions to reality” it cannot be taken as more “than a *jeu d’esprit*” (Robinson 1949, pp. 84-85). While Robinson’s criticism includes more than the abstraction from land, her overall argument about the “common vice of present-day economic argument to jump from a highly abstract piece of analysis straight to prescriptions for policy” without understanding to what degree the assumptions fit reality does include the abstraction from land, which she mentions twice (Robinson 1949, pp. 69, 83). However, as has been shown, this would not stop her from reopening the capital debates while abstracting from land herself.

This chapter has shown how, during the years of high theory, land’s marginalisation was not driven by a single argument but emerged as a by-product of various independent developments — the arguments surrounding imperfect competition, the formalisation of substitution, the rise of dynamic modelling, and the empirical turn. One might have expected that the fixity of land would regain relevance in dynamic contexts, particularly as a constraint on growth. Yet instead, land was continuously abstracted from: in Tinbergen’s model it was subsumed into capital on the grounds of its constancy, while Harrod dismissed it as empirically unimportant. Solow, seeking to explain balanced growth in the post-war era rather than a dismal Ricardian stationary state, excluded land by assuming it was either not scarce or augmentable relating back to the augmentability argument regarding resources in general. Despite differing justifications, all arrived at the same analytical simplification. Land’s exclusion was exceedingly rarely addressed directly, but became entrenched through a broader trend toward analytical homogenisation — where heterogeneity and institutional specificity were increasingly subordinated to formal coherence or relegated to subdisciplines such as land economics. These developments, while responding to distinct theoretical challenges, collectively reinforced the abstraction from land in modern economic theory.

2.7 Conclusion

While some histories of environmental and ecological economics have been written to fill the gap of neglected theorists and subdisciplines, less had been said about the relationship between the development of standard economic theory and land, the original proxy for natural agents in production. The marginalisation had clearly been noted, and many comments had been made in passing, but little comprehensive attempts to explain land’s marginalisation had been offered. This paper summarised and commented earlier contributions while adding to the story — mainly by addressing the desire for analytical homogeneity evident in the *very long* nineteenth century of economic thought.

Land as a factor of production was tangled up with rent theory, which was seen as historically loaded and analytically inaccurate if not messy and confusing. Further, the complexity arising from acknowledging the physical and metaphysical features of the factor land led neoclassical economists to consider a more extreme degree of analytical homogenisation. This becomes most evident in the lengthy discussions on these aspects by Marshall. The Wicksteedian notion of infinite heterogeneous factors paved the way for a marginal productivity theory, that generalised aspects of the classical law of rent over all factors of production and expressed these relationships in an integrated production theory based around a production function.

Once the focus shifted from the factors to the services and their economic equivalence, the subsumption of land within capital was advanced as an argument, the grouping of factors reappeared with labour and capital as the, perceived, most important factors of production in modern, industrial capitalism. These arguments against land as a distinct factor of production, evolving in a context of capital controversies, came from a perspective of analytical homogeneity, basically abstracting from the physical and socio-political complexity of production processes, focussing on perceived analytical similarities. Some authors struggled to maintain said complexity, simultaneously seeking analytical clarity, while other authors preferred the theoretical rigour stemming from higher abstraction and analytical homogeneity. The core of the profession overall certainly moved towards the latter.

The interest laid either in embracing an empirical turn, which necessitated pragmatic solutions, which aligned with business practice, or the increasing mathematisation with its intriguing analytical rigour and deductive results. The tradition of attempting both to recognize the special role of land and to embrace the newly developed economic arguments could not persist, and the two-factor aggregate production function eventually emerges for good — though the specific moments of its acceptance are still not fully pinned down. That Joan Robinson, perhaps the last mainstream protagonist to champion classical ideas concerning land, commences the Cambridge Capital Controversy by abstracting from land as a factor of production, marks a decisive moment in its marginalisation from macroeconomic theory. The state of affairs was distinctly summarised by Blaug:

In long-run stationary equilibrium, the total product is resolvable into wages and interest as payments to labour and capital – there is no third factor of production – and the theory of differential rent is interesting only because it marks the first appearance of the marginal principle in economic theory (Blaug 1997, p. 82).

The desire to unify diverse phenomena under more formal, abstract frameworks — coupled with a retreat from heterogeneity — rendered land increasingly invisible in mainstream theory. However, contrary to what Blaug insinuates, it appears that it was not so much theoretical resolution, but theoretical redirection, that finalised the process.

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3. Keynes and the Preservation of Natural Beauty: Philosophical Foundations and a Natural Case for Planning

“As we walked about the garden paths, seemingly remote from the world, one of the Canadians, I think it was Bill Mackintosh, was moved to remark in admiration how beautiful it all was. Keynes, who was only a step or two behind, hesitated for only a moment and then said: ‘Yes, it is beautiful, isn’t it? And we want to keep it, you know. That is why you are here!’”

— *J.M. Keynes, quoted in Moggridge (1992, p. 787), during a walk through King’s College Fellows’ Garden with Canadian delegates in May 1945, at the height of post-war financial negotiations.*

3.1 Introduction

“These national transport and housing programmes must be so carried out as to facilitate the now urgent task of rural preservation. The time has come for taking decisive, national action to preserve the downs, moors, lakes, woods, hills and commons of the countryside, and to conserve their beauties and their amenities for future generations.” (CW IX, 1931 p. 98)

This heartfelt plea for action to preserve the natural beauty of the countryside was taken from the famous pamphlet titled *Can Lloyd George Do It? – The Pledge Examined*, which was published in 1929 and jointly written by Hubert Henderson and John Maynard Keynes in support for the liberal party’s general election effort. Although it is difficult to attribute specific parts of the pamphlet to either of the two authors, the paragraph about preserving natural beauty likely springs from Keynes’s quill. It closely mirrors a section on countryside preservation from the Liberal Party’s 1928 industrial inquiry report, which, according to his papers, was clearly inspired by him (CW XIX p. 731) and therefore constitutes his earliest writing about the rural preservation cause.

This is the first paper to examine Keynes’s role in the rural preservation movement of early 20th-century England⁴⁴. This absence in the literature is surprising, as a comprehensive account

⁴⁴ The only mention the author could find is in Kula (1998, pp. 89–90), who in fact overlooks the significance of Keynes’s engagement and the role it played in his broader thought: “Although there was a noticeable conservation movement in the 1920s, Keynes’ attention was taken by much more pressing problems of the time such as war reparations, gold standards versus a managed monetary policy, disparity between saving and investment and, above all, the mass unemployment which came about after the crash of the stock market”.

of this aspect of Keynes's life is not only compelling in its own right, but also enriches discussions of his work — particularly the philosophical foundations of his thought, as well as his views on planning and the role of the state.

Concerns about environmental issues had of course been addressed long before and the — by now — famous concept of externalities had just earlier been theorized by Keynes's colleague at Cambridge, Arthur Pigou, in his 1920 book *The Economics of Welfare*. However, even Pigou and the few other economists who academically considered environmental problems, still regarded arising externalities as “freakish anomalies” (Banzhaf 2024, p. 18), with references to these issues usually relegated to footnotes and side remarks. Consequently, pollution, uncontrolled industrial encroachment, and urban sprawl on the countryside were mainly topics of public discourse and outside of the scope of economic journals.

Given the academic economic community's general neglect of these issues — and considering Keynes's integrated approach to science, based on the notion of persuasion, along with his extensive involvement in a wide array of public policy debates — his contributions on this topic are dispersed across various discussions, articles, lectures, and private correspondences. However, when pieced together, these elements form a compelling narrative: Keynes was actively engaged in the environmental activism of England at the time, specifically in advocating for the preservation of rural England and its natural beauty.

To arrange this mosaic and provide sufficient proof for the thesis that the promotion of natural beauty — both in urban and rural England — was, beyond occasional remarks, a passionate concern for Keynes, this paper examines his public contributions alongside his private correspondence. The argument is further supported by demonstrating not only Keynes's own involvement but also that of his closest friends, including members of both the Cambridge Apostles and the Bloomsbury Group. It is argued that this shared concern for preserving natural beauty stems from two sources, both of which also had a profound influence on Keynes's approach to economics.

First, it builds on the English poetical and philosophical Romantic tradition dating back to the 18th century, which framed the idyllic, pastoral countryside as a counterpoint to the disillusioning realities of capitalism and structured industrial life. Romantic writers typically emphasized the importance of emotional experience and the sublime power of nature, positioning it as a site of spiritual renewal and resistance to industrialization. This tradition provided an intellectual and aesthetic foundation for the broader preservation and rural planning movements, as well as an enduring anti-industrial undercurrent.

The second influence was the ethical philosophy of G.E. Moore, who sought to answer the age-old question, “What is good?”. Moore found the answer in the intuitive contemplation of *goodness*, often citing natural beauty as one of the simplest and most intuitively comprehensible *goods*. Influenced by Moore, Keynes’s earliest writings on philosophy⁴⁵ reveal his own preoccupation with questions of goodness, beauty and intuition. When combined with other primary and secondary sources, as well as his own reflections, it becomes clear that Keynes melded many influences into a unique and integrated approach.

This is best summarized by his adherence to the definition of economics as a “moral science”, which requires “introspection and judgement of value” (CW XIV, p. 296). The analysis shows that he believed in a complementary combination of intuition and logic to tackle the ontological and epistemological problems of ever-changing circumstances, heterogeneous data and fundamental uncertainty. Intuition and logical — or analytical — powers represent two distinct faculties of the human mind. Keynes believed that intuition, chiefly related to the artistic side of the mind, should always be the master of the analytical faculty. These two faculties also correspond closely to the terms “non-economic” and “economic”, which form the classical classificatory definition of economics as a science concerned with the material and business side of life. This dichotomy contrasts with the emerging all-encompassing definition of the field in terms of opportunity costs, as put forward by Lionel Robbins in *An Essay on the Nature and Significance of Economic Science* (1932) (Banzhaf 2024, p. 113).

Keynes’s engagement with natural beauty in his work supports an interpretation of his approach as one that views economics as a moral science, grounded in ethical principles and relevant philosophical presuppositions. This leads him to argue that economic issues can only be understood in relation to the — to him more important — non-economic aspects of life, thereby assigning a special role to the state.

Section 3.2 provides the relevant historical context of the rural preservation movement with which Keynes engaged. By illuminating its history and key figures, this section helps contextualize Keynes’s contributions and demonstrates the extent to which he was influenced by the contemporary movement and its origins.

⁴⁵ Unfortunately, these essays have not been published. Discussion of these essays therefore heavily relies on Rod O’Donell (1989 and 1995). However, the argument put forward in this paper does not only rest on these essays, and the quoted passages are sufficient to show Keynes’s general preoccupation with beauty and natural beauty in particular.

Section 3.3 explores Keynes's understanding of natural beauty, not only by examining his personal and intellectual connections to the roots of the rural preservation movement, but also by analysing his philosophical foundations regarding natural beauty.

Section 3.4 then systematically, and comprehensively presents Keynes's contributions to the movement, while Section 3.5 offers the conclusion.

3.2 Natural beauty and the history of preservation and planning in England

Illuminating the ideological roots of the rural preservation and planning movements in Britain is a complex task. The Industrial Revolution brought about fundamental changes that extended beyond socio-economic conditions and political institutions — ideas, and even the nature of science itself, changed just as radically. Some concepts were abandoned, others emerged; disciplinary focus shifted, and entirely new fields were born. These fields, in turn, developed their own narratives and engaged with history from distinct perspectives. A paper that explores John Maynard Keynes's role in the rural preservation movement — while also aiming to shed light on his broader philosophy and views on planning — must grapple with these challenges and attempt to weave together disparate strands from diverse intellectual histories.

To some degree this is a story of Keynes's relationship with the natural environment and therefore John Sheail's remark in his introduction to *An Environmental History of Britain* (2002, p. 1) seems appropriate: "Some of the most exciting research occurs where academic disciplines meet" and "if 'environmental history' is quite literally 'a history of the environment', no wonder it has become a somewhat crowded meeting-point." This holds especially true for this paper.

This paper adds further complexity to an already crowded intersection of disciplines by examining Keynes's involvement in the rural preservation movement and the role of planning — focusing particularly on his philosophical foundations and social networks. It naturally draws from multiple fields, making it an intellectually rich but densely layered story. The histories of architecture and engineering, art and literature, political and economic theory, and philosophy converge here to illuminate two distinct but overlapping narratives: the history of planning — especially town and country planning — and the history of the nature conservation and preservation movement.

Reynolds J. (1952, p. 52) notes that the history of town planning in nineteenth-century England is "a complex collection of facts, events, personalities, and publications, and even more of in-

fluences from many different and varied sources.” This complexity applies equally to the history of the rural preservation movement, which can be seen as the other side of the same coin, fitting within the broader framework of environmental history as described by Sheail. The intersections and overlaps between these fields are so numerous that distinguishing between them can at times seem artificial. Within this overlapping, heterogeneous collection, Reynolds identifies two streams which would eventually merge towards the end of the 19th century. The precision and simplicity of her identification warrant a full quotation:

First there is the group of ideas associated with Robert Owen and carried on, in one form or another, by the Utilitarians, the Christian Socialists, and by individuals like Lord Shaftesbury, Edwin Chadwick and James Duncan, the first Medical Officer of Health for Liverpool. Such people were concerned with the evil moral effects of an urban environment, and their efforts resulted in the rapid advance in sanitary science and in ideas for the improvement of the housing conditions of the working classes.

The second stream represents the more romantic side of the reaction to conditions in the growing towns, and is associated with Southey and the Lake Poets in this country, and with Emerson and Thoreau in America. From them emanated the idea that the country was a better place to live in than the town (Reynolds J. 1952, p. 52)

Access to nature, whether in the countryside or through parks and urban green spaces, is a central component of both groups of ideas. This often relates to the positive physical, mental and moral health effects of avoiding air, water, and noise pollution, as well as the opportunities for recreational activity, communal spaces and other amenities. However, the most prominent theme, which finds its origin in the romantic movement and at times even serves as an umbrella term for many of these aspects, is that of “natural beauty”. It not always only denotes an aesthetic experience but often alludes to metaphysical, spiritual and religious feelings, ideas, ideologies, conceptions and emotions of political representation and national identity.

The preservation movement to which Keynes contributed in the mid to late 1920s is a complex and diverse result of the early conservation movement, the housing reform movement, and the town and country planning movement. Therefore, Keynes addresses several of these aspects in his contributions to the preservation of rural England, reflecting his multidimensional influences and interests, which are rooted in these various intellectual currents. However, the beauty of nature plays a predominant role. The following will therefore focus on the concept of natural beauty and its roots in the conservation movement, relating to other relevant streams of thought where appropriate.

3.2.1 Romanticism and the early conservationist movement – beauty in philosophy, arts, and literature

“A thing of beauty is a joy for ever”

(John Keats 1818)

The purpose of this exposition is twofold: first, to trace the emergence of the notion of natural beauty as later understood within the English rural preservation and planning movement; second, to highlight the network of advocates for natural beauty over time, culminating, amongst others, with Keynes and his social circle. Therefore, the analysis shows some of the philosophical, ideological and personal influences on Keynes and his social circle that might have led to him advocating for the preservation of the countryside.

A comprehensive history of aestheticism and the notion of beauty in nature would stretch back as far as human history. Even a more recent account must grapple with the diverse perspectives reflected in the many scientific and artistic disciplines that engage with the topic. The emergence of aesthetics as a branch of philosophy, for instance, is itself a complex episode in the intellectual history of the eighteenth century. Similarly, humanity’s evolving attitude toward nature and the environment — shaped by shifting socio-economic conditions, institutions, cultural norms, and philosophical outlooks — is equally intricate.

Perhaps a succinct access point is provided by Karl Ditt (1996, p. 2) and revolves around the history of British conservationism:

In England the ideological roots of nature conservation go back to certain painters, writers and landscapers of the Romantic period, who during the eighteenth and nineteenth centuries started to aestheticise and idealise individual images of nature and landscapes.

It is useful, however, to take a step further back and consider the important pre-industrial influence on this Romantic tradition: the philosopher Edmund Burke (1729–1797). Burke is a fitting starting point for several reasons. He was not only a significant contributor to the emerging discourse on aestheticism in England, but also an important influence on Keynes. Keynes was well read on Burke⁴⁶, whom Skidelsky described as Keynes’s “political hero”⁴⁷ (quoted from Harcourt and Turnell 2005, p. 18), and on whose political doctrine Keynes wrote a prizewinning essay as early as 1904 (O’Donnell 1989, p. 12).

⁴⁶ more so than, for instance, on John Stuart Mill (Skidelsky 2003, p. 96).

⁴⁷ Skidelsky called him his “political hero” (Harcourt and Turnell 2005, p. 18), whose prudence, paired with Keynes’s belief in fundamental uncertainty, influenced his tendency towards marginal improvements of public affairs rather than revolutionary sweeps. Carabelli (2021, p. 113) even speculates that Burke’s 1757 *Enquiry* and his notion of the *sublime* influenced Keynes’s idea of tragic beauty, which will be discussed in section 3.3

Burke's influence on English Romanticism is complex (Bourke 2012, p. 36), and he does not easily fit into the common — but simplifying — narrative that contrasts sensual Romantics, who valued non-material ideals, with the rationalist Enlightenment thinkers promoting utilitarian calculation (Ditt 1996, p. 1). However, from the perspective of the history of conservationism in England, Burke adds an important dimension to the story — one that would heavily influence the “painters, writers and landscaper of the Romantic period” (Ditt 1996, p. 2).

Burke's *Philosophical Enquiry into the Origin of our Ideas of the Sublime and Beautiful* (1757) constitutes his sole contribution to aesthetics, but would provide a distinction of value for the Romantics. In contrast to others — like David Hume or John Locke — before him, he “was the first to propose an uncompromising empiricist — that is, sensualistic — account of aesthetic experience” completely uncoupled from “extrinsic considerations” (Gasché 2012, p. 24.). To Burke, the most interesting part of aesthetic experience was the fact that it supposedly had its valuable emotion-arousing impression on us before we could reason about them; although his contemporaries would not find that account of aesthetic experience “particularly philosophical” (Bullard 2012, p. 53), it made it all the more valuable for Romantic artists and thinkers emphasising the uncertain, even spiritual, and mystical.

In the *Enquiry* he differentiated between the antithetical concepts of *beautiful* and *sublime*. Both constitute aesthetic experiences, but evoke different emotional responses. Underlying his concept of two universal aesthetic experiences is the fact that humans share the same organs and senses (Gasché 2012, p. 25). He therefore bases the notion of the sublime on the all-encompassing fear and terror of death and the universal and instinctive self-preservation urges. The sublime delight arises by avoiding and marvelling at this terror. In nature the majesty and grandeur of towering mountains, or thundery storms and vast oceans evoke sublime feelings of insignificance and humility that can even be pain and terrifying (Gasché 2012, pp. 27-28). The beautiful however is a “social quality” related to love and similarly passionate feelings (Gasché 2012, p. 30). The notion of the sublime — also further discussed by Kant — became a vocal point of Romantic aesthetics and their attitude towards nature (Stewart 2008, p. 63; Groom 2008, p. 41). Even the untamed nature that was often understood as bare, cruel, and threatening⁴⁸ became a source of highest positive emotional arousal.

This change in attitude towards nature and its mysterious beauty is reflected in the first-generation romantic literature most distinctly affiliated with William Wordsworth (Trevelyan 1931,

⁴⁸ G.M. Trevelyan (1931, pp. 97-103) — as will be seen a key figure in this paper — discusses the evolving aesthetic appreciation of natural landscapes, highlighting how the Scottish Highlands, once regarded as lawless and dangerous, gradually became celebrated as a treasure of natural beauty.

p. 94; F. Reynolds 2017, p. 6; Selman and Swanwick 2010, p. 3). Wordsworth (1770-1850) widely understood as England's greatest nature poet is considered to be the most prominent figure in the romantic tradition (Pite 2003, p. 180). He grew up in the lake district which would inspire much of his most famous work promoting natural beauty. In fact, he and his friends Robert Southey and Samuel Taylor Coleridge were, and still often are, called the "lake poets" or "lakers" as they heavily identified with the lake district, which featured in all their writing (Cox 2008, pp. 11-12)⁴⁹.

For Wordsworth the notion of Burke's sublime plays an important role in his appreciation of nature, extending Burke's psychological and philosophical explanation of the aesthetic experience of terror to spiritual, social, and ethical dimensions (Newlyn 2003, pp. 60-62). Although it is a component of Wordsworth's writing, nature is not only a pastoral refuge from the city and the enlightened, rationalist society, but also a social place where people relate to each other and experience community (Pite 2003, p. 181).

For example, in his best-selling *Guide through the District of Lakes (1810)* he actively promoted the enjoyment of untamed natural beauty for everyone by not only poetically describing the landscape in lyrical detail, but also by providing routes and viewpoints (Reynolds F. 2017, p. 6). His description of the Lake District as "a sort of national property in which every man has a right and interest who has an eye to perceive and a heart to enjoy" can be seen as one of the earliest calls for national parks (quoted from Reynolds F. 2017, p. 6). With poets like Wordsworth the attitude towards natural beauty not only shifted to a more universal and general admiration of even the wild and mysterious aspects of nature, but it also starts to change to a defensive, conservationist attitude in the face of increasing industrialisation. On the one hand Wordsworth welcomed "an ideal of sincere, independent travel" to the countryside, but detested the "degraded tourism that so often seemed to follow in its footsteps" (quoted from Richards 1995, p. 140). Tourism that was made possible by the rapid expansion of the railway which was to threaten the lake district.

In an early act of conservationism, he protested the planned railway from Kendal to Windermere in a series of letters to *The Morning Post* in 1844, ultimately unsuccessfully arguing that it would disrupt the solitude of the Lake District (Reynolds F. 2017, p. 6; Richards 1995, pp. 123, 125). Nevertheless, his popular pastoral poetry gave prominence to the beauty of the English countryside and his activism for the preservation of the lake district empowered others to

⁴⁹ Bradshaw (2011) explains in detail how the label was primarily advantageous to Wordsworth, who most strongly identified with the Lake District. In any case, all their work promoted natural beauty and continued to resonate with the public thereafter.

do the same, resulting in the establishment of the Wordsworth Society in 1880, which would become a meeting point for early conservationists (Gill 1998, pp. 235-260).

Wordsworth influence on the so called second generation of romantic poets (Cox 2008), most distinctly associated with Lord Byron (1788–1824), Percy Bysshe Shelley (1792–1822) and John Keats (1795–1821), is a complicated topic of discussion. Questions of style, religion, the attitude towards the French Revolution and, given there was a chronological overlap between the two generations, even personal quarrels have been the topic of much literary studies (Cox 2021, pp. 1-33). However, there is truth in the conventional story — especially with regards to Keats, whose poetry Keynes explicitly mentions alongside nature as an example of *pure beauty* — that emphasises both generation’s shared love for nature (Cox 2021; F. Reynolds 2017, p. 6; O’Donnell 1995, p. 111). And therefore, Wordsworth and other romantic poets fostered a protective attitude towards nature that would carry over into the Victorian age and the twentieth century.

Ruskin, Morris and the National Trust

One of these activists was the influential writer, philosopher, polymath, art historian and art critic John Ruskin (1819-1900). His influence on English intellectual life, especially on the conservationist movement can hardly be overstated (Walton 1995, pp. 145-164)⁵⁰.

Already early on obsessed with arts and aesthetics — writing his first book *Poetry and Architecture* as a teenager — he had his Burkean aesthetic and spiritual awakening to nature’s beauty as a young man watching a spectacular storm gather in the French alps (Reynolds F. 2017, pp. 11, xii-xiii). Keats and Wordsworth⁵¹ were at some point the only English Romantics in his poetry shelf and already in his youth — influenced by Burke and Wordsworth — he understood the “image of the country” as a God-given “national inheritance” which was to be preserved for present and future generations (Hilton 1985, p. 214; Hanley 1995, p. 22). Another connection to Wordsworth was the activism against the invasion of the lake district by the railways — a fight he picked up when Wordsworth died in 1850 (Reynolds F. 2017, p. 12; Hanley 1995, pp. 22-24).

Crucial to Ruskin’s work was a thoroughly anti-industrial and anti-urban sentiment. He inveighed against modern life opposing industrial civilisation with natural beauty, consistently

⁵⁰ His thirty-nine volumes spanning edited works were published between 1902 and 1912 and were at the time the most “elaborate editorial homage accorded to any English writer, even including Shakespeare” (Hilton 1985, p. xi).

⁵¹ Himself a member of the Wordsworth society (Austin 1990, p. 585).

bemoaning the pollution of what he regarded as sacred (Carroll 1995, p. 72). Importantly, against the post-enlightenment utilitarian liberalism, Ruskin argued that nature had intrinsic value outside of the market evaluation and advanced a “radical critique of Victorian capitalism” (Henderson 2000, p. 143).

He critiqued the congested, unsanitary cities of the nineteenth century as both physically and morally detrimental, advocating instead for smaller, meticulously planned cities (Mallet 1995, pp. 38-57). These cities, according to Ruskin, should not dissolve into desolate suburbs inhabited by the less fortunate but should transition into verdant green belts, populated with lush trees and gently flowing streams (Reynolds F. 2017, p. 12).

Ruskin promoted these ideas through his writings and widely attended public lectures, garnering a following that played a pivotal role in the intertwined evolution of the preservation and rural and urban planning movements in England.

As mentioned above, Josephine Reynolds (1952, p. 52), with respect to the modern English town planning movement, identifies two streams of ideas which culminate in Ruskin. First, a group of ideas associated with Utilitarians, Christian Socialists and other individuals like Robert Owen that saw the urban environment as poison to the moral constitution of the population – “their efforts resulted in the rapid advance in sanitary science and in ideas for the improvement of the housing conditions of the working classes” (Reynolds J. 1952, p. 52). The second stream of ideas is the romantic tradition and the general belief that the country was a better place to live in than the city. Ruskin combines these ideas in an integrated approach revolving around nature:

With John Ruskin, the moral purpose of the first group found an outlet for the romantic ideas of the second. Widely read and admired, and taken extremely seriously by many intelligent and discerning people, his ideas penetrated deeply, and through him the passion for Nature was transmitted to a wide public (Reynolds J. 1952, p. 52).

Ruskin therefore became a key influence on both the town planning and housing reform movement, as well as the conservationists and preservation movement. These movements shared a concern for natural beauty and its positive effects on physical and “moral” health, promoting access to green spaces in both urban and rural areas.

One important follower of Ruskin was Ebenezer Howard (1850-1928), an English urban planner and the founder of the “Garden City Movement”, which promoted the establishment of satellite garden communities outside of major cities. In his 1898 *To-Morrow: A peaceful Path to Real Reform* (Howard 1898, p. 12) he describes a vision of combining the advantages of both urban and rural life in one planned and designed place. At the beginning of the first chapter, he

quotes Ruskin's critique of political economy *Unto this Last* (1862) echoing the anti-urban sentiment and asserting the substantial necessity for nature and its beauty: "As the art of life is learned, it will be found at last that all lovely things are also necessary: - the wild flower by the wayside, as well as the tended corn..." (Howard 1898, p. 50).

Eight months after the publication, Howard and his supporters formed the Garden City Association to promote his ideas. The association, in need for investment for the social experiment, attracted wide support, ranging from freethinkers to businessmen and academics (Clark 2003, p. 94). In 1903, just outside London, the first garden city was initiated and planned by Barry Parker (1867-1947) and Raymond Unwin (1863-1940). Unwin, arguably the most influential figure in British planning (Hall 1995, p. 228), would later be in close contact with Keynes⁵².

As Ruskin was above all an artist, many of his ideas directly related to art. Opposed to the materialistic and increasingly mechanistic industrialism, he pondered on the importance of the creative and enriching aspects of labour. Aspects that were in line with contemporary socialist and Marxist ideas. However, against most Marxists, Ruskin envisioned a society that would return to pre-industrial modes of production, where artisan skills and moral health would flourish through agricultural work and de-mechanized craftsmanship (Norris-Broughton 2022, p. 53).

Ruskin's writing inspired another group of activists of whom the most famous and himself widely influential was William Morris⁵³ (1834-1896) (Reynolds F. 2017, p. 15). Morris himself an artist, poet, writer and a devout socialist, became a leading representative of the anti-industrial activism of Victorian England. However, he was not entirely opposed to Industrialism and believed in a future where artisan skills could flourish while profiting of the increased efficiency of machinery (Norris-Broughton 2022, pp. 53-54).

Still, his writing expressed nostalgia for a harmonious peasant life and was heavily concerned with beauty in arts and nature and combined romantic sentiments with modern socialist ideas (Norris-Broughton 2022, p. 54). In fact, in contrast to Ruskin's belief in conservative, elitist social hierarchies influenced by post-French Revolution thought, and his advocacy for a corporatist approach, Morris was an ardent democratic socialist who thoroughly opposed parliamentary government and became an important figure in the contemporary socialist British landscape (Norris-Broughton, 2022, p. 54). Nonetheless, Ruskin had an immense influence on Morris,

⁵² See section 3.4.

⁵³ Both Ruskin and Morris were "informed advocates of Howard's 'garden city' movement" (Selman 2010, p. 7). In turn, the two planners of the first Garden City, Parker and Unwin, were both influenced by Morris (Clark 2003, p. 94)

and a shared love for beauty and nature, along with a desire to make them accessible to everyone, permeated both of their visions of society. Ruskin's and Morris' artistic, poetical and philosophically founded political engagement for natural beauty played an important role in the emergence of a voluntary preservation movement (Selman 2010, p. 5).

Three key figures in the early English preservation movement, and followers of Ruskin and Morris, were the founders of the National Trust, which brought together many smaller civic societies inspired by Ruskin's ideas: Ruskin's pupils, social reformer Octavia Hill and Canon Hardwicke Drummond Rawnsley, along with the lawyer Robert Hunter.

Robert Hunter (1844 – 1913) was solicitor of the Commons Preservation Society⁵⁴, the oldest British conservation society founded in 1865. In 1866 it became known for the earliest form of direct action to defend the right of the public to enjoy common land. The society organised a 120 people strong overnight operation to disassemble a 2-mile-long steel fence put up by a landlord to enclose Berkhamsted Common⁵⁵ and claim the land for his family (Barberis et al. 2000, p. 23). The medieval system of land tenure understood the commons as property of the landowner, on which the commoners were allowed to graze their cattle. However,

Private Enclosure Acts empowered landlords to enclose their common land, often literally with a thorn hedge or wooden fence, while the landless peasants were left with nowhere to graze their cattle. By the mid-nineteenth century millions of acres of commons had become productive farmland and the remaining commons were unevenly distributed...In the south of England commons were becoming valuable building sites (Jenkins and James 1994, p. 18-19).

The result was a steady decline in commons, which were also often used for recreational purposes and their aesthetic value. The CPS merged with the National Footpaths Society in 1899, becoming the Commons and Footpaths Preservation Society, which campaigned for the protection of commons, greens and paths for public access and benefit.

According to Fiona Reynolds (2017, pp. 17-20), Octavia Hill (1838 – 1913) came from a family of radical thinkers and philanthropic traditions and was deeply committed to alleviating poverty⁵⁶. She was therefore receptive to Ruskin's ideas when she met him as a teenager. Even

⁵⁴ Today *Open Spaces Society*. The CPS was supported by many influential social reformers like John Stuart Mill and Thomas Huxley (Jenkins and James 1994, p. 18).

⁵⁵ Berkhamsted Common was acquired by the National Trust in 1926 (Jenkins and James 1994, p. 56). For a more detailed account of this event see Cowell (2002).

⁵⁶ In 1876 her sister, Miranda Hill, founded The Kyrle Society for the Diffusion of Beauty. It "was named after the English philanthropist Robert Kyrle, whose work to improve and embellish the town of Ross-on-Wye was widely admired...Its purpose was, straightforwardly, 'to bring the refining and cheering influences of natural and artistic beauty to the people'. Drawing heavily on Ruskin's ideas its members provided art in public places, decorated hospitals and schools, organised choirs and laid out gardens" (Reynolds F. 2017, p. 16).

then, she led disadvantaged schoolchildren out of London to experience the quiet beauty of nature. In her thirties, with the financial backing from Ruskin, she purchased several properties to provide humane housing conditions for the poor, becoming a forerunner of social housing in England. Appalled by the destruction of green spaces in London, she began campaigning for the preservation of open spaces. Through this activism, she met Robert Hunter.

Hardwicke Rawnsley (1851–1920), a devoted Wordsworthian, studied under Ruskin at Oxford. However, like his father and grandfather, he went into the church and became an Anglican priest (Jenkins and James 1994, p. 9). Ruskin referred him to Octavia Hill, and he quickly became involved in campaigning for open spaces. Like Hill, he also took schoolchildren for walks in the countryside (Reynolds F. 2017, p. 23). Inspired by Wordsworth, and even living in one of his former homes for some time, he eventually settled in the Lake District, where he campaigned for its preservation (Jenkins and James 1994, p. 10).

Hunter, Hill and Rawnsley became friends in the fight for natural beauty, connected by a deep-rooted concern for the less fortunate. Disappointed by the relatively slow progress through political action it became clear that the rapid destruction and enclosure of beauty spots and open spaces could in the meantime only be met by privately organised acquisition. Further, in 1894 Hill noted on the provisional council meeting for the National Trust that it was necessary to provide means “by which landowners and others may be enabled to dedicate to the nation places of historic interest or natural beauty, and that for this purpose it is expedient to form a corporate body, capable of holding land” (Jenkins and James 1994, p. 24). A year later, on 12th of January 1895 “The National Trust for Places of Historic Interest or Natural Beauty” was registered with the intention to “promote the permanent preservation for the benefit of the Nation of lands and tenements (including buildings) of beauty or historic interest” (Jenkins and James 1994, p. 25).

The tradition of contemplation and appreciation of beauty championed by romantic poets, artists, and philosophers, and embodied in the anti-industrial activism of Ruskin and Morris, therefore significantly influenced socially-minded philanthropists, leading to the creation of the National Trust. The Trust’s affiliation with early conservationist groups, such as the Commons, Open Spaces, and Footpath Preservation Society, along with the close ties of its founders to the Lake District, led them to continue the efforts of Wordsworth, Ruskin, and Morris, dedicating substantial resources to protecting the natural landscape from industrial encroachment. However, as pronounced in the charter, considerable effort also went into securing historical and beautiful sites and buildings, such as castles, country villas, and even Stonehenge (Jenkins and James 1994, pp. 28-29). Up to World War I, during which the activity of the Trust slowed down,

it had recruited 725 members and owned sixty-three properties, either by donation or acquisition (Jenkins and James 1994, p. 40).

The end of World War I and the beginning of the 1920s marked a new era of conservationism in England. With planning playing an increasingly important role, a shift occurred from pure conservation to preservation. The return of soldiers needing homes, economic turmoil, and the advent of the motor transport revolution posed new threats to the country's natural beauty. During this period, there was a noticeable shift in focus, with more concentrated efforts directed towards protecting natural landscapes rather than buildings, as these new challenges demanded heightened attention. The social and philanthropic aspects of the movement remained central, particularly in the desire to promote access to nature for all. However, the nineteenth-century focus on urban, moral degeneration and sanitary issues gave way to the perceived urgency of preserving the natural beauty of the countryside, which was increasingly seen as a symbol of shared national heritage.

3.2.2 The preservation of rural England post World War I

“But we are apt to forget that the greatest historical monument that we possess, the most essential thing which *is* England, is the Countryside, the Market Town, the Village, the Hedgerow Trees, the Lanes, the Copses, the Streams and the Farmsteads (...) Is there indeed anything which Science or Mechanism may create to compensate an Englishman for the loss of the Countryside?”
Patrick Abercrombie (1926, p. 6) *The Preservation of Rural England*

The poetical and philosophical tradition of appreciating England's natural beauty, alongside the early conservation movement, gained significant traction after World War I. Two key factors contributed to the growing idea of a countryside in need of protection. First, English war propaganda employed the narrative of a beautiful England by asserting that the rural landscape represented the “essential England being fought for” (Willis 2018, p. 259). This not only strengthened identification with the landscape during the war but also continued to inspire activism in the interwar period. England was seen as in need of protection not only from wartime enemies but also from harmful peacetime developments. As a result, the focus gradually shifted from early, predominantly conservation-oriented efforts to a more progressive understanding of preservation and reconstruction (Willis 2018, p. 260).

Another aspect that drew increased attention to the preservation of rural England was the rapid socio-demographic change. This included a significant population increase, which doubled from the mid- to late nineteenth century, surpassing thirty million by the end of World War I

(Sheail 2002, p. 12; Thomas and Dimsdale 2017). Accompanying this growth was a wider geographical spread, facilitated by the public and private motor transport revolution.

For example, between the 1911 and 1951 censuses, London was the only county to show a population decline (Taylor 1965, p. 167). People moved from city centres to the outskirts, as the workplace no longer needed to be within immediate proximity to their homes. Although the car became a middle-class commodity, “the Englishman, commuting to work in his own car, was still far from being the normal pattern” (Taylor 1965, p. 303). The shift in living locations was mainly driven by the expansion of public transport. Tramlines saw a short-lived boom, which reversed by the end of the 1920s, as buses and charabancs eventually became the dominant forms of public transportation, freeing the population from rail tracks and onto the roads (Taylor 1965, pp. 303–304). As a result, “England became suburban, except for the slums at one extreme and the Pennine moors at the other” (Taylor 1965, pp. 167–168).

With the motor revolution came an increased demand for roads, housing, and infrastructure across the country. However, the provision of these was neither institutionally planned nor regulated, resulting in development driven largely by market forces (Taylor 1965, pp. 303–304). As Jeans (1990) describes, this led to a proliferation of roads, railways, petrol stations, advertisement hoardings, telegraph poles, and litter from urban visitors scattered throughout the countryside. While cities were overcrowded and slum conditions were dire, people from all social classes now had the opportunity to access and enjoy rural areas. Many did so, either as motor tourists or as new suburban and rural settlers, with four million houses built between 1919 and 1939 (Jeans 1990, pp. 251–253).

The National Trust responded to these perceived threats to traditional rural life by acquiring more commons and land through gifts and purchases. However, between World War I and the late 1920s, the Trust “undertook little work of a ‘militant’ character,” leaving a vacuum in political action and lobbying (Jenkins and James 1994, p. 61). This gap was filled in 1926 by a rapidly growing and politically connected ally of the Trust: The Council for the Preservation of Rural England (CPRE, now known as The Countryside Charity)⁵⁷. This federation of dozens of local organizations and affiliated societies was formed to “educate public opinion, organize concerted action”, and to pressure the government to introduce planning legislation (Jenkins and James 1994, p. 61).

⁵⁷ The CPRE was jointly endorsed by Lloyd George, Stanley Baldwin and Ramsay MacDonald, the leaders of the three main political parties (Jenkins and James 1994, p. 61).

Patrick Abercrombie, Vaughan Cornish and the CPRE

The first honorary secretary and a key figure in the emergence of the CPRE and the planning profession in general was Patrick Abercrombie (1879-1957). Abercrombie was an award-winning architect and professor of civic design in Liverpool, and later, a professor of town planning in London. He was also a private collector of William Morris's work, a faithful follower of Howard and a leading authority on the garden city movement, advocating for greener cities himself (Hall 1995; The Victorian Society, n.d.).

In the *Preservation of Rural England* (1926), the intellectual foundation of the council (Matless 1993, p. 167), he describes the developments threatening what he regarded as the internationally unmatched beauty of the English Country side. The article merits closer examination, as it represents the official standpoint of the highly influential new institution and summarizes the state of the discussion on rural preservation in the mid-1920s. Interestingly, its perspective is clearly reflected in Keynes and his social circle's contributions, suggesting their high level of awareness and engagement with the ongoing discourse and the CPRE in particular.

Abercrombie starts his 1926 article by identifying the various forces driving these developments, connecting them to relevant existing and potential policies, and assessing their impact on the preservation of rural England.

He describes urban decentralization as the result of several interacting trends and observes that the benefits of increased mobility extend not only to the population but also to industry. Previously constrained by the location of infrastructure and labour, industry can now spread more widely across the country. Abercrombie argues that the regrouping of the population is a trade-off between the higher cost of living in the city and its suburbs, and the transportation costs from the countryside to the city — thus, the modern commute was born (Abercrombie, 1926, p. 10).

He is also concerned that the increased construction of houses, factories, roads, and motor cars, which began some time before the war, will accelerate. He argues that most of these rapid changes occurred during a period of trade depression and expresses concern that “Mr. Baldwin's electricity scheme, multiplied by trade revival and legislative aid to Agriculture and Town clearance, will increase more rapidly still the rural revolution” (Abercrombie 1926, p. 12). He further notes that, with “cheap power... fluid throughout the land”, factory locations will no longer be bound to the proximity of coal or electric stations and will instead be free to spread across the country (Abercrombie 1926, p. 12).

From this accelerating process arises an urgency to act. To support this claim, Abercrombie argues along historical lines. Here, we see the direct relationship between the early pioneers of town and country planning, the conservation movement, and early anti-industrial thinkers. Revealing the influence of Ruskin and Morris, he critiques the narrative of Adam Smith's invisible hand and the self-coordinating market process, associating it with the ruthless and anarchic destruction of the feudal order. Wryly commenting on the past mistakes of *laissez-faire* economics, he states:

There is therefore no time to be lost if the English countryside is not to be reduced during this century to the same state of dreary productiveness to which the English town sank during the industrial revolution of last century. If we have allowed Adam Smith's doctrine of the 'invisible hand', gradually creating order out of individual success, to dominate our industrial towns and coalfields, we cannot afford to wait for a similar emergence of economic beauty from a devastated country side (Abercrombie 1926, p. 13).

Continuing with this argument, Abercrombie turns his attention to ribbon development, one of the most debated consequences of uncontrolled infrastructural expansion, where long stretches of road frontage are built up — often only one house deep — along bus routes. Abercrombie once again draws a comparison to the Industrial Revolution and its chaotic outcomes:

these strips of the countryside are thus being colonised with no more rationale of social grouping, or economies of estate development or aesthetics of rural design than existed during the industrial revolution of last century (Abercrombie 1926, p. 20).

This development may be economically rational from an individual perspective, but it is clearly questionable from a societal standpoint. He not only critiques the economic doctrine that individual success leads to the greater good, but also addresses non-economic dimensions:

Socially, there can be no focussing of civic life; economically, there is a future heritage of administrative expenses, the ribbon development being clearly the most extravagant [sic!] type of lay-out to sewer, water, light and police; aesthetically, it inflicts the maximum damage to the country landscape - the same number of houses reasonably grouped could be made to drop into place almost unnoticed (Abercrombie 1926, p. 20).

The houses themselves are also a concern. Abercrombie and others highlight the lack of effort put into the appearance of many newly built houses and the cheaply available bungalows, sometimes set on wheels (though never moved), scattered across the countryside and spoiling the view. Additionally, less permanent but equally disruptive "disfigurements", such as advertisements and litter, are also discussed (Abercrombie 1926, p. 27). Before addressing these concerns, however, Abercrombie turns to the more fundamental question: what exactly is being disfigured?

Abercrombie notes that “It may seem pedantic to essay a catalogue of ‘rural sights’, or to make a schedule of the country’s assets: they are indeed too various, too numerous for a dull inventory” but emphasises that in order to manage the change “some sort of analysis is necessary” (Abercrombie 1926, p. 13). In several passages he then describes these assets and what makes them special: country towns and villages with their characteristic architectural and gardening beauty⁵⁸; the wild country, mountains, moors, fens, forests and coastal stripes; “special scenes of famed beauty” like Thames Valley; footpaths, rural lanes and commons; rivers and brooks; trees and hedges (Abercrombie 1926, pp. 13-19). This may constitute one of the first attempts to systematically catalogue what was to be protected.

With Abercrombie and interwar preservationists, we observe a departure from pure conservationism. The National Trust and other early conservationist societies fought the early battle of preservation on the basis of conserving natural beauty before it was destroyed. However, Ruskin and Morris also already understood conservation efforts as a progressive and even socialist force. Their conception of “beauty in accord with nature” as essential and healthy for all human beings strongly mirrors contemporary theories of ecological aesthetics (Selman 2010, p. 6). Conservation was not just protection of something valuable but also a step towards a better world, leaving behind the ills of the Industrial Revolution and its laissez-faire philosophy. Abercrombie was clearly influenced by this understanding of natural beauty and identifies the uncontrolled market process as the main culprit.

This conception of an “untamed” market process as the antagonist of progress leads to a modern view of planning. Abercrombie does not advocate for the unaltered preservation of all assets of beauty but asserts throughout his paper that “some parts may require preservation in exactly their present state, others are capable of alteration without losing their essential character, and others again may be entirely remodelled but in such a way that the newly-created feature is not an eyesore, but rather an object of positive attraction” (Abercrombie 1926, p. 13).

His overall conclusion is that “it is not safe to leave these changes to adjust themselves, hoping that somehow a general harmony will result from individualistic satisfaction” (Abercrombie 1926, p. 56). There are legal powers already in place that are not perfectly shaped for the task

⁵⁸ As mentioned above, apparently internationally unmatched: “England may be said to have invented the village, and she has certainly perfected her invention ; nor is there anything like it in any other country” (p. 14). The idea that the English countryside is representative of the national identity is omnipresent in the rural preservation movement after World War I.

of preservation and aesthetic development, but said task can only be accomplished by cooperation of “Statutory Authorities, Voluntary Bodies and the General Public” (Abercrombie 1926, p. 56).

As David Matless (1998) puts it:” The CPRE was distinctive...in seeking a complete coverage of rural landscape through the co-ordination of the efforts of groups concerned with specific issues of architecture, planning, landowning, leisure, local government and wildlife”. Therefore it “entailed not a conservative protection of the old against the new but an attempt to plan a landscape simultaneously modern and traditional under the guidance of an expert public authority (Matless 1998, p. 25)”.

In fact, according to Abercrombie, there had been some twenty-five years of experience in aesthetic design and planning in the *urban* environment. The aesthetic side of town planning had been accepted by the academics, although not always widely applied by the government, under the general and somewhat vague notion of *amenity*, as “providing a pleasant place to live” (Abercrombie 1926, p. 49; Adshead 1914). Generally, much less attention had been paid to designing the beauty of the landscape, and the aesthetic description of the countryside had been wholly left to the poets and artists, with their descriptions of natural beauty being mostly artistic.

Another important CPRE activist and member of the first hour, Vaughan Cornish (1862-1948) the by-then famous geographer, took it upon himself to find a more scientific and principled approach to the description of natural beauty. However, being an artist himself and receptive to the poetic appreciation of natural beauty, he added to the field of geography the qualitative dimension of landscapes, advancing the idea of “aesthetic geography” (Cornish 1928; Goudie 1972). In his work, Cornish coined the concept of “scenic beauty” and was instrumental in broadening the application of the term “amenities” to include natural landscapes, not just urban environments (Goudie 1972, p. 7).

Keeping in mind the high status of the price winning former president of the Geographical Association (T.C.W. 1948), reading Cornish’s *The Scenic Amenity of Great Britain* (1934), it becomes clear why many of the contributions to the rural preservation movement at the time did not sharply distinguish between rural amenities and natural or scenic beauty as they were often understood as a “holistic”, sensory and aesthetic experience:

it is well to recall the fact that the word " scenery " is derived from the Greek skēnē, a ten or stage, and that " the natural scene " may be properly regarded as the stage on which Nature plays the drama of the senses. Thus, not only the form and colour of the landscape, but the song of birds, the sounds of running water, the fragrance of the field, and the mere breath of pure, fresh air are scenic amenities. Discordant noises are an offence against one of the

amenities, smoke doubly offensive, since it disfigures buildings and contaminates the air (Cornish 1934, p. 195).

While Cornish added aesthetic geography to the intellectual corpus of the CPRE campaign, Abercrombie focused on the design aspects in the hopes of providing expert counsel for institutions amidst the rapid interwar developments.

Abercrombie acknowledged that natural beauty did not arise solely from wilderness, but that humans were part of nature too and that the English countryside had been subconsciously altered long before. On this basis he argued that there would be no reason not to alter the landscape consciously in times of sudden change (Abercrombie 1926, p. 50). While much expertise on *town* planning had been imported from European countries such as Belgium, Sweden, Germany, France and Italy, Abercrombie believed there was no appropriate predecessor in *landscape* design. In their search for ordering principles that could be applied Abercrombie sought guidance from the Chinese who, according to him, spent much attention to the aesthetic composition of landscapes.

Through Abercrombie “fengshui” became an underappreciated influence (Abercrombie 1926, pp. 50-52; Matless 1993) in the rural preservation and Town and Country planning movements. The influence of traditional Chinese aesthetics further exemplifies the complexity of influences within the movements. Fengshui can be understood as minor, but yet additional influence, alongside the romantic, religious, and spiritual appreciation of natural beauty, anti-industrial and anti-laissez-faire sentiments, socialist and Christian public health philosophies, and advancements in architecture and design, particularly during the Great War. Together, these factors collectively led to the advocacy for state intervention and planning in the interwar years.

Among these rural preservationists, there was a universal appreciation for the National Trust, leading to close personal and topical cooperation. However, a new, integrated perspective on the urban–rural divide began to emerge — one that extended beyond mere conservation. With the advent of the motor car, the threat to the countryside accelerated significantly compared to the nineteenth century, and leading CPRE activists perceived a potential risk in the National Trust becoming a mere museum, a “counsel of despair”, preserving only select, renowned areas of beauty, while the rest of the country’s natural beauty remained vulnerable to a laissez-faire market, driven solely by profit motives (Matless 1990, p. 211). Planning policies in mind, the CPRE managed to unite private efforts and establish connections deep within Whitehall. As the 1929 general election approached, party leaders Lloyd George, Stanley Baldwin, and Ramsay MacDonald jointly endorsed the CPRE in open letters (Jenkins and James 1994, p. 61).

Although the destruction of England's beauty was publicly mourned, it seems that significant attention was primarily drawn from artistic and academic circles, as well as from the educated elite who were relatively free from material constraints. In 1929, architect Percy Richard Morley Horder (1870-1944) read a paper to the Royal Society of Arts observing that "the daily press is full of protests on the subject of the disfigurement of England" and that "there are over fifty societies dedicated to preserving the countryside or aspects of its beauty [...]. The protests seem sufficiently provocative, and the books eloquent. But they reach only a small circle of interested and educated people" (p. 98). The idea that educated and interested people were the spearheads of the protest against the threats to rural England's beauty, initiating the creation of relevant societies is further supported by Burchardt (2012, p. 81)⁵⁹ who concludes that "a crucial role was played by a close-knit group of academics and local government officials".

The following chapter is examining such a close-knit group of academics and intellectuals. At the forefront and of special interest for the history of economic thought is John Maynard Keynes, but the group also features friends from the "Bloomsbury group", many "Cambridge Apostles" and often both. It will be shown that their shared love for rural England was grounded in a common understanding of the importance of beauty and aesthetics resulting not only from the romantic tradition, socialist and progressive tendencies, but importantly also stemming from G.E. Moore's ethical intuitionism. For Keynes it becomes clear even given his liberal and subjectivist inclinations that planning emerges as the only way to secure the good and the beautiful. This perspective sheds new light on the long debate about Keynes and planning, offering an original viewpoint centred on natural beauty and rural preservation.

3.3 Foundations and origins of Keynes's writing on rural preservation

The following chapter examines the foundations and origins of Keynes's thought and their impact on his contributions. Delving into these foundations and origins presents numerous challenges typical to the history of ideas: ambiguities in definitions, recollection errors, the scarcity of sources, interpretive debates, and the countless small yet significant details that arise when tracing the intellectual development of a single individual. All these problems have been broadly discussed and often disagreed over (O'Donnell 1989; Moggridge 1992; Skidelsky 2005; Mini 1991; Bateman and Davis 1991; Cottrell and Lawlor 1995). Naturally, Keynes as a

⁵⁹ It should be noted that Burchardt (2012) examines the rural community movement, which, although distinct in its institutional aims from the rural preservation movement, shared key ideological foundations — such as concerns over urban encroachment, cultural continuity, and rural identity. His conclusion that a close-knit group of academics and local government officials played a crucial role in shaping these efforts directly supports the argument here about the similarly elite-driven character of the rural preservation movement.

person just as prolific as provocative will have scholars disagree on these most difficult questions of intellectual history. However, there is also broad agreement on many aspects of Keynes's thought and luckily for this paper, the case rests on many of these agreeable aspects; shedding new light on them by discussing them within the context of rural preservation, supporting a distinct reading of Keynes.

Several arguments work together to explain Keynes's involvement in the fight for Rural Preservation. On the one hand it is a clear appreciation of natural beauty as what it is — the most original source of beauty which can instil a good state of mind through the perception of the observer. Two of the greatest intellectual influences in his life — Marshall and Moore — both offered a way into perceiving of Nature as worthy of protection. From a Marshallian perspective it is about human progress; an antidote to the stressful and poverty ridden life of many in the city, and an opportunity to revel in religious and spiritual emotions, replenishing the soul and moral health as well as labour power. From the perspective of Moore's ethical intuitionism, it is naturally and intuitively felt — a universal, simple to grasp human experience; the original amenity worthy of protection.

Similarly to Marshall, Keynes regarded the world as too complex for excessive formalism — an approach that was becoming increasingly central to economic thinking at the time — and instead embraced a more verbal style of reasoning grounded in common-sense observation and intuitive ethical introspection. This is reflected in his understanding of economics as a moral science, where natural beauty is incommensurable and resists the Benthamite tradition of quantification. For Keynes, it represents a non-economic yet essential part of life that cannot be meaningfully compared to economic costs or benefits. From his perspective, the purely logical and rational economic criterion is a poor guide to the good, which can only be grasped intuitively and should be fostered for all to enjoy. The implication of these maxims is the need for state planning to protect the social interest — what is commonly understood as the good — from the anarchy of laissez-faire market capitalism.

3.3.1 Keynes and natural beauty

Joan Robinson once reminisced that Keynes's "basic view of life was aesthetic rather than political"⁶⁰ (Robinson 1973, p. 9), and indeed, this sensibility remained central throughout his life. Many of his closest friends were artists, and he was a lifelong patron of the arts — collecting

⁶⁰ The full quote reads: "He hated unemployment because it was stupid and poverty because it was ugly. He was disgusted by the commercialism of modern life" (Robinson 1973, p. 9). These remarks resonate strongly with the broader argument developed throughout this paper, namely that Keynes consistently prioritised non-economic values in his thinking and practice.

paintings, supporting local arts societies, and eventually building the Arts Theatre in Cambridge and founding the Arts Council of Great Britain (Moggridge 1992 pp. 588, 696-705). His father, John Neville Keynes, was a highly esteemed lecturer in Moral Science at Cambridge (Moggridge 1992, pp. 8-9), and it is likely that the value of contemplating aesthetics was passed on to Keynes early in life. His liberal education at Eton — an elite boarding school where he spent two-thirds of his time between the ages of fourteen and nineteen — would have further nurtured this sensibility, particularly through exposure to the appreciation of nature in the tradition of Ruskin and Morris, both of whom were prominent intellectual figures by the end of the nineteenth century (Mini 1991, chs. 1-2).

We know that Keynes was widely educated in the major intellectual figures of his time, and his familiarity with both Ruskin and Morris is evident in his *Essays in Biography* (CW X). In his 1944 essay on Mary Paley Marshall, he quotes her recalling that it was “the pre-Raphaelite period, and we prepared our rooms with Morris” (CW X, p. 238). Having attended Oxford at the same time as Ruskin, she describes joyful dinner conversations and drawing lessons (CW X, pp. 243-244). Keynes also refers to his father as an “elegant mid-Victorian highbrow...buying William Morris wall-paper” (Moggridge 1992, p. 9), strongly suggesting that these aesthetic influences extended into his upbringing. Writing in 1936 about Herbert Somerton Foxwell’s critique of “‘unmoral’ tendencies in English economics”, Keynes notes that Foxwell had been influenced by the “prophets of his youth [...] Kingsley, F.D. Maurice and Ruskin, and sympathetic to their protests” (CW X, p. 271), leaving little doubt that Keynes was well acquainted with the moral and aesthetic critiques they represented⁶¹.

Marshall

Eton traditionally has close links to King’s College, Cambridge, where Keynes became an undergraduate in 1902. In 1905 he began working on economics and attended lectures by Alfred Marshall (Moggridge 1992, p. 94). The influence of Marshall on Keynes and his thought has

⁶¹ Describing the institutional direction of Eton and Cambridge as humanist with a positive view of the state, traditions, and community, Mini (1991) even argues that “as social philosophers, poets, critics, writers on aesthetics and ethics their work permeated Eton and Cambridge, the Apostles and Bloomsbury. They formed a major element in the spirit not of the age but of those institutions and groups of which Keynes was a member. This is why certain patterns of his thoughts and ideas are closer to the Coleridge-Ruskin tradition than they are to the Benthamite tradition” (pp. 2-3). With respect to early nineteenth century criticism of *laissez-faire*, Skidelsky (2003) argues that Mini’s reading has its place “if only because any critic of the nineteenth century was bound to sound, in some respect, like any other critic” (p. 501-502). However, his dismissiveness of this reading comes from an argument about economic theory not social philosophy — as Skidelsky continues “it is important to understand that he [Keynes] felt himself to be saying something completely new about the behaviour of economics, something which had never been said or thought before” (p. 502). This does not contradict the claim that Keynes was brought up in and most likely influenced by the environment described by Mini.

been the subject of much inquiry (Skidelsky 2005; Moggridge 1992; Groenewegen 1995a) and is by now undisputed⁶². While the transmission of specific economic techniques, models, and convictions from teacher to student can be transient, especially during tumultuous times, the overall approach to economics seems to have remained a consistent factor in the assessments of Marshall's influence on Keynes. Ironically, the most staggering parallel in their approach to science, and of relevance to this paper, is the notion of consistently and rapidly changing facts which to Marshall and Keynes, make economics an "engine of analysis rather than a body of settled principles" (Groenewegen 1995a, p. 139). Marchionatti describes how they both understood economics as a science of complexity riddled with uncertainty and dynamic, heterogeneous circumstances, only approachable by "a mixture of intuition, judgements of value and analytical ability (i.e., trained common sense)" with a limited place for mathematics and formalism (Marchionatti 2003, p. 49).

Groenewegen adds to these philosophical and methodological parallels the shared ethical outlook of "Social Progress and the Good Society" (Groenewegen 1995a, p. 143). An all-encompassing belief in the power of education and even eugenics, the evil effects of inequality, the need to prevent great fortunes and the genuine desire to improve the life even of the poorest in society (Groenewegen 1995a, pp. 143-148). Both aspects — the parallels in scientific and social philosophy — relate to a potential third influence not yet explored in the literature: Marshall's indirect influence on Keynes's involvement in the rural preservation movement. Two ways are possible and do not seem unlikely to have contributed to Keynes's involvement, as will be explained in the following.

One is directly through Marshall's love for nature and natural beauty, exemplified in a fragment on art which, was likely meant as a reply to Ruskin and Morris. The other runs through parts of the town planning and housing reform stream of ideas which contributed to the interwar rural preservation movement. Of course, these aspects are represented in his notion of progress. Beyond being explicit in his academic writing, it is not unlikely that these aspects found their way into Marshall's lectures and conversations during the time where Keynes was introduced to Marshall's thought⁶³. Caldari and Nishizawa (2011, p. 125) argue that even if Marshall's conception of progress — about which he even meant to write a book at the end of his life — was

⁶² There is much to be said about the relationship and its effects, particularly on Keynes, that cannot be addressed here; however, the referenced work relates to and aligns with much of the scholarly discourse on the subject and suggests a recognized synthesis.

⁶³ For instance, consider this section from the eighth edition of the *Principles*: "Against this [the pressure of population on the means of subsistence] must be set the growing difficulty of getting fresh air and light, and in some cases fresh water, in densely peopled places. The natural beauties of a place of fashionable resort have a direct

never properly developed by his Cambridge students, his ideas are present in their work. Further, even though several aspects of his conception of progress were “widely shared in Cambridge and beyond” at the time, his original understanding and combination of these aspects is “quite original” and therefore possibly contribute specifically to the similarities with Keynes (Caldari and Nishizawa 2011, p. 125).

Marshall’s idea of progress directly relates to his disdain for poverty and the outright misery prevailing in England’s nineteenth century cities (Rima 1990; Caldari and Nishizawa 2011; Caldari 2004, p. 522). His concern went far beyond a general contemporary concern — in his work, such as the *Principles*, he suggested improvements of the living environment of the poorest classes, while outside of his work he lent moral and financial support to philanthropists and societies aiming to improve the housing conditions of the working poor (Groenewegen 1995b, pp. 451-452).

In a public lecture he delivered in 1885 at the start of his focus on economic work, he addressed the issue of town life and “considered three sets of basic physical requirements for a wealthy society: raw materials, manufactured commodities and pure air, pure water and space for recreation” (Caldari 2004, p. 530). Especially the latter were in decreasing supply in the overcrowded industrial cities. In his *Principles* he suggested a “Fresh Air Rate”, which urban landowners should pay on the special value arising from the concentration of population (Caldari 2004, p. 532) and in a letter to the Editor of the *Times* in 1909 he argued that it should be invested in “small green spots in the midst of dense industrial districts, and on the preservation of large green areas between different towns and between different suburbs which are tending to coalesce” (quoted from Caldari 2004, p. 533). Part of the solution was to alleviate the overcrowding in the city centres and to relocate the poor to the suburbs, where they could have gardens and fresh air (Caldari 2004, p. 532).

Recognizing both the economic costs resulting from low efficiency as well as the detrimental physical and moral effects resulting from poverty and poor sanitary circumstances, and public advocating for urban and suburban green spaces naturally made him one of Ebenezer Howard’s heroes (Groenewegen 1995b, p. 452). Howard sent him both editions (1898 and 1902) of his *Tomorrow: A Peaceful Path to Real Reform*, in which he made numerous references to Marshall’s work (Groenewegen 1995b, p. 452). Although no correspondence has survived, it is clear that Marshall was an active supporter of the Garden City movement, not least from direct

money value which cannot be overlooked; but it requires some effort to realize the true value to men, women and children of being able to stroll amid beautiful and varied scenery” (Marshall 1890 [1920], p. 138).

references to the movement in his *Principles* and in *Industry and Trade* (Groenewegen 1995b, p. 452; Caldari 2004, p. 530; Caldari and Nishizawa 2011).

For example, in 1902, just before Keynes first went into one of Marshall's lectures, Marshall chaired a meeting in the Cambridge Guildhall in which Howard was one of the speakers. Caldari (2004, p. 530) reports how the *Cambridge Review* recognized that any sceptics against the possibility of a Garden City scheme should now be silenced due to the esteemed Professor Marshall chairing the session.

His involvement in the housing reform movement and Garden City movement are further reflected in his admiration for Octavia Hill, who was beyond her role in the National Trust also a "founding member of the Society of Organizing Charitable Relief and Repressing Mendicity, which later became known as the Charity Organization Society"⁶⁴ and "a member of the Royal Commission on the Poor Law" – and all her work "underlined the beneficial effects of gardens, green spaces and beautiful landscape" (Caldari and Nishizawa 2011, p. 137). Marshall applauded her work and principles especially with respect to her long-standing membership on the Charity Organisation Society (Groenewegen 1995b, p. 358).

Marshall's concern with the effect of the environment on people's minds and souls went beyond the recognition of the importance of clean air and green spaces. He was also particularly concerned with natural beauty and beauty in general. A glimpse of this concern can be seen in a letter to Thomas Cogan Horsfall (1841-1932) dated 1900.

Horsfall was one of the most important philanthropists and contributors to the town planning movement⁶⁵ at the end of the nineteenth century (Reynolds J. 1952; Sheail 2002, pp. 17-20). He came to wealth through the family's involvement in the cotton industry which allowed him to retire at forty-one and devote his life to philanthropy (Reynolds J. 1952, p. 53). His early travels, particularly his exposure to German town planning principles and his fascination with the works of Wordsworth and John Ruskin⁶⁶ "had convinced him that a community could never enjoy 'true welfare' if ignorant of the beauty of nature" (Reynolds J. 1952, p. 53; Sheail 2002,

⁶⁴ John Ruskin was among the early supporters of organized charity reform and has been described as one of several "powerful propagandists for charity organization" (Humphreys 2001, p. 23).

⁶⁵ Historians of the town planning movement distinguish different streams of thought, if not a dichotomy (Reynolds J. 1952; Sheail 2002, p. 19): As an alternative to the Garden City movement, which tried to establish completely newly designed satellite towns, the "town-extension planning" tradition to which Horsfall contributed tried to empower local authorities to manage the growth of the cities. Facing an uncontrollable expansion of cities, the hope was to create garden suburbs rather than to reproduce the circumstances of the inner-city slums (Sheail 2002, pp. 18-20).

⁶⁶ Furthermore, Sutcliffe (1981, p. 69) reports he was "in close contact with William Morris".

p. 17). In their correspondence, Marshall and Horsfall discuss pamphlets on elementary education and access to art. Natural beauty appears here not only as an aesthetic concern, but as a source of spiritual and emotional nourishment — a peaceful contrast to the overstimulation and disconnection of urban life.

The letter is quoted at length to highlight the importance both men attached to the subject; here Marshall asserts that

I am entirely in agreement with your claim that the community is bound to see to it that town dwellers have opportunities for knowing what a fully healthy life is. Country folk are less dependent on training & on inspiration derived from their fellow men. The fresh air & bright sunshine strengthen & stimulate, & at the same time soothe their nervous systems: & the beauty of ever changing nature offers an invitation to reverent & religious feeling, whether it be precipitated in theological form or not. But town life, with its ever-increasing density & extension, shrouds the individual away from himself, & from the infinite...The growth of towns makes it doubly urgent to supply wholesome thoughts & suggestions, lest unwholesome should prevail: & to turn music & painting & other fine arts to account in filling the void in man's life caused by the want of the free light & freshness & beauties of nature. The clatter & the bustle & the nervous strain of constant jostling against a multitude of others must impoverish some sides of his nature; & it is therefore imperatively necessary, if the child is to grow up in any fulness of life, that he should see & hear & read of the brightest ideals that have come to mankind. (Whitaker, 1996, II, 270–71) (quoted from Caldari and Nishizawa 2011, pp. 135–136)

The hope placed in education reappears in Keynes's writings and in the work of the CPRE — the sentiment is deeply reminiscent of the aesthetic philosophy of Ruskin and Morris. Marshall explicitly mentions Morris's *News from Nowhere*, a utopian and late-Victorian critique of capitalism, in a lecture delivered in 1907 at the Congress of the Royal Economic Society at the London School of Economics. He argues that "More's *Utopia* and Morris's *News from Nowhere* stimulate aspiration, and are so beautiful in themselves that they will remain a joy for ever" (Pigou 1925a, p. 329). This was not a casual reference, but part of a significant lecture in Marshall's intellectual legacy — as evidenced by the fact that "Pigou thought enough of the lecture to reprint it, in 1925, in *Memorials of Alfred Marshall*" (Henderson 2000, p. 166). However, despite Marshall's own tendencies towards socialism and his belief in "cultural improvement" — in the broader sense common to late Victorian and socialist thought, encompassing not only artistic education but also moral and philosophical development, particularly for the working classes — he nevertheless appears reluctant to fully embrace the genre of socialist utopia (Henderson 2000, p. 168).

However, despite Marley Marshall's account of joyful encounters with Ruskin, all we know is that Ruskin and Marshall met and conversed (Groenewegen 1995b, p. 774). While Mini (1991) clearly misrepresents Marshall as anti-russonian and as someone feeding Keynes "the rationalistic Benthamite milk" (Mini 1991, p. 67), Henderson (2000) believes to have found several aspects in Marshall's writing that are proof of an influence of Ruskin on Marshall (Henderson 2000, pp. 160-175) — the truth may lie somewhere in between.

Groenewegen (1995b, p. 774) mentions a text fragment by Marshall from 1906 where he likely commented on the "artistic criticisms of political economy as voiced by Carlyle, Ruskin and Morris". In the fragment he seems uncertain as to the possibility of judging the ugliness of new developments like the railway as to him the new always seems to interfere with the scarce and old. However, he also clearly asserts that "man has no right to make things ugly" and that "when a parasitic race of money making men push down prices by destroying collective property in beautiful objects, there is a *prima facie* ground for interfering" and this also "applies to access to beautiful scenery" (quoted from Groenewegen 1995b, p. 774). He further describes "competition as spoiling beautiful scenery" (quoted from Groenewegen 1995b, p. 774). The image of the greedy businessman and the idea that unregulated competition could lead to the destruction of important non-economic goods, is — as will be shown — prevalent in Keynes too. Further, Groenewegen believes that Marshall's "strong concerns for clean air, parks, gardens, playing fields and his support of the Garden City movement" indicate that he was "anxious that all should have access to nature's gifts in fair measure" (Groenewegen 1995b, p. 775).

Groenewegen mentions that the fragment "drew attention to the important role of nature and countryside for the complete life" of which the Marshalls themselves "took account of [...] in their own practice" as they went on many well documented hiking trips and summer excursions and "communion with nature [...] in relatively unspoiled forms [...] played both an aesthetic and creative role in Marshall's existence" (Groenewegen 1995b, p. 775).

All this suggests that Keynes, especially at the start of the twentieth century when Marshall reiterated all these themes in his books, lectures and correspondence, might have absorbed many of these ideas. The desire to alleviate poverty, the importance of the access for everyone to non-economic factors like nature and its beauty, as well as seeing the world as a complex mosaic of which material or economic aspects are hardly isolatable, are all aspects we find in Keynes's work. Caldari's and Nishizawa's (2011) conclusion handily summarise this section concerning Marshall's potential influence on Keynes's involvement in the rural preservation movement; not just a concern, but reflected in an entire approach to science:

With regard to progress, Marshall shares many ideas with Christian socialists, philanthropists, trade unionists and members of organizations such as the Charity Organization Society and the Garden City movement. But his perspective is not purely moral or political. For him, it is a manifold science, with many different dimensions (Caldari and Nishizawa 2011, p. 152).

Moore and the Apostles

In 1903 Keynes became a member of the semi-secret Cambridge Conversazione Society, or the “Cambridge Apostles”, which was “to play an important role in Maynard’s life, for he was to remain involved in and concerned about its activities until 1937 and close to many members until his death” (Moggridge 1992, p. 64). Six months later the prominent philosopher, Cambridge professor and highly esteemed fellow Apostle George Edward Moore (1873-1958) published his *Principia Ethica* (1903), “the most important book in his [Keynes’s] life” (Skidelsky 2005, p. 75).

Moore not only influenced Keynes and all other Cambridge Apostles, but was also a moral authority to the Bloomsbury Group. A group of friends, an informal society, of like-minded artists, philosophers, writers and intellectuals, with Keynes being a prominent member (Moggridge 1992, chapter 9). Moore therefore exerted an all-encompassing influence on Keynes and his closest social circle (Moggridge 1992, chapter 5; Skidelsky 2005, p. 725). Keynes recalls in *My Early beliefs* (1938) that the effect of *Principia Ethica* on the Bloomsbury Group and many Apostles and preceding and following talks about it “dominated, and perhaps still dominate, everything else [...] it was exciting, exhilarating, the beginning of a renaissance, the opening of a new heaven on a new earth” (CWX, p. 435). He called Moore’s philosophy their “religion” which was “a very good one to grow up under. It remains nearer the truth than any other that I know [...] It is still my religion under the surface” (CWX, p. 442).

This religion was mostly concerned with the question of “what is good?”. Moore concluded that the goodness of any object or proposition cannot be inferred by reference to other attributes and any attempt to do so would result in the now famous “naturalistic fallacy”. Good is a moral category in itself, which is not reducible and can only be understood intuitively (Hurka 2021, 1).

He therefore asserted that there are at least two things in life that are good in themselves: “No one, probably, who has asked himself the question, has ever doubted that personal affection and the appreciation of what is beautiful in Art or Nature, are good in themselves” (Moore 1903, p. 188). He does not equate good and beautiful, but argues that the experience of perceiving something truly beautiful is good. The mental state resulting is essentially — and without need to

refer to any other idea — good. This simple truth may be universally accepted, but Moore champions the connection of true beauty⁶⁷ to the experience of goodness as the “ultimate and fundamental truth of Moral Philosophy” (Moore 1903, p. 189). This entails for him the practical consequence that any “public or private duty” should aim to increase the amount of “aesthetic enjoyments” in the world (Moore 1903, p. 189).

Moore had a powerful influence on the Apostles and “both streams, philosophic and aesthetic, flowed into the Society’s ‘search for truth’ in Maynard’s time, and his own papers to the Apostles can be broadly divided into these two groups” (Skidelsky 2005, p. 75). Over the course of the next seven years which followed his introduction into the Apostles, Keynes presented over twenty papers of which many focused on beauty and aesthetics (Dostaler 2010, p. 110). Here Keynes engages with Moore’s treatment of aesthetics in the context of goodness and attempts to construct his own theory of beauty. Keynes, giving an early hint for his involvement in the rural preservation cause, consistently refers to natural beauty as undeniably good.

Essays on beauty

Six essays, which O’Donnell (1995, p. 96) deems to be the primary ones, appeared between 1904 and 1909, with a “theoretical peak” in 1905. Even if one agreed with Davis (1995, p. 125), who argues that the essays are “hardly polished efforts — at times bordering on being collections of notes” they at the very least proof of Keynes’s intense preoccupation with the subject at the time of his most formative philosophical years. However, Davis agrees with O’Donnell that one can use these essays to understand how his philosophical ideas may have developed (Davis 1995, p. 126). Interestingly, although Keynes’s treatment of the subject systematically changes from the first essay “Beauty” in April 1904 to the third essay “Theory of Beauty” in the fall of 1905, the beauty of nature and its clear evocation of a good mental state is a constant that deserves special attention — especially given his proclamation in “Beauty” (1904) that he is “not clear as to how I should define ‘aesthetic’” (O’Donnell 1995, p. 99). So even in the absence of a clear definition and therefore very much in line with the tradition of intuition and common sense in Cambridge philosophy (O’Donnell 1989, p. 90) Keynes understands nature’s beauty as intuitive.

In “Beauty” (1904) he ponders on the question if beauty is an attribute of the physical objects themselves or our perception of them. Contrary to paintings, where he feels inclined to say that

⁶⁷ We cast aside the importance of personal affection — which for Moore is also connected to the appreciation of beauty in character — to focus on beauty and natural beauty.

they do not possess beauty, but merely *evoke* beautiful imagery in our mind, nature *possesses* beauty – just “as a daffodil does” (quoted from O’Donnell 1989, p. 99). Therefore, a picture of a landscape has less intrinsic value than the actual landscape which intrinsically possesses the beauty.

In “Miscellanea Ethica” (1905) Keynes introduces the concept of fitness⁶⁸ and moves away from the idea that the physical object possesses beauty themselves. Rather the mental objects relating to the physical objects possess fitness which, depending on its degree, allows for beautiful feelings to be evoked by it. However, reminiscent of Burke, he deludes this metaphysical distinction by relating to the practical notion that there is “sufficient uniformity” or even “complete uniformity — in the sense organs of different persons” (quoted from O’Donnell 1995, p. 102). The fact that feelings are evoked through perception which can vary over time, space and individuals, however does not “in the least affect the question of an absolute standard of beauty” (quoted from O’Donnell 1995, p. 103). The perception of beauty is always absolute, independent of how it arose.

In “A theory of Beauty” (1905)⁶⁹ he asserts again that the intrinsic value of beauty lies in the mental state its perception evokes. Here lies another explanation in Keynes’s advocacy for the nationwide preservation of the countryside. Only if people get the chance to perceive nature, if it is conserved and made accessible for many generations to enjoy, can it develop its full beautiful potential and — to relate to Moore — contribute to the total amount of good in the world.

In this essay Keynes also differentiates between four types of beauty. Next to “tragic beauty⁷⁰”, “beauty of interest” and the “beauty of arrangement” there is “pure beauty”. Pure beauty has “an eternal mobility and a calm of repose” which stands “serene and independent” with “a certain aloofness”, and which can only be found in the most extraordinary pieces of art like “a Greek statue or in Keats”, or in nature in “a daffodil or in a glacier” (quoted from O’Donnell 1995, p. 111).

Interestingly, Keynes identifies *pure beauty* not only in nature — in “a daffodil or in a glacier” — but also in exceptional works of art, such as a Greek statue or a poem by Keats. This appears

⁶⁸ Coincidentally, O’Donnell (1995, p. 100) believes that the word, albeit not the concept, may have been borrowed from Burke’s essay on “The Sublime and Beautiful”, which he read the same year.

⁶⁹ According to O’Donnell, it was read to the society with omissions in 1912, which supports the idea of continuity in Keynes’s thoughts about beauty.

⁷⁰ As Carabelli (2021) shows, Keynes “believes there is a plurality of heterogeneous ends and values. This is also true of his view on aesthetics” (p. 112). Carabelli suggests that the notion of tragic beauty is influenced by Burke’s idea of the sublime. Just as nature’s overwhelming aspects can evoke both horror and delight through their avoidance, there is beauty in tragedy when experienced indirectly through a story — where the delight of the avoidance lies in the escape to reality. This influence seems highly probable as O’Donnell (1995, p. 100) notes that Keynes read Burke’s essay in 1904, the year before.

to expand on his earlier claim that art evokes but does not itself possess beauty. Rather than contradicting it, however, it suggests that craftsmanship — when elevated to a rare level of perfection — can create beauty in its own right. This aligns closely with the ethos of the CPRE, which saw beauty not only as something to be preserved, but as something that could be actively shaped and enhanced through planning and design. What is particularly notable, though, is that all of Keynes's examples of pure beauty — even the man-made ones — are tied, directly or indirectly, to nature: the daffodil and glacier, of course, but also the human form of the statue and the natural imagery often found in Keats's poetry. While this may not imply that pure beauty must always be nature-related, it does suggest that nature remained a central aesthetic reference point for Keynes — even in his highest ideals of artistic creation.

The profound impression that natural landscapes made on Keynes is further exemplified in two 1909 essays read to the Apostles. In “Can We Consume our Surplus” (1909b) he criticises his own artistic endeavours: “My poems do not really do my feelings justice. My landscapes even do not truly suggest the influence of nature to which I am most sensitive” (quoted from O'Donnell 1995, p. 117). Nature not only encouraged him to try his luck with the arts, but also to seek it out frequently, filling his weekends with walks through Hampstead Heath⁷¹ or out of London with the Sunday Tramps⁷² (Moggridge 1992, p. 173). In “Science and Art” (1909a) he even proclaims that he would have much preferred to be an artist like Wordsworth, Milton or Velasquez rather than a scientist like Newton, Leibniz or Darwin (Dostaler 2010, p. 105).

The distinction between science and art, analysis and intuition, goes a long way in Keynes's thought. It relates to an important distinction of faculties of the mind, which in turn is reflected in other categories. Relevant to the preservation of rural England specifically, are the distinctions of economic and non-economic leading to the opposition of the inherent good of natural beauty and the Benthamite calculus.

3.3.2 The separation of faculties: intuitive and analytic, non-economic and economic, natural beauty and the economic rationale

Keynes believed that pure beauty is felt subjectively and intuitively — this intuition constituting a faculty entirely different from logical reasoning which we find in philosophy or economics. In “Art and Science” he not only separated art from science, but even went as far as asserting that for “the first step towards peace, the scientist must admit the artist to be his master” (quoted

⁷¹ Shortly after its formation the Commons Preservation Society fought a drawn-out battle to ultimately secure this open space in the 1860s (Jenkins and James 1994, p. 20).

⁷² Regular walks and hikes organised by G.M. Trevelyan, the famous historian, fellow Apostle, and key activist for the preservation of rural England. Further details on Trevelyan are provided in section 3.4.

from Dostaler 2010, p. 105). The primacy of the artist is not just a youthful assertion, but, as will be shown, a constant in Keynes's thought. However, he did not understand them as opposing each other in general, to the contrary he wrote in *A Theory of Beauty* (1905b):

Nothing can be more fatal than the supposed antagonism between the precise and verbal notions of philosophy and the organic, indivisible perceptions of beauty and feeling, between these things that we know piecemeal and those which we may only grasp as wholes, between those who see and those who understand [...] We require for success at the same time a separation and collaboration of the analytic and intuitive powers (Keynes 1905, pp. 2-3, quoted from Dostaler 2010, p. 105).

From the perspective of the history of economic thought, this paper argues that we can relate this most fundamental dichotomy of intuitive and analytical to the distinction between non-economic and economic. The non-economic as relating to the “indivisible perceptions of beauty and feeling” that can only be *understood* and grasped as “wholes”, and the economic as relating to the “precise” which can be *seen* and quantified “piecemeal”.

Banzhaf calls this the “‘classifactory’ definition of economics” (Banzhaf 2024, p. 113). This relation makes sense given the common use of “economic” at the time. In 1932, in his famous *An Essay on the Nature and Significance of Economic Science* Lionel Robbins asserts that the “definition of Economics which would probably command most adherents, at any rate in Anglo-Saxon countries, is that which relates it to the study of the causes of material welfare” (p. 4). The most prominent and influential economists of the time such as Marshall, Cannan, Pareto and J.B. Clark used it in similar ways commonly understanding *economic* as *material* (Robbins 1932, p. 4).

Although the different definitions were delicately put and conceptually much wider, such as Marshall's definition of economics as concerning itself with “men as they live and move and think in the ordinary business of life” the ultimate motive remained the “desire for the pay which is the material reward of work” (Marshall 1920, p. 12). The resulting advantage over other social sciences, according to Marshall, is the preoccupation with the quantifiable aspects of life which can be “measured with some approach to accuracy” (Marshall 1920, p. 12). Fittingly, as late as 1920, Pigou, in his *Economics of Welfare*, famously defines *economic* welfare as that part of total welfare that can be “brought into relation with the measuring-rod of money” (1920, p. 12) — another definition of “economic” as “quantifiable”.

The analytical faculty therefore is chiefly responsible for the estimation of the economic. The appreciation of natural beauty or “intangible or spiritual considerations such as the love of wilderness were decidedly non-economic” (Banzhaf 2024, p. 113), and directly correspond to Keynes’s understanding of the intuitive faculty, grasping pure beauty as a whole.

Robbins, although showing empathy to early attempts at defining Economics, regards them as “complete failures” (Robbins 1932, p. 5). He aims to move from a categorial to an analytical conception, offering the opportunity cost and scarcity definition of economics, which, in the course of the twentieth century, became famous and widely accepted (Backhouse and Medema 2009). He understands Economics as “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses” (Robbins 1932, p. 16). This definition, as Backhouse and Medema (2009, p. 816) discuss and Banzhaf summarises, “liberated economists to consider new topics, but it restricted them to using the tools of constrained optimization” (Banzhaf 2024, p. 115). It allowed the economic rationale to become an overarching principle changing the nature of trade-offs between the economic and non-economic. Moving away from a qualitative contemplation of these two inherently different dimensions of life to an attempt at calculus based on the notion of quantifiability – naturally strongly lending itself to the evolving formalisation of the science.

A generally increasing tendency for more mathematical and formal empirical work eventually led to an exchange of letters between Keynes and Roy Harrod in 1938. It concerned Jan Tinbergen’s pioneering work in econometrics and contained a famous side remark on Robbins, in which Keynes gave his own definition of Economics. Economics is concerned with “motives, expectations” and “psychological uncertainties” and one has to be “constantly on guard against treating the material as constant and homogenous” (CW XIV, p. 300). In the face of fundamental uncertainty, heterogeneity, incommensurability, intangible phenomena and a dynamic context, exact calculations are an illusion⁷³.

Further, economics, for Keynes, is not just about the material welfare understood as the “economic” dimension. His understanding is conceptually wider: “Economics is essentially a moral science” since it “employs introspection and judgements of value” (CW XIV, p. 297).

This is a clear continuation of his idea of the cooperation of the faculties. The economic and non-economic come together in the moral science. Value judgements and introspection, which are in his philosophy directly related to intuition (Moggridge 1992, pp. 551-553; O’Donnell

⁷³ For a thoughtful discussion of many of these aspects and Keynes’s overall scepticism regarding quantification and calculus see Carabelli (2021, pp. 31-71).

1989, p. 209-213) are combined with the analytical economic rational. Another continuation is the idea that the scientific and rational faculty finds its master in the artistic side. The intuitively felt good always informs the economic rationale. Skidelsky put it with respect to economics and philosophy in general: “Philosophy provided the foundation of Keynes’s’ life. It came before economics; and the philosophy of ends came before the philosophy of means” (Skidelsky 2005, p. 85).

Relating the intuitive and analytical faculties to the dichotomy of non-economic and economic is further supported by the way Keynes critiques the “economic rational” underlying the “Benthamite calculus”. The belief that all values — including moral, aesthetic, or spiritual goods — can be reduced to a common metric of utility and subjected to rational calculation ignores fundamental uncertainty⁷⁴ and undermines the complexity of human life and threatens what Keynes refers to as the “popular ideal”.

In “My Early Beliefs” (1938) Keynes describes the “Benthamite tradition [...] as the worm which has been gnawing at the insides of modern civilisation and is responsible for its present moral decay” (CW X, p. 445). It was the “Benthamite calculus, based on an over-valuation of the economic criterion, which was destroying the quality of the popular Ideal” (CW X, p. 446). Here we see what Keynes believes to be the result of carrying the economic rational too far, reversing the role of master and servant.

Coming from his inclination towards the artistic, non-economic and beautiful, the idea of the business man — and to some degree the economist — working in a cold, and solely logical

⁷⁴ In this context, note his use of the word “Benthamite calculation” with respect to uncertainty in his famous 1937 article that followed up on the *General Theory* and made the critique of orthodoxy abundantly clear: “The calculus of probability, the mention of it was kept in the background, was supposed to be capable of reducing uncertainty to the same calculable status as that of certainty itself; just as in the Benthamite calculus of pains and pleasures or of advantage and disadvantage, by which the Benthamite philosophy assumed men to be influenced in their general ethical behavior. Actually, however, we have, as a rule, only the vaguest idea of any but the most direct consequences of our acts [...] By “uncertain” knowledge, let me explain, I do not mean merely to distinguish what is known for certain from what is only probable. The game of roulette is not subject, in this sense, to uncertainty; nor is the prospect of a Victory bond being drawn. Or, again, the expectation of life is only slightly uncertain. Even the weather is only moderately uncertain. The sense in which I am using the term is that in which the prospect of a European war is uncertain, or the price of copper and the rate of interest twenty years hence, or the obsolescence of a new invention, or the position of private wealth-owners in the social system in 1970. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. Nevertheless, the necessity for action and for decision compels us as practical men to do our best to overlook this awkward fact and to behave exactly as we should if we had behind us a good Benthamite calculation of a series of prospective advantages and disadvantages, each multiplied by its appropriate probability, waiting to be summed” (Keynes 1937, pp. 213-214) and “I sum up, therefore, the main grounds of my departure as follows: (1) The orthodox theory assumes that we have a knowledge of the future of a kind quite different from that which we actually possess. This false rationalization follows the lines of the Benthamite calculus. The hypothesis of a calculable future leads to a wrong interpretation of the principles of behavior which the need for action compels us to adopt, and to an under-estimation of the concealed factors of utter doubt, precariousness, hope and fear” (Keynes 1937, p. 222).

tradition, removed from the contemplation of the good life, have always been the antagonists for Keynes.

In his *Economic Possibilities for our Grandchildren*, mainly written in 1928, he denounced the love of money as a semi-criminal and semi-pathological tendency “which one hands over with a shudder to the specialists in mental disease” (CW IX, p. 329). In the course of the essay Keynes concedes that there is a need for these money loving entrepreneurs to achieve independence from the economic problem to eventually “devote our further energies to non-economic purposes” (CW IX, p. 326). The idea of a trade-off between economic and non-economic is ever present in Keynes, but as will be shown with regard to the preservation of natural beauty it is neither an easily made or calculated monetary trade-off, nor is there ever a principal primacy of the economic beyond the satisfaction of basic needs.

Three years earlier, in 1925, following the marriage to the Russian ballerina Lydia Lopokova (1892-1981) and a visit to communist Russia, he wrote about the failure of modern capitalism and the abstract “business man” to provide beyond the basic economic needs. Regarded as means, the business man is “tolerable; regarded as an end he is not satisfactory” (CW IX, p. 268). He doubts whether the material advantage from a clear separation of business and religion⁷⁵ outweighs the moral disadvantages and concludes that “if there is no moral objective in economic progress, then it follows that we must not sacrifice, even for a day, moral to material advantage” – therefore business and morals, or the economic and the non-economic should not be “separate compartments of the soul” (CIX, p. 268). It seems clear to Keynes “that the moral problem of our age is concerned with the love of money, with the habitual appeal to the money motive in nine-tenths of the activities of life [...] the social approbation of money as the measure of constructive success” (CW IX, p. 268-269).

Keynes clearly sees the category of economic as mainly accessible by reasoning, logic, and analysis. In its most perverted mono-methodological form, he freely associates it with the pinnacle of championing the rational, the “economic criterion” or “Benthamite calculus,” and the “love of money”.

Further, he never moved away from the contention that the non-economic part of life is the master of the economic, and intuition the master of the rational. In *The End of Laissez-Faire* (1926), based on lectures held in Oxford (1924) and Berlin (1926), he quips about the absurdity of Bentham’s “rational object of conduct” of the greatest happiness of the greatest number.

⁷⁵ In the context of the essay and considering his use of the word religion in “My Early Beliefs”, it is legitimate to think of religion as morals in these contexts.

Keynes notes that Bentham takes utility from Hume but forgets “that sage man’s cynical corollary: ‘Tis not contrary to reason to prefer the destruction of the whole world to the scratching of my finger’” (CW IX, p. 273). Clearly following in the tradition of Moore, Keynes argues that one cannot *reason* their way to a moral stance.

Therefore, Keynes defines economics as a moral science which integrates the two faculties of our mind. Economics then becomes the art of balancing between the economic and non-economic with the non-economic always being the master — to safeguard against the moral decay which the blind adherence to the economic rationale and its focus on the material brings about. Given the unquantifiable and heterogeneous nature of both economic and non-economic factors, economics cannot be an exact science. As Carabelli asserts: “For Keynes, calculus is unacceptable from the theoretical point of view, given the problems of incommensurability of probability and goodness” (2021, p. 43, footnote 4).

From that standpoint, there is no need and no possibility to economise the non-economic. Banzhaf (2024, p. 115) argues that Robbins’ definition “paved the way for allowing a new ‘economics of the environment’ to replace the stalemate of an ‘economics *versus* the environment’” - but was there a stalemate? Or as Marchionatti rhetorically asks with respect to Marshall and Keynes treatment of complexity, are they “old-fashioned economists” with a “bounded methodological awareness”? (Marchionatti 2003, p. 48)⁷⁶. There is no reason to believe that Keynes, even though he adhered to the classic categorisation definition, was not capable of evaluating these trade-offs. His conception of economics as a moral science — and his emphasis on the cooperation of the faculties, including the intuitive — allows for evaluation, though not in a precise or calculable way, given the complexity of the material under investigation.

We see the same argument for questions of probability. Keynes does not generally refrain from making comparisons based on probabilities and weight of argument, but maintains an unwillingness to engage in precise calculus — probabilities are “intrinsically non-calculable” (Carabelli 2021, p. 40). Although probabilities have their own methodological issues, one could extend Keynes’s statement that “there is no scientific basis on which to form calculable probabilities whatever” (CW XIV, p. 114) to the beauty of nature. Keynes himself reiterated this broader understanding of incalculable non-economic factors in *My Early Beliefs* (1938): “it is a comfort to-day to be able to discard with a good conscience the calculus and the mensuration and the duty to know exactly what one means and feels” (CW X, p. 442).

⁷⁶ Marchionatti clearly denies this hypothesis and argues “on the contrary, they come out of a reflection on the peculiarity of economic material and the possibility of dealing with it using formal treatments” (Marchionatti 2003, p. 48).

From that standpoint nature is not just a scarce resource with a monetarily expressible benefit comparable to a monetary cost, but a purely beautiful good, inherently worthy of protection — the evaluation of any trade-off requiring a delicate touch. Beyond the provision of basic economic needs, it is non-negotiable and necessary for society.

3.3.3 Keynes and the natural case for planning

The experience of the prolonged depression in England during the 1930s gave a widespread rise to the idea of planning, which swiftly became “a word on everyone’s lips” even if “fractured by a multitude of interpretations and meanings” (Ritschel 1997, p. 20). The experience of World War I and the successful state control of industry during war time gave retrospective weight to the idea that there was potential for a less limited role of the state than classical liberalism had originally intended (O’Hara 2007, p. 4). The catastrophic and devastating experiences of World War I and later the Great Depression discredited the idea of a free market, that would increasingly provide for everyone, and encouraged diverse criticism (Skidelsky 2005, p. 501).

The nineteenth century, pre- World War I criticism of laissez-faire capitalism that continued from the Ruskin-Morris tradition, where concerns over social justice and the protection of natural beauty went hand in hand, paved the way for professional town and, later, country planning. However, academic planning had humble beginnings with only two sparsely endowed university departments (Liverpool in 1909, following the 1909 Housing, Town Planning, etc. Act; and University College London Bartlett School of Planning in 1914)⁷⁷ and a “handful of students” — therefore planning barely played a role in the Post-war reconstruction plans (Hall 2014, p. 557).

So, before it became a contested political slogan with muddled meaning in the 1930s, it had a clear purpose in protecting natural beauty especially in urban areas. The intellectual foundation was laid by romantic poets, socialist and Christian utopians, and societies like the National Trust, and build upon after the war by engineers, architects, and planners like Abercrombie (Hardy 1989). The CPRE in particular managed to apply the anti-industrial conservationist philosophy to the technical planning challenges arising from urban encroachment — the motor revolution sped up this process and got intellectuals like Keynes involved. The general notion in these circles was that the Industrial Revolution and the institutions of capitalism had tamed nature, and that now capitalism had to be tamed itself to protect what was left of nature in England.

⁷⁷ Stanley Adshead and Patrick Abercrombie were the first professors (Hall 2014, p. 557).

Keynes, even before the experience of the Great Depression agreed with the interpretation of a new phase of capitalism. In a lecture held in Russia in 1925 he describes the “Economic Transition in England” (CW XIX, p. 438) strongly relating to John R. Commons’s (1862-1945) distinction of three stages of economic history. After the stage of scarcity — marked by political control, physical coercion and feudal structures leading up to the Industrial Revolution — , follows the stage of abundance in which individual liberty and industrial and technological advances blossom. The third stage is the period of stabilisation, where the outcomes of the extreme liberties of laissez-faire have to be controlled and stabilised, resulting in a decrease in individual liberty — Keynes fears that the end of this development is either Leninism or Fascism and therefore believes that an alternative way has to be found:

Therefore I direct all my mind and attention to the development of new methods and new ideas for effecting the transition from the **economic anarchy of the individualistic capitalism** which rules today in Western Europe towards a régime which will deliberately aim at controlling and **directing economic forces in the interests of social justice and social stability**. (CW XIX, p. 439, emphasis added)

The passage also illuminates the parallels between Keynes’s and Marshall’s belief in progress and the good life. Further, Keynes’s surprising reference to Commons brings to light another interesting point of influence beyond the interpretation of economic history.

Atkinson and Oleson Jr. (1998) show how Keynes and Commons agree on the need for proper institutions to protect society from fundamental uncertainty, especially in the context of monetary policy and prize stability. Even more interestingly, Whalen (2008) analyses the correspondence of Keynes and Commons surrounding the famous 1925 lectures (“Am I a liberal?” (CW IX, pp. 295-311) and “The Economic Transition in England” (CW XIX, pp. 434-442)) showing the great extent of Commons’ influence on Keynes’ notion of the role of the state⁷⁸.

Keynes himself proclaims in a letter to Commons that “Judging from limited evidence and at great distance, there seems to me to be no other economist with whose general way of thinking I feel myself in such genuine accord” (quoted from Whalen 2008, p. 229). This is interesting given that Commons had studied under Richard T. Ely, the founder of land economics (Herzberg 2001, p. 125), and was a “devoted land taxpayer” (Gaffney 1982, p. 180) — suggesting at least a shared sensitivity to the political and institutional dimensions of land.

Most interesting however, is the fact that Commons’ was already well known for his ideas on the collective action problem — the idea that the state has to intervene to protect public interests

⁷⁸ Whalen quotes Skidelsky “[Commons] was an important, if unacknowledged, influence on Keynes” (Whalen 2008, p. 237).

as private organisation fails in the face of diverse non-economic challenges — a reoccurring theme for Keynes in the context of rural preservation. A concept which Keynes further examines thoroughly in his 1926 “The End of Laissez-faire” (CW IX, pp. 272-294). Here he criticizes the prevailing doctrine of laissez-faire even amongst leading economists and singles out Marshall as one of the “best economists” and a notable exception, recognizing his nuanced approach that acknowledged the many instances where private and social interests diverge (CW IX, p. 282).

It may not be entirely coincidental that the publication of these essays and passages — in which Keynes depicts capitalism in England as a chaotic system producing harmful unintended consequences and failing to serve the broader public interest — occurred in the mid-1920s, just before the founding of the CPRE and around the time Keynes began engaging with the issue of rural preservation. This timing suggests that his broader concerns about the failures of unregulated capitalism may have naturally extended into support for the preservation cause, to which he was also drawn by his deep passion for natural beauty.

Naturally, Keynes’ arguments for state planning have been voluminously discussed (i.e. Thirlwall ed. 1978; Crabtree and Thirlwall 1993, or more recently Rivot 2013). However, the role of the rural preservation movement and Keynes’ involvement have never been illuminated. Which is curious since every contribution Keynes makes to the case of rural preservation over the years, spanning from the second half of the 1920s to the end of his life, express his line of reasoning for state planning. Interestingly, in many of his contributions to the question of planning, rural preservation serves as the main example. From this perspective, rural preservation is not just something dear to Keynes, it is also one of the simplest and most agreeable arguments for the logic of planning he can find, going back to his understanding of intuitively grasped, pure beauty in nature. Further, it is a policy arena where the two faculties of the policy advisors most necessarily need to cooperate, but where, according to Keynes, the economic rationale tries to reverse the relationship of master and servant.

Having laid out the arguments to look out for, the following discussion will proceed chronologically to show the continuity of his contributions and the diversity of their context. In the course of the discussion, it will become clear how important the issue must have been to Keynes and just how informed he was regarding the cause.

3.4 Keynes and the preservation of rural England

3.4.1 Political call for action and interwar economic depression

After World War I, the United Kingdom's economy was struggling, particularly with persistently high unemployment. This situation prompted a discussion in the *Nation and Athenaeum* about whether there might be deeper causes beyond mere post-war disorganization (CW XIX, p. 731). The discussion and a continuous effort⁷⁹ by the liberal party leader Lloyd George eventually led to the manifestation of the liberal party's programme in the so-called yellow book *Britain's Industrial Future* (1928). The report was a highly detailed investigation into the potential causes of Britain's economic problems and heavily advocated public development programmes as it was understood that individual enterprise cannot by itself stabilise the economic situation in time (Skidelsky 1994, p. 52). Here we find Keynes's earliest written plea for rural preservation.

The work began in Summer 1926, the year of the founding of the CPRE and over the course of the following eighteen months until publication Keynes was to be heavily involved, including work on the weekends (CW XIX, p. 731). Moggridge reports that we know from Keynes's own papers that he inspired the section on rural preservation (CW XIX, p. 731) and a letter to Lydia possibly indicates how important the topic was to him in contrast to others.

The report itself had just over five hundred pages and Keynes reported to Lydia that — given its length and repetitive liberal self-glorification — he understands why it had bad press: “It would have been so much better at half the length speaking only what is new and interesting and important” (CW XIX, p. 735). Clearly his contributions, such as the section on rural preservation, was “new and interesting and important”. The section in question addresses several topics at ones:

While we urge the necessity of planning for the wider and wiser distribution of the industrial population, it is important to make clear that the real threat to the English countryside is not in planned development but in the sporadic, unplanned development currently occurring. We wish to highlight the need for decisive action to preserve the downs, moors, lakes, woods, hills, and commons of the countryside and suggest that national action is required to conserve their beauty and amenities for future generations. While we owe much to private munificence and bodies like the National Trust and the Commons and Footpaths Preservation Society, the increasing population and spread of infrastructure, resulting from better roads, motor transport, electrical power supply, and the decentralization of industry, necessitate preservation efforts beyond the power of private entities. We propose extending town-planning principles to permanently protect areas from sporadic building and

⁷⁹ Even in the form of private financial support (CW XIX, p. 731).

other forms of ill-considered exploitation. Therefore, the Ministry of Health should have the authority to designate areas such as the Surrey commons, the South Downs, Salisbury Plain, Dartmoor, Exmoor, and parts of the Peak and Lake Districts as national open spaces, requiring express permission for any material changes and allowing for public ownership with reasonable compensation. The expense would be minimal, and the benefit to the nation would be immeasurable. (Britain's Industrial Future 1928, p. 303-304)

Keynes was evidently aware of the role that the Trust and the Commons and Footpaths Preservation Society had played up to this point and, therefore, emphasized the need for decisive national action — arguing that combating the dangers arising from rapid and widespread changes in population, industry, and unplanned development goes beyond what could realistically be expected from private organizations.

Here we first encounter the notion of the incalculable trade-off. “The expense would be minimal” but the benefit to the entire nation and future generations would be “immeasurable”. Surely this is a typical figure of speech contained in a political pamphlet, but reflecting upon his philosophical preliminaries, it is clear that he deems it methodologically impossible to calculate the benefits — especially over several generations — and then to compare it to “reasonable compensation”.

Therefore, the state, in the form of the ministry of health, should have the power to acquire open spaces and legislation and should prohibit any unauthorized material development. This is an important caveat as the ministry of health, which was only formed in 1919, could, following the 1909 Act, in theory suggest planning schemes for urban, suburban and much rural land, but in practice was dependent on the goodwill of local authorities and often times even of landowners (Sheail 2002, p 20-23). This timely passage was taken over almost verbatim into another important political pamphlet of the late 1920s.

Just a year later after the publication of the Yellow Book, leading up to the 1929 United Kingdom general election, Keynes and one of the co-authors of *Britain's Industrial Future* Hubert Henderson⁸⁰ jointly wrote the famous article “Can Lloyd George do it?” (CW IX, pp. 86-125).

The pamphlet reiterated the need for general development plans and public work programmes to combat persistently high unemployment. One important part of the scheme, discussed in the beginning of the essay, aimed at two sectors crucial to the trends analysed by Abercrombie. The transport and the building sector, where not only unemployment was most pressing, but also a lack of state's planning and coordination was observed. Keynes and Henderson, fully in line

⁸⁰ “As the editor-in-chief of the *Nation* and the chairman of its advisory board, Henderson and Keynes were in close sympathy” (CW IX, p. 86).

with Marshall, see the provision of housing on a much larger scale than the current conservative government envisioned, not only as a work program but also as a means to alleviate suffering from the slums by combating overcrowding (CW IX, p. 97).

Interestingly, in this essay rural preservation was not discussed as its own subsection in a five hundred pages long book, but was incorporated into the only forty pages long discussion of the country's most urgent issues. Clearly the authors — most likely Keynes given the clear indication of having inspired the passage in *Britain's Industrial Future* — see the preservation of the countryside as a highly important endeavour amidst rapid structural change. The section about national housing which followed the section on national transport ends with:

These national transport and housing programmes must be so carried out as to facilitate the now urgent task of rural preservation. The time has come for taking decisive, national action to preserve the downs, moors, lakes, woods, hills and commons of the countryside, and to conserve their beauties and their amenities for future generations. We owe a great deal to private munificence and to such bodies as the National Trust and the Commons and Footpaths Preservation Society. But as the population increases, and as it is spread more evenly over the land, as a result of better roads, motor transport, electrical power supply, and that decentralisation of industry and of population which we hope to promote, the preservation of Britain's open country passes outside the power of private persons or of societies interested in public welfare. It is, therefore, the Liberal policy to take power to schedule as national open spaces such areas as the Surrey Commons, the South Downs, Salisbury Plain, Dartmoor, Exmoor, and parts of the Peak and Lake Districts. The expense would not be great; the benefit to the future would be immeasurable (CW IX, p. 98).

The near-identical wording of the two passages — published in different contexts a year apart — underscores how central the theme of rural preservation had become to Keynes's broader vision of national planning. What had initially appeared in a detailed, technical policy report was now repurposed as a concise and urgent political message within a general election pamphlet. Rather than developing new arguments, Keynes and Henderson chose to reaffirm the preservation agenda in the strongest possible terms, suggesting that they viewed it not as a peripheral concern but as integral to the future well-being of the country.

Keynes's first written contributions to the cause of rural preservation are therefore located in the second half of the 1920s and within the political arena. They advance the idea of protecting natural beauty as a matter of public welfare, fully embedded within the liberal agenda and deeply connected to the socio-economic challenges of the time. It is perhaps no coincidence that work on the Yellow Book began in 1926 — the same year the CPRE was founded and all three party leaders, including Lloyd George, welcomed its formation. In the years that followed,

Keynes shifted to behind-the-scenes efforts, engaging in private discussions and drafting proposals in the hope of “oiling the wheels.” Significant legislative victories in the fight for the countryside would not come until after his death, in the postwar period. Yet for Keynes, the preservation of natural beauty remained, throughout his life, an “urgent task”.

3.4.2 Private activism and “oiling the wheels”

One argument supporting the claim that Keynes was deeply passionate about rural preservation is the personal philosophical contemplation of beauty and its relation to the ethical concept of *good*. This philosophical foundation of aesthetic contemplation is to a great extent based on Moore, who influenced Keynes’s entire social circle, ranging from Cambridge Apostles to the Bloomsbury Group and both. As Hurka (2021, 5) asserts: “They were most impressed by the last chapter of *Principia Ethica*, whose identification of aesthetic appreciation and personal love as the highest goods very much fit their predilections”.

The Woolfs

The Woolf’s were simultaneously important members of the Bloomsbury Group, close friends, and following his acquisition of the country house Tilton in Sussex in 1925, neighbours of Keynes. Their relation to the preservation movement, especially that of Virginia Woolf, is described in Jones (2016). Jones analyses the unpublished fictitious letter⁸¹ “The Villa Jones” from one of Virginia Woolf’s notebooks of the year 1931, in which she identifies numerous exasperated allusions to the uncontrolled building practices of the time.

Other scholars, “Mark Hussey, in particular” had already made “a strong case for the influence of the preservation movement on the politics of Woolf’s final novel, *Between the Acts*” (Jones 2016, p. 76). This influence might even have stemmed from personal conversations with high ranking CPRE officials. As Jones reports, “Hussey suggests that Woolf may have been referring to Patrick Abercrombie when she wrote to Ottoline Morell in February 1930 asking for the address of the man she had encountered at her house over the summer ‘who was connected with preserving downs’” (Jones 2016, p. 82). The influence is further explored by Jones who shows that Woolf’s aesthetically motivated views align closely with those of the CPRE.

In “The Villa Jones”, Woolf airs her frustration about the “eye sores” springing up all across the country side and — just like the CPRE — suggests expert councils of architects and planners to proactively control the type and even colours of new buildings in the countryside (pp. 75,

⁸¹ Jones (2016) believes that the unpublished letter mostly reflects Virginia Woolf’s own perspective on the contemporary issue.

83-84). This would ensure that permitted buildings would at least be in line with aesthetic standards in the hopes of blending into the view. However, every newly built house necessarily endangers the solitude of the countryside. In an actual letter sent in 1931 Woolf is enraged about two bungalows and an “infernal” Labour candidate’s Villa which ruined it “all for ever and ever” being built above the village — she exaggaratingly laments that she does not “see any point in living here in a suburb of Brighton” (Jones 2016, p. 80).

However, being part of the educated elite, she seems to be self-aware that herself moving to Sussex is part of the problem and ends the letter with “I hate my kind” (Jones 2016, p. 80). Maybe that is why, in “The Villa Jones” she goes as far as suggesting “view value taxes” to compensate for the spoilt view of people already living in the countryside — specifically she suggests to “let the villagers [access/assess] the tax” (Jones 2016, p. 84). She even goes as far as suggesting to make this an important political issue in the upcoming general election which resulted from the collapse of the second labour government in 1931. She recommends to not only ask a candidate about their view upon the dole or the gold standard but to actually ask “where do you live? Have you spoilt a view?” (Jones 2016, p. 78).

The initiation of conservation and preservation efforts came from a close-knit group of academics, mainly planners, engineers, architects, and government officials, influenced by the romantic and anti-industrial philosophy of Morris and Ruskin and, in the Bloomsbury group’s and Apostle’s case, also the philosophy of Moore. Although supported by the broader population, it originated from the intellectual and material elite — people educated enough and relatively free from material constraints to commit to the preservation cause. Additionally, as we see now, many of them, like the Woolfs and Keynes himself, had a vested interest, living at least partly in the countryside.

Nevertheless, this may also suggest that they were personally exposed to the results of the rapid structural changes, making them more acutely aware and sensitive to the issues at hand. For Woolf, there is at least a sense of class self-consciousness that reflects a deeply felt concern for matters beyond the interests of a self-interested and aesthetically minded elite. In any case, their social standing and political connections potentially contributed to advancing the cause.

A year earlier when labour was just elected and formed a minority government with the liberals (who Keynes supported with his pamphlet), Leonard Woolf addresses the political realm privately. Here we get a clear picture of just how involved Keynes and his social circle was, utilising their contacts deep within Whitehall. Leonard Woolf, the Labour party and Fabian Soci-

ety theorist, author, publisher, Cambridge Apostle, and literary editor of the *Nation and Athenaeum*, writes to the newly appointed Prime Minister Ramsay MacDonald⁸² concerning the “building menace” (quoted from Jones 2016, p. 82):

Would there be any possibility of the Government talking about the problem of protecting the countryside from the building menace? [...] Living as I do part of the year in the Sussex downs, I am appalled by the inroads already made and still more threatened by builders and building syndicates. I was talking to J. M. Keynes, who also rents a house in the same neighbourhood, about it this week and he thought it would be possible to work out a scheme under which special areas would be scheduled and protected at no great cost to the country [...] I feel that the Government would have an immense amount of sympathy and support for action in the matter. (LWP SxMs-13/2/1/4/A)

The letter is dated January 3rd 1930. Keynes indeed formulated such a scheme a few weeks later, on the 27th of January; interestingly, a day later he attends a private CPRE dinner where he presented his ideas (CW XX, p. 30). This led to a cordial exchange between him and the influential engineer, architect, town planner and — since 1929 — technical adviser to the Greater London Regional Planning Committee Raymond Unwin⁸³ ⁸⁴ (CW XX, pp. 30-37).

Given Keynes’s apparent attendance to informal CPRE meetings, the content of the proposal itself and the moment of the exchange taking place, there is no doubt that Keynes was well informed about the developments in the preservation movement. Just a few months prior on the 26th of September 1929 a National Park Committee was appointed, which was the intermediate cumulation of a drawn-out battle for access to wild and open country.

While the world’s first national park, Yellowstone, was established in 1872 in the United States of America (Reynolds F. 2017, p. 67), England’s inaugural national park, the Peak District, was not established until 1951. Given that suffrage was tied to wealth, the median voter did not own land until 1960 (Lindert 1987, p. 26) and therefore English preservationists struggled against the monopoly of the landed class. Reynolds F. describes how still in 1930 “there were sixty-two thousand acres of open moorland of which less than one per cent was legally open for access. Yet half the population of England lived within fifty miles of it” (Reynolds F. 2017, p. 70). Early victories of private organisations like the Commons Preservation Society against the increasingly excessive enclosure of land could not be followed up with legislative success and

⁸² Keynes was on notably good terms with MacDonald, as evidenced by their more-than-cordial exchange of letters in the summer of 1932 (CW XVIII, pp. 372–380).

⁸³ Later Sir Raymond Unwin, knighted in 1932.

⁸⁴ Unwin was the planner of the first Garden City and a genuine supporter of the concept. Reynolds J. argues that he, however, believed that the Garden City Movement was too “theoretical and experimental” for the general population and therefore asserted that it needed the important figure of Thomas Cogan Horsfall to garner wider spread support for town planning (1952, p. 59).

several Mountain Access and Footpaths bills⁸⁵ failed in a landowner dominated parliament (Reynolds F. 2017, p. 69).

Charles Bathurst (1867-1958), the Conservative MP who became Lord Bledisloe in 1918, continued to advocate for national parks, aiming to provide recreational opportunities for “brain-weary workers in crowded urban areas” (Mair and Delafons 2001, p. 295). In 1926, Abercrombie at the end of his fifty-one pages *The Preservation of Rural England* calls for a “National Map of Wild Country which should form the basis for a system of National Parks, as has been proposed by Lord Bledisloe, and as our progressive colonies already possess” (Abercrombie 1926, p. 56). Although the CPRE was widely welcomed, there was a need for an “immediate and tangible measure of success” (Sheail 2002, p. 107). The creation of National Parks was seen as a realistic opportunity for such a success, in contrast to the more complicated and costly valuation and compensation schemes required for planning rural land near urban areas.

When the second Labour Government came to power in the summer of 1929, the CPRE saw its chance. As the promotion of “town and regional planning so as to combine the preservation of natural beauty with social amenities and the maximum of economic convenience” was part of the programme on which Labour ran its campaign (Labour and the Nation 1928, p. 34), the CPRE promptly submitted a memorandum for the creation of National Parks to the newly elected Prime Minister, Ramsay MacDonald (Sheail 2002, p. 107).

On the 4th of November the inter-departmental National Park Committee (also known as Addison Committee)⁸⁶, which MacDonald appointed, commenced hearing individual and group witnesses. These testimonies included contributions from the National Trust, The Commons and Footpaths Preservation Society, the CPRE, Raymond Unwin, Patrick Abercrombie, Clough Williams-Ellis, Vaughan Cornish, and Lord Bledisloe, who was the first to report (CW XX, p. 36; Mair and Delafons 2001, p. 298; Report of the National Park Committee 1931).

Keynes's scheme

Keynes, when he started devising a plan of action just a few months later in early January of 1930, must have been well aware of the progress in that matter, given his plan's explicit focus

⁸⁵ The fight for access to the wild and open country, initiated by the nineteenth-century MP James Bryce, was continued by Charles Trevelyan, a Liberal MP at the time and the older brother of G.M. Trevelyan (Reynolds F. 2017, p. 69).

⁸⁶ Christopher Addison (1869-1951) had a rural background, studied medicine, and became Professor of Anatomy at 28, turned to politics becoming an admirer of Lloyd George. Addison, concerned about the health effects of the poor housing conditions, was personally responsible for the 1919 creation of the Ministry of Health and became its first minister (Mair and Delafons 2001, p. 297).

on a financial scheme for the creation of National Parks. Beyond demonstrating that Keynes was well informed, the correspondence highlights two other aspects of his contributions to the preservation of natural beauty. Firstly, although his scheme presents numerical suggestions, he is not particularly concerned with the details of fairness or precisely measuring the trade-offs involved. As discussed, he is sceptical even of the possibility for any precise calculus in that matter. Secondly, he is highly focused on getting things done swiftly, again underlining his personal commitment.

He starts the scheme, by stating four assumptions:

This plan proceeds from the following assumptions. —

1. It is a matter of *great* urgency to have some scheme put into operation by Central Authority which shall prevent sporadic exploitation of what should be preserved as wild or open country.
2. The areas which it is necessary to protect cover a much wider space than can be looked after by private bodies, or even by local authorities unaided by the central Government.
3. The areas where some precautions are necessary represent a much larger amount of land than it would be advisable for Public Authorities to take into their own possession, at any rate at the present time.
4. Nor is there any need to interfere with the present management and ownership of much of the land, so long as matters proceed much as at present with the lands used in the main for agricultural and sporting purposes, etc.

(CW XX, p. 30, emphasis in original)

The recurring theme of an *urgent* need for central government action, given the scale of the issue and the challenges faced by private bodies and local authorities, is evident. Although Keynes initially believes that his scheme might be applicable to land closer to urban areas, he primarily aims at land with relatively little economic potential like the famous lakes, downs and moors which would make for ideal National Parks. Possibly keeping in mind the difficult economic situation, the looming effects of the October 1929 stock market crash, and the new Labour government's insistence on maintaining a balanced budget (Skidelsky 1994, pp. 68-70), Keynes suggests a scheme that involves a low and spread-out financial commitment, avoiding the costly outright purchase of the land in question.

To do so he suggests to set up a committee to specify areas which would either be generally exempt from development or exempt from development without government supervision and regulation. "These areas might be classified in three classes — (a) suitable for National Parks (b) open agricultural or sporting country (c) protected belts in the neighbourhood of towns"

(CW XX, p. 31). The committee would be followed by a “continuing Commission with statutory powers to schedule areas (after an opportunity has been given for objections to be raised” and in the case of “lands so scheduled no development or other activity to be permitted, which would have the effect of changing materially the outward appearance of such lands, except under licence from the Commission, which shall not be unreasonably withheld” (CW XX, p. 31).

These areas would then “be valued on two bases, namely:

- (a) Twenty years’ purchase of their present Schedule A valuation for income tax exclusive of assessments in respect of buildings (called hereafter their *income value*), and
- (b) Their value (exclusive of buildings) in the open market at the date of the Act of Parliament which sets this machinery in motion coming into force (called hereafter their *capital value*)” (CW XX, p. 31).

Keynes argues that this will allow compensation for landowners in two ways. First, an annual payment to the owners, equivalent to the income tax payable, essentially freeing them from the tax; and secondly, exemptions from the death duties on the *capital value*.

As the *capital value* is based on an open market valuation, it reflects the potential development value of the land and therefore represents the unrealised or forgone value come reservation. Keynes therefore suggests to pay an additional rate when the *capital value* exceeds two times the *income value*, to compensate landowners who forgo an excessive amount of unrealised value.

The Commission would be endowed with the power to purchase scheduled land or any part of it based on its capital value. Additionally, it would receive an annual allocation of £1,000,000 from the Treasury, along with funds to finance the exemptions from death duties. Keynes argues that as the scheme is “primarily designed for lands which are comparatively barren from the economic point of view”, the cost arising from payments based on the *income value* would be relatively little, allowing for the gradual purchase of land and formation of National Parks (CW XX, p. 30).

In his replies Raymond Unwin, although grateful for Keynes’s interest in the matter and intrigued by the idea of annual payments rather than outright purchase, questions the fairness of the details by means of a numerical example. With respect to the annual *income value* payment, Unwin wonders if the arrangement concerning the extra payment on excess *capital values* is fair to landowners just below the specified threshold — for plots with high *income value*, the *capital value* just below the threshold which would not merit additional compensation could be

very high too. There would be a wide array of *capital value* forgone which would earn the same regular annual payment as plots with a generally lower *capital value* (CW XX, p. 33).

Concerning the death duty exemption Unwin argues that the progressive nature of the death duty *rate* and its application to the entire value of the estate, rather than the *capital value* which excludes buildings, complicates things further. Comparing two landowner's plots with equal *income* and *capital value* but significantly differing *estate values*, the one with the more valuable estate would get the higher rate applied to the otherwise equal *capital value* and therefore benefit from higher exemptions from the death duty. Therefore, on average, larger landowners would profit more from the death duty exemption. Unwin believes that these complications concerning fairness might not justify the use of governmental financial resources and result in political pushback. He further doubts that there is a political prospect of securing an annual grant for compensation payments for land which had little foregone *capital value*, especially when even the landowners admit that no value is actually lost to them (CW XX, p. 34).

Keynes's response to the numerical example is telling. He admits that he has no "completely satisfactory logical reply to make" to the points raised by Unwin (CW XX, p. 34). Regarding the idea of annual payments offsetting the income tax even when there is no difference between *income value* and *capital value*, he argues that even if it is not represented in the market evaluation of the *capital value* there is always some freedom of development lost — he therefore suggested them to merely "oil the wheels" (CW XX, p. 34). With respect to the extra payment for stark differences in *income value* and *capital value* he responds that some compensation for excessive forgone value should be paid and that his chosen threshold "was simply a rough and ready one" (CW XX, p. 35). As in line with further comments on the precise way to deal with these complex and to Keynes apparently somewhat arbitrary thresholds he simply agrees that "very probably some more meticulous scale would be preferable" (CW XX, p. 35).

He also does not have "any logical answer" regarding the death duty point (CW XX, p. 35). Keynes argues that it is true that larger landowners would benefit more compared to smaller ones, but that they also have a higher tax burden under the current death duty system and "that it would be well worth while to get his [the landowner's] goodwill for the scheme by doing a little to remedy what he at least feels as an injustice" (CW XX, p. 35). By saying "what he at least feels as an injustice" Keynes indicates that he might not agree with them but is willing to make concessions to get some sort of scheme in place quickly. In fact, "the essence of his suggestion" does not lie "in the particular scale of compensation suggested", but in making annual

compensation payments to avoid the, in every regard, complex question of ownership (CW XX, p. 35).

Keynes does admit that he is not an authority on these kinds of details, but it is also evident that Keynes is not particularly interested in the details, possibly not even believing in the possibility that any details in the matter could be solid, he is solely interested in “oiling the wheels”:

The precise scale of compensation and the manner of calculating it are further matters, on which my opinion is not worth much. Probably my details are bad. I chose them because they seemed to me to be a rough and ready way of approaching the matter, which would obviously cost comparatively little, and yet would oil the wheels amazingly (CW XX, p. 35).

It would not be out of the ordinary for Keynes to present hastily drafted schemes, however it would be highly unusual for him to put so much thought and work into something he did not care for.

The alternative scheme

In his first reply Unwin attaches the details of an alternative scheme⁸⁷ which is “being seriously considered by the Town Planning Department of the Government, by the Central Landowners Association, the Surveyors’ Institution and other similar bodies” (CW XX, p. 34). This alternative was likely a reworked version of the one presented to the National Park Committee (Mair and Delafons 2001, p. 298) and was likely discussed at the CPRE dinner as well, as Unwin alludes to criticism Keynes must have voiced at the meeting. Unwin admits he might not have been too clear and wishes Keynes to look over the details of the proposal, which apparently included a *land pooling* scheme.

Land pooling or *land readjustment* is a way to avoid public purchase or even appropriation of land by incentivising landowners to voluntarily “transfer their land rights to a self-governing body for redevelopment” or in this case reservation (Hong and Needham 2007, xv). In the context of development in urban areas the idea being that development of the unified land would increase its value as well as that of adjacent land. Compensation for land possibly kept in public hands could then be organised by redistributing the now higher valued land, usually smaller or nearby plots. Pooling land to reserve it for natural beauty and amenity purposes, leaves out the possibility for increased value of the reserved land itself, but would usually still increase the value of neighbouring land. Either, especially in the context of urban land, by reducing supply of building land in that area and increasing the value of the non-reserved and available building

⁸⁷ Unfortunately, the author could not find any records of the alternative proposal and the resulting discussion of the content relies on piecing together comments by both relating to the attached but not found proposal.

land, or by increasing the amenity value of the neighbourhood by access to natural beauty and conserved land⁸⁸.

One specific way in which the spread of growing population and industry throughout the country by means of the motor revolution added to the issue of rural preservation, was the concomitant increases of land values, the so-called ordinary increment or unearned increment, due to high demand for land. The price increases led to speculative holding and further price increases, which led to the inability of local authorities to purchase land for reservation — a question much discussed as will be shown in the next section.

Keynes, possibly fearing the resistance of land owners, apparently criticised the alternative proposal for attempting to capture the unearned increment for the public. Unwin assures him that this is not the case, which seems believable given the involvement of the Central Landowners Association and the fact that Keynes does not reiterate his criticism from the dinner. Although Keynes agrees that pooling could be feasible in some limited, specific cases, for example to “avoid merely giving a present to a neighbouring landlord” (CW XX, p. 36), he remains highly sceptical. He confesses that he is “afraid that the whole thing may be held back by the practical opposition which will arise to pooling schemes” as they raise “endless difficulties” (CW XX, p. 36).

Keynes emphasizes the inherent complexity in redistributing values that changed due to land reservation. Reminiscent of Keynes’s definition of economics as a moral science, which is concerned with value judgements, uncertainty, dynamics and heterogeneity, he argues that natural beauty and amenity values are highly sensitive to their surroundings and therefore non-transferable:

It is extremely difficult to prove that a given landlord has benefited by any specific amount through the reservation of areas in his neighbourhood. Nor is it quite correct that the total value of land in the neighbourhood of towns is left unaltered by reservation. If you take away the possibility of developing land which has special amenity value owing to its surroundings, etc., it by no means follows that you add precisely that amount to the amenity value of less attractive sites without similar surroundings (CW XX, p. 36).

Keynes again emphasises the unimportance of minor questions of interpersonal fairness in the face of the urgency of the issue by stating that he is “more anxious to get things done than to bother about what seem to me comparatively minor questions of equity” (CW XX, p. 36).

⁸⁸ Of course, it is also conceivable that reserving a plot of urban land reduces adjacent land’s value due to, for instance, arising infrastructural challenges.

They agree that Keynes's scheme might be more helpful for the wild and open land, while the alternative proposal might be more applicable to land on the outskirts of urban areas and green spaces close to roads. Unwin informs Keynes that he hopes that with the new government, new institutional power for regional planning will come into effect. He therefore believes that the most promising line of action will then be to place the formation of National Parks into the hands of collaborating counties aided by national funds whenever a project is deemed to have national importance.

He believes that "there is at present considerable political possibility of getting something along these lines passed" but fears that "something in the way of an indiscriminate tax on increment values might be attempted which would not distinguish between the different causes of increment value and might render our problem more difficult, at any rate for a longish period" (CW XX, p. 34).

At the end of Keynes's last letter, dated 12 February, he mentions that he is thankful for Unwin's comments on his scheme and that he will incorporate them in an extensive revision of the scheme in the not so unlikely case of publishing it⁸⁹. Although he eventually never published it, it is remarkable how much work he put into the scheme and its discussion. Unwin's sincere interest, evident in the detailed responses, leaves open the question if Keynes possibly even had an influence on Unwin's further work on the issue.

The correspondence ends on February 13th 1930 as Keynes was starting to be "heavily involved in the work of the Macmillan Committee" (CW XX, p. 37), which was set up to analyse the reasons for Britain's struggle with unemployment and the international financial turmoil following the stock market crash (Skidelsky 1994, p. 117). However, Unwin was to be correct in his suspicion of an indiscriminate annual land value tax coming and within this context Keynes and his fellow campaigners were quickly involved in questions of rural preservation again.

3.4.3 Land value tax debate and G. M. Trevelyan

A few weeks after this exchange the chancellor of the exchequer of the new minority labour government, Philip Snowden, gave his budget statement on April 14th 1930. Among many other pressing issues, he addressed the long looming issue of land value taxation. To him it was not just a fiscal instrument to balance the budget, but a piece of social reform (Hansard, HC Deb, 14 April 1930, vol. 237, cols. 2679-80). Land values rose due to many causes: structural change

⁸⁹ Keynes alludes to having received more comments, either verbally or in writing; however, the author is not aware of any further comments, though it is not impossible that additional material exists in Keynes's archives.

sped up by the motor revolution, increased public spending, and limited supply and rising demand combined with concentrated ownership of land. The argument for the taxation of land is therefore to socialise the “unearned increment” resulting from the passive increase in value, which for many at the time meant a literal “unearned” and therefore undeserved increment. Already Adam Smith, David Ricardo and John Stuart Mill called for the taxation of land based on the rent argument, however, the public key figure in the fight for the socialisation of rent or the unearned increment was Henry George⁹⁰ (1839-1897) (Blaug 2000, pp. 270-274 and Lindert 1987, pp. 27-28).

An autodidact in economics whose *Progress and Poverty* (1879) “may well be the greatest economics best-seller of all times” (Blaug 2000, p. 270). He coined the idea of a single tax on land which was supposed to replace all other taxes on labour and capital. The idea being that firstly there was no moral basis to allow landlords to capture the unearned increment, and secondly that a single tax on land would both be administratively efficient as well as economically efficient, as land could not be moved to avoid the tax and therefore would not lead to distortions in the production process (Blaug 2000, pp. 275-279).

When he toured the British Isles in the 1880s, he encountered a political climate of severe anti-lordism, and it has been argued on several occasions that, next to his propagandist and publicity talent, the precise timing of his message was a main factor in the wide public success of his propositions (Blaug 2000, Lindert 1987 and Saville 1960). As Lindert puts it: “the two related issues, the unearned increment and unequal land- ownership, were joined into a single crusade led by Henry George” and led to the introduction of a land value tax in the 1909 budget of Lloyd George (Lindert 1987, pp. 29, 25).

In 1873 only fourteen percent of households owned real estate, a situation that only changed slowly with a more equalist spirit following World War I (Lindert 1987, pp. 39,45; Spring 1984, p. 42). Land taxation has therefore traditionally been an important topic for both the labour and liberal party in their fight against wealth inequality and the political power of aristocratic land-owners (Spring 1984). Further, in light of the connection between voting rights and property ownership the issue of landed wealth inequality has been closely connected with the fight for universal suffrage. Only the 1918 *Representation of the People Act* gave men older than twenty-one voting rights irrespective of wealth or property ownership — a right women only fully

⁹⁰ Henry George’s relationship with British socialism was a substantial one. We know that William Morris read George “carefully in 1881 or 1882, and always spoke generously of George until the latter’s attitude in the Chicago anarchists’ case in 1887; and then, rightly, Morris damned him” (Saville 1960, p. 332).

equally gained in 1928 with the *Representation of the People (Equal Franchise) Act*. The combination of landed wealth concentration, increasing land values and universal suffrage allowed for broad support of a land value tax.

Another common argument in the financial and industrial struggle following the stock market crash was the idea that taxing land would bring it either into economic use or into the market. The tax being a disincentive to keep land for speculative or any non-economic reasons. Although Snowden announced his plans for a land value tax early in April 1930, he did not want to introduce the tax prematurely into the 1930 budget to secure its success and give time to debate the proper specifications (Hansard, HC Deb, 14 April 1930, vol. 237, cols. 2679–80). Following the announcement, a discussion arose in the columns of the *Nation and Athenaeum*, where Keynes was still Chairman of the advisory board. G.M. Trevelyan, a renowned historian, Cambridge Apostle, good acquaintance of Keynes and outstanding figure of the preservation movement opened the discussion on May 31st.

George Macaulay Trevelyan

Trevelyan (1876-1962), seven years Keynes's senior, and son to a baronet was born into a wealthy "late-Victorian landowning family [...] inevitably drawn to nature and to country pursuits" (Cannadine 1993, p. 143). Many aspects of Trevelyan's life suggest that he was to become one of the most important advocates for "natural beauty", greatly influencing the term's establishment as a legislative cornerstone (Selman and Swanwick 2010, p. 10).

In his autobiography, he describes how, even as a boy, he read poetry by Keats and Ruskin with passionate delight and always had a special devotion to Wordsworth (Trevelyan 1949, pp. 12-13). The main hall of the family estate Wallington, which Trevelyan's brother entirely made over to the National Trust in 1942⁹¹, was designed by Ruskin himself and of great interest to the young Trevelyan (Trevelyan 1949, p. 25). Here, with the reading of Wordsworth and Ruskin, he "began to recognize the importance of natural beauty for man's spiritual life" (Cannadine 1993, p. 144). Wallington's windows provided a direct view of the Northumberland moors and mountains, where his lifelong passion for hiking through the countryside took root (Cannadine 1993, p. 143).

His writings therefore often closely resemble the romantic poetic tradition and the late nineteenth century criticism of technologically advanced laissez-faire capitalism. Trevelyan got

⁹¹ Historic England, 2025. WALLINGTON, Wallington Demesne – 1001054. Available at: <https://historicengland.org.uk/listing/the-list/list-entry/1001054> [Last accessed 1 April 2025]

thoroughly involved with the National Trust in 1928, the same year his father died, whose inheritance allowed him to become not just an outstanding propagandist for the cause, but also a benefactor himself (Trevelyan 1949, p. 41; Jenkins and James 1994, p. 56).

His 1929 pamphlet *Must England's Beauty Perish?* which he wrote as a “Plea on behalf of the National Trust”, echoes Ruskin and similarly to Keynes he criticises the tendency “to action taken for purely economic reasons” which does not create “new beauty, but destroys old beauty and substitutes modern ugliness” (quoted from Reynolds F. 2017, p. 43). In his 1931 lecture *The Call and Claims of Natural Beauty* he traces the development of a notion of natural beauty in England. It is worth investigating this essay on natural beauty more closely, both for his relationship with Keynes and the parallels to many aspects of his thought analysed above, and its profound effect on the preservation movements narratives. Trevelyan’s work essentially spread the idea of the spiritual essentialness of access to wilderness and natural beauty for everyone (Sheail 2002, p. 263; Reynolds F. 2017; Jenkins and James 1994, p. 57), thereby reviving anti-modernist sentiments in a new light.

The start of the essay welcomes the passion for natural beauty that consumes so many and praises the “practical efforts” made by the “National Trust, Councils for the Preservation of Rural England, Town Plannings and other efforts” against the “tide of machine-made ugliness” (Trevelyan 1931, p. 92). He suggests that the spiritual effect natural beauty has on everyone made it “quite possible that our ancestors were as fond of natural beauty as we are”, although they might not have talked and written about it as much (Trevelyan 1931, p. 93).

He argues that the conditions in the cities may not be as bleak as they used to be just a few decades earlier, but he describes their detrimental effect with respect to a lack of natural beauty. The conditions people live in nowadays, “buried deep in ugly towns, removed from every natural sight and sound save a strip of sky far overhead and the swish of rain on dirty streets” makes it that they “only on high days and holidays...go out into the country” and therefore more “consciously relish” (Trevelyan 1931, p. 93).

He argues that “The modern attitude to natural beauty, more philosophic and more conscious, began, in this country at least, with Wordsworth, who gave it not only its first systematic, but its finest, expression” (Trevelyan 1931, p. 94). He notes that James Watt and Wordsworth were contemporaries and that the Industrial Revolution went ahead side by side with the romantic movement – and argues that the Industrial Revolution tamed nature by the means of “science, machinery and organization”, and the preference for a nicely tamed garden made way for “love of nature in its most natural and unadulterated form” (Trevelyan 1931, p. 101). Trevelyan agrees

that “modernity has its material and intellectual advantages too but”, somewhat mirroring Keynes’s reluctance to engage in a detailed cost and benefit analysis, he does not want to debate the “general question of relative loss and gain, or trying to strike a balance” (Trevelyan 1931, p. 95). He simply argues that “to many of us city life can only be rendered tolerable on the condition of frequent holidays in the real country, and for that reason, if for no other, the real country must be preserved in sufficient quantity to satisfy the soul’s thirst of the town dweller” (Trevelyan 1931, p. 95). The phrase “real country” was a common way for contemporaries to link England’s natural landscapes with national identity (Matless 1998). To Trevelyan, not the overcrowded and rather unsanitary cities were the “essential England”, but the lakes, moors and hills.

His understanding of natural beauty relates in some important ways to the one Keynes seems to have based on his early philosophical influences. A diversely and subjectively perceived but also intuitively and universally understood *good*. The experience of nature and its beauty is, to Trevelyan, a deeply intuitive and spiritual one which stands against modernity’s rapid evolution of dogmas and “fashions in opinion”: “Man looks round for some other encouragement, some other source of spiritual emotion that will not be either a dogma or a fashion, something

That will be for ever,

That was from old.

And then he sees the sunset, or the mountains, the flowing river, the grass and trees and birds and banks” (Trevelyan 1931, p. 105). In that sense, natural beauty is an experience based in ancient biological truths and organic unity. The continuous rebirth of nature, “the eternal recurrence of spring” resonates with human’s implicit and instinctive understanding of the circle of life – “Such joy in the reviving year is natural to all the animals, to all the children of the Great Mother”; a strong feeling of attachment, “a natural, brotherly love that we feel for trees, flowers, even for grass, nay even for rocks and water” as “children of earth” (Trevelyan 1931, pp. 96-97).

Similarly to Keynes, who in his 1938 *My Early Beliefs* mentions his relief to have discarded “the duty to know exactly what one means and feels” (CW X, p. 442), Trevelyan argues that “like the Universe, like life, natural beauty also is a mystery” and the fact that “there is no clear interpretation” does not “lessen its value” (Trevelyan 1931, p. 106). Just like Keynes he argues that although there is “in the highly composite mind of modern man [...] an infinity of aptitudes, tastes, desires, traditions, mysticisms, primeval inheritances and physical and physiological urgings” natural beauty is the “ultimate spiritual appeal of the Universe”, an experience that

transcends all differences – “the highest common denominator in the spiritual life of to-day” (Trevelyan 1931, pp. 95,106)⁹².

This notion of natural beauty as a spiritual experience shared and deserved by everyone was a powerful source of inspiration and persuasion (Jeans 1990, p. 251; Sheail 2002, p. 263; Selman and Swanwick 2010, p. 10). And as these powerful pledges came from the “most famous, the most honoured, the most influential and the most widely read historian of his generation” he, “by the early 1930s...had thus established himself as one of the foremost activists in the battle to save the English countryside” (Cannadine 1993, pp. xii, 157).

In 1930 Trevelyan combined his campaigning for preservation of and access to the countryside and his personal passion for long hikes in nature by becoming the first president of the Youth Hostel Association⁹³ (Coburn 1950, p. 23). The YHA’s charitable objectives echo efforts of early conservationists like Octavia Hill, who brought school children outside of the cities and into nature — it is stated as:

To help all, especially young people of limited means, to a greater knowledge, love and care of the countryside, particularly by providing hostels or other simple accommodation for them in their travels (Coburn 1950, vii)

Trevelyan and the seven years younger Keynes knew each other from the Apostles — Keynes became a member in 1903, the year Trevelyan left Cambridge. They both shared a passion for experiencing natural beauty by foot and Keynes would often join the *Sunday Tramps* — “regular walks organised by G.M. Trevelyan and his friends. They would take a train out from London to Dorking, Haslemere or a country station and then walk a prearranged route for the day before returning to London in the evening” (Moggridge 1992, p. 173).

As a Cambridge undergraduate Trevelyan lived with, amongst others, Bertrand Russel and G.E. Moore. He spent hours listening to them and considered himself “privileged to be mere audience to such talk, for I knew that these were the men and that I was hearing new schools of philosophy made and unmade, as indeed was the case” (Trevelyan 1949, p. 14). Although the

⁹² A universalist sentiment possibly already reflected in a 1905 letter to Keynes. Cannadine writes that Trevelyan “hated despotism, loved liberty and freedom, believed strongly in non-intervention in European affairs, and vehemently disapproved of imperial dominion over other nations and races. As he wrote to John Maynard Keynes in 1905: ‘We have been so long accustomed to ‘think in nationalities’ that we have lost the idea of international changes and international parties which seemed quite natural to our grandfathers’ (Cannadine 1993, p. 63).

⁹³ The first hostel was established at Wallington Hall (Ayres 2012, p. 47). The second Vice-President was Patrick Abercrombie (Coburn 1950, p. 23) and fittingly, its first national office quickly moved to Welwyn Garden City, the second Garden City in England established in 1920, where it was given seven years free of rent (Coburn 1950, pp. 25-26).

relationship between Trevelyan and Moore experienced fluctuations⁹⁴, they remained friends and fellow Apostles who spent considerable time together. They did not share a temperament regarding “personal relationships and intellectual speculation”, an atmosphere that dominated the Apostles and Cambridge at the time (Cannadine 1993, p. 38), but were certainly of one opinion regarding the spiritual truth behind the beauty of nature. Their shared love for hiking, wilderness and reading would have them spend several vacations together, like the reading parties organised by Moore.

On one of these occasions in 1895 Moore and Trevelyan, who described them as the two “Wordsworthians of the party” separated from the group and went on their own small “Lake Poet’s pilgrimage”, even past Dove Cottage where Wordsworth used to live (Levy 1979 pp. 150-151). And although Trevelyan was overall both too serious and too anti-intellectual for the Apostles and the Bloomsbury Group in particular, he took an immense liking to Keynes and, to a lesser extent, to Leonard Woolf⁹⁵. Possibly as he considered both men as unusually politically active for members of the Bloomsbury Group, feeling great admiration for Keynes, his intellect and sound judgement of men and events (Cannadine 1993, p. 39).

In general, “many of Bloomsbury’s most distinguished members were distant relatives, Cambridge contemporaries, or fellow Apostles” (Cannadine 1993, p. 39), and, curiously, often concerned or even involved with the preservation of rural England⁹⁶.

G.M. Trevelyan’s older brother, Sir Charles Trevelyan⁹⁷ had early on opened Wallington and its 13,000 acres grounds to the public and eventually in 1934 made it over to the Trust — he explained the decision in a radio broadcast arguing that the grounds should never cease to be open for the public’s recreation (James and Jenkins 1994, pp. 92-93). His wife, Lady Trevelyan, was a “leading committee member of the National Federation of Women’s Institutes” and later “with her expertise on food, farming and rural life, she became an integral part of CPRE’s founding committee” as well as the National Trust’s Executive Committee (Lloyd A., CPRE;

⁹⁴ Moore delayed the acceptance of Trevelyan to the Apostles as he did not believe that Trevelyan, who was already thoroughly political, would be a good fit for the type of discussions at the society (Levy 1979, pp. 139, 146-147). In a letter to a friend he also described how unpleasant he found Trevelyan at a reading party and Trevelyan apologising for his behaviour; however, according to Moore that did not change much about the two men being friends (Levy 1979, pp. 187-188).

⁹⁵ Cannadine describes how “he also had a certain amount of time for Leonard Woolf, to whom he gave early advice about walking in Northumberland and with whom he maintained an intermittent correspondence thereafter (Cannadine 1993, p. 39).

⁹⁶ Another of Trevelyan’s lifelong friends was the famous pioneer of British ecology Arthur Tansley, who coined the concept of “ecosystems” (Ayres 2012, pp. 45-46, ix).

⁹⁷ who joined the Labour Party becoming President of the Board of Education for two minority Labour Governments (Jenkins and James 1994, p. 92) and fought for access to nature bills in parliament (F. Reynolds 2017, p. 69).

Jenkins and James 1994, p. 92). In 1929 their daughter, Pauline Trevelyan, married John Dower, a studied historian, and a self-taught planner and architect, who, by writing the influential *The Case for National Parks* (1938), to which G.M. Trevelyan wrote a passionate introduction, would become the “The Father of National Parks in Britain” (Sheail 2002, p. 116; Reynolds F. 2017, p. 76).

Keynes social circle was clearly involved in the cause and it seems certain that Keynes must have been involved in many more discussions on this topic than is salient from his and others collected writings.

From the story told so far it could appear that the preservation movement was not met — beyond the treasury view — with fundamental resistance. However, as Trevelyan said, even if from the point of view of preservationist advocacy, “those of us who care for preservation of natural beauty are still outnumbered and overborne by those who, though not all of them wholly indifferent to our cause, hold other considerations to be of greater importance” (Trevelyan 1931, p. 105). Some of these “considerations of greater importance” will be brought up in the debate around the land value tax.

The land value tax debate

Trevelyan initiated the discussion with a letter to the editor published on May 31st 1930, in the *Nation and Athenaeum*. This initial letter, along with subsequent contributions, appeared as a series of letters to the editor spanning several weeks. Here Trevelyan expressed his fear that “the Liberal and Labour parties [...] may commit themselves beforehand to a particular scheme of Land Taxation, without considering its effect on Rural Amenities [...]” (Land&Liberty 1930⁹⁸). He did not oppose land value taxation in principle, but argued that the details of its implementation mattered greatly if rural beauty was to be preserved.

A broad, general annual tax levied on the selling value of all land, he warned, would pressure landowners — many of whom preserve their land for the “love of natural beauty” and out of a “sense of duty to their neighbours” — to sell to “jerry builders”. This would have a disastrous effect on “rural amenity, unless it is accompanied by a scheme of rural planning for the whole country”. As an alternative, Trevelyan proposed a tax on realised increment at the point of sale, which would not force land into the market where no intent to sell existed.

⁹⁸ The following discussion is based on an article of the pro land value tax magazine *Land&Liberty*, published by The Henry George Foundation of Great Britain, where extensive quotations were made available and the discussion was overall summarized. The author was able to verify many of the text passages in the relevant issues of *The Nation and Athenaeum* available at the Generallandesarchiv Karlsruhe.

In any case he concludes, “the coming of the motor” has led to a situation where the original goal of taking land out of the hands of the landlords into the public’s hands for development has reversed. If the state decides to create an incentive to sell and develop land, it is also the “duty of the state to decide which pieces of land it desires to have built upon and which not, and to tax accordingly in each case” (Trevelyan 31st May 1930).

Many commentators were sympathetic to Trevelyan’s concerns, though others challenged his assumptions. Two commentators (A.W. Madsen and W.R. Lester), for instance, argued that high land prices stemmed from the absence of an annual tax, which allowed landowners to sit indefinitely on valuable property, limiting supply and raising prices. These inflated prices made it difficult for local authorities or preservation bodies to acquire beauty spots. While some loss of scenic land might be inevitable in a growing society, they argued, at least the annual tax would allow other spots to be saved by putting land into circulation. One writer even suggested that the “greatest amenity we could wish to see” was not untouched countryside, but “the re-peopling of the country districts, which means much building, and with large gardens” (A.W. Madsen 14th June). High land prices, they noted, encouraged ribbon development and overcrowding, as only thin strips of land could be afforded. More spacious or elegant housing would raise property taxes to levels unaffordable “out of the income of the ordinary man” (W.R. Lester 7th June).

Trevelyan responds on 28 June reiterating his key point that such a tax would have to be accompanied by rural planning. As a senior member of the National Trust and frequent CPRE speaker (Cannadine, 1992, p. 156), he was well-acquainted with Abercrombie’s work. Echoing Abercrombie’s 1926 proposals, Trevelyan argued for a national land survey to “enable the community to say which lands it desires to keep unbuilt for reasons of amenity”. He viewed the unchecked expansion of “jerry builders” and ribbon development as too rapid and irreversible, and called it “monstrous” to proceed with taxation absent proper planning.

Not everyone agreed. A more cynical respondent, writing in *The Nation* on 5 July, questioned whether it was truly “monstrous” to “set a great reform in operation” to redistribute the community’s unearned increment, just because a rural planning scheme was not yet in place (B.A. Levinson, 5 July). He wryly invoked Trevelyan’s brother, Charles Philips Trevelyan, then President of the Board of Education: “What would the Professor’s distinguished brother say to the argument that his education policy is ‘monstrous’ until assurance is given that his school buildings will satisfy aesthetic standards?” (B.A. Levinson, 5 July).

This sharp retort underscored that not all participants in the debate valued natural beauty to the same degree as Keynes, Trevelyan, the Woolfs, and their allies. With Keynes as Chairman and Hubert Henderson as editor-in-chief, it is perhaps unsurprising that the lead article in *The Nation*, published 5 July under the title *Saving the Countryside*, echoed Trevelyan's concerns. Only five years after the CPRE's founding, the article explicitly aligned with the council's message: "It is clear that an annual tax on the selling value of all land would aggravate those evils which the Council for the Preservation of Rural England is teaching us to abhor". The article endorsed a realised increment duty instead — levied once, either at the point of sale or evaluation — so as not to exert annual pressure on landowners.

However, the following week's issue (12 July) featured a final rebuttal from W.R. Lester who deeply opposed this compromise. He argued that a realised duty would fail to pressure landowners, would leave urban-edge land monopolies untouched, and would generate little revenue. High land prices, he maintained, also held back the construction of small holdings, labourers' cottages, and grand housing schemes intended to relieve unemployment.

There is a clear divergence in how the various participants approached the debate. While Trevelyan maintained that he was not opposed to land value taxation in principle, he appeared willing to significantly reshape it for the sake of natural beauty and rural amenities — even to the point where critics claimed it would no longer fulfil its original function. His support for the tax was conditional on a coordinated effort in national rural and town planning.

Advocates of the annual land value tax, by contrast, tended to argue from the standpoint of economic and social equity. Some disregarded the aesthetic and preservationist dimension altogether, while others acknowledged it but treated it as secondary to the urgency of addressing housing shortages, land monopolies, and the uneven distribution of unearned gains.

The following year saw occasional debates on the issue and the coalition almost collapsed when the liberals engaged in what Skidelsky calls a "sham battle" over their sudden realisation that the land value tax would be charged on top of the regular Schedule A income tax (Skidelsky 1994, pp. 329, 308). Although they eventually backed down, many alterations had to be made for it to pass into the 1931 budget. Keynes was heavily occupied with the final stages of the MacMillan report, but still found the time to comment extensively on the Snowden Budget in a piece for *The Evening Standard* (28th of April) judging it harshly. He not only predicted but was ready to "bet ten to one that this Budget will end up a year hence with a realised deficit" (CWXX, p. 521). He was to be correct; amid international and national financial turmoil, the

budget ultimately revealed a deficit that marked the beginning of the end for the second Labour government in England's history (Skidelsky 1994, pp. 335-383).

The land value tax introduced in the budget speech by Philip Snowden (Hansard, HC Deb, 4 May 1931, vol. 252, cols. 47-169) was of great concern to Trevelyan and Keynes alike. On May 9th 1931 a joint and relatively long letter appeared in the newly merged *The New Statesman and Nation*⁹⁹ addressing still persisting issues with the bill. The regret that neither the CPRE voice nor the discussion in the *Nation* was heard by the bill drafters and that the present state of the tax would still speed up “the destruction of natural beauty” (CW XX, p. 525).

Land was supposed to be evaluated every five years and the tax, to be introduced as an annual flat tax of one penny in the pound on the value of land, would have exceptions for agricultural land that has no further development value, low revenue plots to protect the smallest landowners, and for publicly owned land (Hansard, HC Deb, 4 May 1931, vol. 252, cols. 47-169). Keynes and Trevelyan bemoan the fact that exceptions are neither made for privately owned woodlands and playgrounds nor for land besides roads and lanes, “its owners will, therefore, be put under the pressure of the tax to sell it for building. ‘Ribboning’, therefore, will receive a great impetus, as well as the sale of ‘beauty-spots’ coveted by the jerry-builder” (CW XX, p. 525).

Furthermore, they criticise, that there is no coordination with rural and town planning. Trevelyan and Keynes refer to the discussion of the Town and Country Planning Bill in April of 1931 (Hansard, HC Deb, 15 April 1931, vol. 251, cols. 193-321) which would eventually become the Town and Country Planning Act in 1932. Although it marked an important step towards national planning efforts, it lacked authority and was eventually cut down by the national government which came into power later that year (Jenkins and James 1994, pp. 69, 104). Given, that town and country planning was neither made compulsory nor universal, they argue that the annual flat tax could have “very bad results indeed” (CW XX, p. 525). It may only be one penny in the pound now, but they do not trust the chancellor and the socialists and radical liberals to not raise it in the future - “If, therefore, we put the tax on the wrong lands now, the result must ultimately be disastrous” (CW XX, p. 525).

They again refer to what Trevelyan already alluded to in the columns of *The Nation* as the preservation effort of private people “for love of beauty and for love of their neighbours” (CW

⁹⁹ The result of a merger of *The Nation and Athenaeum* and *The New Statesman*, another progressive newspaper whose editor was, until 1930, the Cambridge Apostle and Bloomsbury associate Desmond MacCarthy. Keynes, who was chiefly responsible for the merger became chairman and his friend Kingsley Martin, whom he had a life-long correspondence with, became editor (CW XXVIII, pp. 1-222).

XX, p. 525). Frustrated by the important but limited effort of the state in town and country planning they argue that “if the state will not save natural beauty itself it ought to leave private owners in a position to do so” – so if the state decides to use taxation as a means it should also decide what land to reserve (CW XX, p. 525).

They do not oppose the idea of taxing the development or “building-value” of land, but believe an indiscriminate annual tax to be “an obsolete order of ideas” and argue that most “modern reformers consider that betterment levies should be the central feature of any scheme for the taxation of building-value” (CW XX, p. 526).

Betterment means that increase in value that does not stem from development efforts of the owner itself, like windfall gains from public development. In theory this would directly appropriate the gain from public development or reservation, without indiscriminately taxing all land-owners irrespective of how much they actually profited from certain developments.

Interestingly, Pigou described this principle in his 1925 article in the *Economic Journal*, where Keynes was editor, as “in the abstract its equity is beyond debate. We may, however, be debarred from applying it in practice by inability to determine with any exactitude *who* have enjoyed the betterment and *how much* betterment they have enjoyed” (Pigou 1925b, p. 577).

Remembering Keynes’s unease with pooling schemes — due to their imprecision and reliance on arbitrary valuations — while endorsing betterment levies as the “modern” solution, highlights his and Trevelyan’s shared discontent with the idea of a general annual tax. Keynes’s rejection of this “obsolete” approach is further underscored by his declining the vice-presidency of the National League of Young Liberals just a few weeks later. On the 21 May he writes that

in view, however, of my present heretical state of mind, I think that perhaps it would be better if I did not appear in this capacity. Apart from my well-known heresies, I am much shocked at the moment that the Party should be supporting this reactionary and, I should have supposed, unworkable Land Tax, cutting right across the Betterment Tax, in which I had believed all modern reformers to put their faith (CW XX, p. 527).

asked to reconsider he responds:

I am keener than ever on schemes of home development, and indeed on much of the Yellow Book. But with the Party’s present concentration on the cries of the past, such as free trade, quite regardless of circumstances, and a Land Tax fifty years out of date, I feel that life has gone out of it (CW XX, pp. 527-528).

Keynes clearly alludes to the Georgist idea of a general land value tax. Other than being clearly concerned with the effect of such a tax on rural preservation, it seems like his disdain for this “obsolete” idea may stem from the good relationship with his teacher, Alfred Marshall, who

was a well-established critic of Henry George among prominent economists (Groenewegen 1995, pp. 585-587). When George toured the British Isles, he debated Marshall on the matter of poverty; nevertheless, despite George's fame, Marshall did not mention "George and the idea of a single tax...in his *Principles of Economics* (1891)¹⁰⁰" (Blaug 2000, p. 282). Blaug argues that the main opposition to George arose from Marshall's anxious desire to protect the profession of economics against autodidacts who were unaware of the latest developments in the field, such as the rapidly evolving theory of marginalism (Blaug 2000, p. 283)¹⁰¹. However, although not agreeing with George's analysis of poverty, he implicitly accepted the validity of taxing the "public value" of land and was in favour of compensating landowners for the loss of "private value" (Blaug 2000, p. 283) — Keynes's assertion of being in principal favour of taxing the unearned increment, but against an indiscriminate annual tax curiously mirror this approach.

Nevertheless, the main reason is clearly related to Trevelyan's and Keynes's framing of the discussion in the light of natural beauty and amenities and relates back to the exchange with Raymond Unwin who feared that "something in the way of an indiscriminate tax on increment values [...] which would not distinguish between the different causes of increment value [...] might render our problem more difficult" (CW XX, p. 34). They are anxious to protect natural beauty in the face of irreversible destruction. They therefore hope "that it is not too late to satisfy Mr Snowden's radicalism by stiffening up the Government's town planning measure, rather than by cutting across betterment levies with a flat tax on building-value, whether or not the owner is exploiting this value and whether or not the community desires him to do so" (CW XX, p. 526).

In their closing words they show just how informed they are about recent developments in the rural preservation cause when they thank the government for being generally receptive to the cause of preserving natural beauty and again emphasise its importance relative to other policies:

We may all feel gratitude to the present Government for those things which it has done for amenities. The Prime Minister's appointment of the National Parks Committee, Mr Lansbury's excellent Ancient Monuments Bill, the Town Planning Bill, and Mr Snowden's proposal to exempt the lands of the National Trust from the land value tax, are evidence of such good will. It is to be hoped that Liberals also care about natural beauty, as well as about the taxation of land values. Unless their respective claims can be fairly adjusted,

¹⁰⁰ As Blaug mentions tongue-in-cheek, this is quite a surprise given George's fame and the fact that even Karl Marx found a place in the *Principles* (Blaug 2000, p. 282).

¹⁰¹ At the debate Marshall pressed George to explain how he differed from "noted philanthropists like Lord Shaftesbury, Octavia Hill, John Stuart Mill and Toynbee" to show the audience that there was not any originality in his book, to which George responded evasively (Groenewegen 1995, p. 585).

we are in danger of a great catastrophe to the weaker, but not the least precious, of these two causes. (CW XX, p. 526)

The government eventually collapsed on 24th August 1931 (Skidelsky 1994, p. 382) — the issues were manifold but questions of foreign trade, international finance and how to handle the budget deficit, which was exposed in the may report published on the 31st of July, were the straw that broke the camel's back (Skidelsky 1994, pp. 343-382). Although the panic following the report was likely exaggerated, the question of how to balance the budget led to many supporting the decrease in unemployment pay, which led to half of the ministers resigning. The labour party as well as the liberal party split up and a new “National Government” coalition was formed, supported by the most conservative members of the Labour Party and the Liberal Party in cooperation with the Conservatives. Ramsay MacDonald and Philip Snowden kept their posts in the new government but were expelled from the labour party (Taylor 1965, p. 262-297). The land value tax could, against the new majority of the conservatives in parliament, not survive and by the Finance Act of 1934 was swept of the statute book (Madsen 1952, p. 9).

The fact that debates on the land value tax — particularly in relation to rural amenities and natural beauty — were encouraged by Trevelyan, a Cambridge Apostle whose sister-in-law served on the founding committee of the CPRE, and took place in newspapers dominated by Bloomsbury Group members, Apostles, and Keynes himself, illustrates the connection between a philosophically grounded appreciation of beauty and the preservation movement. While one could simply view these newspapers as a hub for progressive ideas, the preservation movement did not neatly align with the progressive-conservative divide. Instead, it constituted a distinct political and cultural strand among the many cross-cutting issues of the interwar period.

Trevelyan's public call for planning schemes in connection with the land value tax — initiated through newspaper columns in 1930 and followed by a joint letter with Keynes in 1931 — reveals a shared urgency and commitment to the preservation of natural beauty. Both ultimately advocate for national intervention and the establishment of universal, compulsory planning frameworks. Yet Keynes, in particular, begins to refine the kind of intervention he envisions. Returning to his distinction between the intuitive and the analytical, the aesthetic and the economic, he starts to explore the broader implications of this tension in his 1936 essay *Art and the State*.

There, he raises concerns that had already begun to emerge in his thinking in the early 1930s: a prevailing doctrine within the state — closely tied to the Treasury View — that non-economic goods — such as natural beauty — must be justified in monetary terms and cannot possess

value outside of market evaluation. This shift in focus becomes especially clear in two contributions following the shared letter of 1931, in which Keynes engages more directly with the questions of planning and management, once again using rural preservation as a central example.

3.4.4 Planning, art and the state, the economic rationale

A year after his last contribution to the preservation question, on the 14th of March 1932, Keynes broadcasts in a series on the state and industry, specifically addressing the concept of planning. The way Keynes approaches the topic in this public broadcast reveals how wide and ambiguous the concept was. This, in turn, also explains why it is legitimate to talk about planning in many different contexts and scales, as Keynes did himself — from overall planning of the economy, to planning of investment, or even planning town and country to preserve natural beauty. The underlying and still nascent concept is the same. He starts out by clarifying what has by now become a commonly accepted aspect of social democracies, but was a contested political concept in England of the 1930s:

There is a new conception in the air today — a new conception of the possible functions of government; and in this discourse, the last but one of a series on the State and Industry, I must try to catch from the surrounding atmosphere, and re-deliver to it, what this new notion is. It is called planning — state planning; something for which we had no accustomed English word even five years ago. It is not Socialism; it is not Communism. We can accept the desirability and even the necessity of planning without being a Communist, a Socialist or a Fascist (CW XXI, p. 84).

Politically defending the function of planning in a democracy, he continues to define planning by listing examples, showing at the same time that state planning had already been quietly accepted in many regards. It had been in place as taxation, tariffs, management of the currency in relation to the rest of the world and as “regulation of transport by road and by rail” (CW XXI, pp. 88-89). He then chooses to turn to town planning and rural preservation as a case “where we do not yet plan, or plan inadequately” (CW XXI, p. 89).

Town planning and rural preservation is a good illustration, although it is only of a semi-economic character. For it is a case both where it is impossible for the individual to take the necessary action however much he may wish to do so, and where the benefit cannot possibly accrue to the individual even if he were to act. Yet it is a case where enormous benefits can accrue to the whole community both now and hereafter, if strong powers of central direction are assumed and employed. (CW XXI, p. 89)

Again, rural preservation is used as an important example for the early conception of planning possibilities and again is combined with the urge to increase the efforts. The argument of collective action is employed and we see the vague notion of “enormous benefits” for the whole society and future generations, making it a “semi-economic” case.

The theme stays the same, the state authority has to take collective action for the greater good, as individuals, even if they wanted to, could not change anything in the grand scheme of things. Therefore, it is “the failure of the unplanned industrial world of Western Europe and America to regulate itself to the best advantage” (CW XXI, p. 91).

Keynes concluded with a personal judgement regarding the general economic situation:

To my thinking — and here I am expressing what is only a personal view though many are coming to share it — state planning, directed to the maintenance of the general average of industrial production and activity at the optimum level and to the abolition of unemployment, is at the same time the most important and the most difficult of the tasks before us (CW XXI, p. 90).

Unemployment peaked in January 1933 with an unemployment rate of about 23% and would, irrespective of the sudden recovery during the rest of the year, dominate economic discourse for years to come (Taylor 1965, p. 336). Public work programs, which Keynes had already been advocating in the late 1920s and public expenditure in general were harshly contested from the perspective of a balanced budget, the so called “treasury view”.

This debate is encapsulated in a short exchange of signed letters in *The Times* in October 1932 (CW XXI, pp. 137–140). Economists like Keynes and Pigou argued that all forms of expenditure that put people to work — including projects such as building libraries and museums — were useful in conditions of extreme unemployment, as they helped activate idle resources. By contrast, economists like F. A. Hayek and Lionel Robbins opposed public spending unless it was directed toward projects deemed absolutely necessary and maximally effective in reducing unemployment.

While the central fault lines of the debate ran through questions of idle resources, output capacity, and business confidence, an underlying issue remained unresolved: the distinction between the economic and the non-economic uses of resources. In particular, the question of what kind of return — monetary or otherwise — justifies public expenditure.

Within Keynes’s own position, several strands of thought come together — ones that would become increasingly central to his work in the years ahead. First, there is a recognition of the market’s failure to coordinate economic activity in a way that avoids harmful consequences.

This failure, for Keynes, justifies the need for planning and deliberate state intervention. Second, he affirms the importance of values that lie beyond immediate economic utility: the good and the beautiful, the cultural and the aesthetic. These, he suggests, cannot be left to market forces, but must be actively protected and nurtured by public institutions. Finally, he is increasingly concerned with the way economic discourse — especially around public spending — is constrained by a narrow rationalism that treats only what can be measured in monetary terms as legitimate. This reductionist view, in his eyes, excludes precisely those non-economic goods that are essential to a flourishing society.

Rural preservation, to which Keynes often returns as a widely accepted and emotionally resonant example, clearly appears to carry personal and philosophical weight for him. It is not only a tactically useful case, but one that reflects deeper commitments in his thought. In such moments, the argument for state action rests not merely on employment or efficiency, but on the recognition that non-monetary goods are legitimate and necessary objects of economic policy.

A few months after the broadcast, on 30 November 1932, Keynes turned his attention to the question of free trade in a BBC talk, which appeared on *The Listener*. In it, he alluded to a novel aspect of the rural issue — its cultural value — further aligning himself with CPRE perspectives and foreshadowing the financial concerns he would soon elaborate. Although he argued that protectionists often “used bad economic arguments,” he nonetheless credited them with a better grasp of the richness of what he called “the virtues of variety and universality, the opportunity for the use of every gift and every aptitude, the amenities of life, the old established traditions of a countryside — all those things, of which there are many, even in the material life of a country, which money cannot buy, need to be considered” (CW XII, pp. 206–207).

The following year, in July 1933, Keynes expanded on these issues in a “more general” version of a lecture titled “National Self-Sufficiency,” which he had delivered earlier that year in Dublin and which appeared in *The New Statesman* (CW XXI, pp. 233–246). During the peak of the Great Depression Keynes urges to rethink the principles of economic internationalism and to embrace a qualified, cautious move toward national economic autonomy — not as an ideological end in itself, but as a necessary condition for domestic political and social experimentation, and for preserving non-economic values that the market fails to protect. Foreshadowing the fuller treatment of these issues in his 1936 article, Keynes reaffirms in *National Self-Sufficiency* the importance of values like natural beauty — those that elude monetary justification:

For the minds of this generation are still so beclouded by bogus calculations that they distrust conclusions which should be obvious, out of a reliance on a

system of financial accounting which casts doubt on whether such an operation will ‘pay’. We have to remain poor because it does not ‘pay’ to be rich. We have to live in hovels, not because we cannot build palaces, but because we cannot ‘afford’ them. The same rule of self-destructive financial calculation governs every walk of life. We destroy the beauty of the countryside because the unappropriated splendours of nature have no economic value. We are capable of shutting off the sun and the stars because they do not pay a dividend (CW XXI, p. 242).

This passage captures his deepening frustration with a financial calculus that obscures what should be intuitively self-evident. The idea that “bogus calculations” cloud what “should be obvious” encapsulates his rejection of what he perceives as the Benthamite tendency to reduce all value to what can be measured.

These threads — finance, aesthetics, planning, and ethical intuition — begin to converge in a striking way during the years following the 1932 broadcast and the 1933 Dublin lecture. Between 1934 and 1936, Keynes’s attention was centred on two major projects: the completion of *The General Theory* and the creation of the Arts Theatre in Cambridge (CW XXI, p. 340). Fittingly, the theatre opened on 3 February 1936 — the eve of *The General Theory*’s publication (Moggridge 1992, p. 588).

Just a few months later, Keynes published *Art and the State*, a text that synthesises many of the concerns developed across his earlier contributions. There, he presents what is perhaps his most forceful argument for recognising non-economic goods — such as natural beauty and access to art — not as luxuries, but as vital public concerns. He calls for an active role for the state in their support and sharply criticises the economic rationalism of the Treasury view, the Benthamite calculus, and the blind preference for the exact over the meaningful.

Art and the state, financing material and social wealth

On the 27th of May 1936 Keynes is approached by J. R. Ackerley, who was recently appointed as the literary editor of *The Listener*, to convince Keynes to write an introductory article for a special issue named “Art and the State” (CW XXVIII, p. 335). Keynes, although hesitant to commit to take on another job, is immediately intrigued by the topic and suggests that he could expand on the “failure of the nineteenth-century democracies to maintain the grandeur and dignity of the state” which he sees as the seed of arts decay (CWXXVIII, p. 336).

In the exchange Ackerley wonders what arts should be included but eventually leaves it open to Keynes to deal with the subject in the introduction as he seems fit (CW XXVIII, p. 337). Keynes takes an inclusive approach, not differentiating between for example ballet and paint-

ing, but rather supporting the overall idea of the importance of non-economic ends. His commitment to the preservation cause is again highlighted by including the preservation of the countryside as an “outstanding example” of a non-economic factor that, like the arts, stands in opposition to the economic rationale.

This is further emphasised by his suggestion for illustration of the article. Although Keynes admits his lack of skill at finding fitting illustrations (CW XXVIII, p. 337), he ends up suggesting a picture from an article of *The Times* (CW XXVIII, p. 341). The picture features a reach of the Thames threatened by speculative builders. The article eventually appears in *the Listener* on 26th of August 1936 (CW XXVIII, pp. 341-349).

Keynes opens by recalling that up until the 18th to 19th century it used to be normal for the state to produce art. It did not matter whether it was the monarch, the church or the ancient democracies themselves with their famous notion of “bread and circus”. The 18th and 19th century marked a shift in the conception of the state’s function. Namely the “utilitarian and economic-one might almost say the financial- ideal” governing every decision made, being the “sole, respectable purpose of the community as whole” (CW XXVIII, p. 342). Not only is the economic rationale now master to arts and nature, but it is even perceived as a “respectable” singular pursuit.

The consistent belief in the dichotomy and separation of the compartments already found in his undergraduate philosophical essays, is evident in his play on the famous phrase “bread and circus” - reflecting science and art, or as argued economic and non-economic he jests “bread and nothing but bread [...] and bread accumulating at compound interest until it has turned to stone” (CW XVIII, p. 342). The economic rationale has universally usurped any other motive. No poets or artists protest was heard and the “treasury view has prevailed. Not only in practice but in theory as well¹⁰². We have persuaded ourselves that it is positively wicked for the state to spend a halfpenny on non-economic purposes” (CW XXVIII, p. 342). Keynes sees the arts and the aesthetic realm in general as distinct from the economic – beauty is “non-economic”. But not only beauty, other crucial aspects of life like health and education, all that constitutes a good life in the sense of Moore, is non-economic. According to Keynes they too are only considered when they “pay” (CW XXVIII, p. 342).

Convinced that the only important metric for an activity are its economic benefits, Keynes argues, we “apply some frantic perversion of business arithmetic in order to settle the problem

¹⁰² The side remark about theory is especially interesting given the close chronological proximity to the General Theory.

whether it pays better to pour the milk down the drains or to feed it to school children” (CW XXVIII, p. 342). Keynes quips that only war remains as an “uncalculated expenditure” and “even that must sometimes pretend to be economic” (CW XXVIII, p. 342). All these comments reflect the problem Keynes sees in exact measurement and the comparison between economic and non-economic along the lines of the calculable, the hard to quantifiable can only lose out.

Expressing his frustration with the reliance on private bodies, echoing all his earlier contributions he remarks that if somehow unity arises and something is publicly thought of as valuable beyond the economic “it is suitable to hand round the hat to solicit the charity of private persons” (CW XXVIII, p. 343). Even for the most unanimously agreed upon endeavours the state relegates the task to private entities and individuals “more public spirited than the community itself” (CW XXVIII, p. 343). Keynes clearly refers to efforts of entities like the National Trust or the CPRE, but also himself, who shouldered most of the financial burden of establishing the Cambridge Theatre himself (Moggridge 1992, p. 588).

To illustrate the problem of public inaction when it comes to non-economic values Keynes goes back to the “*outstanding example* [...] where the preservation of the countryside from exploitation is required for reasons of health, recreation, amenity or natural beauty” (CW XXVIII, p. 343, own emphasis). To him this is an especially good example for a “perverted theory of the state” (CW XXVIII, p. 343) for two reasons:

Firstly, there is only “a transfer from one pocket into another” and no “expenditure of the national resources” involved (CW XXVIII, p. 343). This was an argument Keynes was increasingly emphasising against the treasury view and for which his General Theory provided the theoretical basis. The money expended for public investment is not lost, but redistributed and has the propensity to become fully effective from a demand perspective. Secondly, “there is perhaps no current matter about the importance and urgency of which there is such national unanimity in every quarter” (CW XXVIII, p. 343), reflecting the universally and intuitively felt loss resulting from destruction of natural beauty.

He is appalled that the logic of the treasury view and the obsession with a balanced budget hinders the Prime Minister¹⁰³ from doing the obvious when “a stretch of cliff, a reach of the Thames, a slope of down is scheduled for destruction” (CW XXVIII, p. 343). Mirroring his earlier disinterest, if not disbelief in the possibility of exactly calculating the trade-off between non-economic and economic costs and benefits he argues that when there is public anger over the destruction of natural beauty the Prime Minister should go ahead, “prohibit the outrage and

¹⁰³ The conservative politician Stanley Baldwin, who originally publicly endorsed the creation of the CPRE.

pay just compensation, if any”; however, sarcastically adding that “that would be uneconomic” (CW XXVIII, p. 343). The same fate, he argues, befalls the national monuments, condemned to decay. Clearly drawing on CPRE rhetoric, Keynes laments that the only remaining examples of England’s “grandest exercises today in the arts of public construction are the arterial roads” which “creep into existence under a cloak of economic necessity” (CW XXVIII, p. 344).

Keynes further asserts that the economic rationale’s focus on profit making is generally counterproductive to the arts for it poisons the experimental, optimistic and liberal atmosphere required by artists—constituting “one of the worser crimes of present-day capitalism” (CW XXVIII, p. 344).

The middle section of the article illuminates another aspect of the relationship of the arts and the state. He continues to lament the state’s lack of willingness to provide any public shows and ceremonies that could instil a feeling of unity and community: a universal human need; the feeling of belonging to a larger community, a “human craving for solidarity” (CW XXVIII, p. 347).

In contrast to the other articles in the publication — written from the perspective of authoritarian regimes such as Russia, Italy, and Germany — Keynes argues that this natural feeling should not be ignored or ridiculed but fostered and managed, or “guided”, to prevent it from becoming of a dangerous “aggressive racial or national spirit” (CW XXVIII, pp. 346-347). Keynes argues that the state should not ignore these universal communal emotions, but should guide and cultivate them. This argument for state involvement and planning is not only interesting in the face of rising authoritarian regimes in Europe and their corresponding national narratives of community, but also with regards to the cultural history of the access to the countryside. It relates to it in two ways evident in Keynes’s article and hinted at in his 1932 broadcast on free trade.

Firstly, the “human craving for solidarity” is just like the appreciation of natural beauty a universally felt emotion. As his friend Trevelyan argued in the tradition of romantic writers, appreciation of natural beauty and its positive psychological effects can be understood as a *spiritual, highest common denominator*. Secondly, it also reflects the idea, discussed by historians, that, as a cultural response to the Industrial Revolution and World War I, the countryside slowly became a mythical representation and focus point of the community as a whole (Matless 1998). Willis (2018, p. 259) called it the “essential England being fought for” and Trentmann (1994, pp. 584-585) argues that

the more society lost contact with rural England, the more important became the ‘country’s’ function as a ‘psychic balance wheel’ to the merciless advance of smoking chimneys and urban life. When urbanization reached its peak in

the early twentieth century, the peace and innocence of the rural world was no longer merely contrasted to the vice and chaos of the city. The traditional pastoral imagery was now linked to a newly invented tradition identifying nationhood with the countryside...Englishness and the 'country' had finally merged into one indissoluble whole

and Jeans (1990, p. 252) summarises that

whatever has happened to the reality of Rural Life, the survival of its arcadian appearance is a matter of wonder and even congratulation. It seems to have been achieved by elevating the English countryside to the level of a national and unassailable myth [...] this one has a particular landscape and planning significance.

Keynes's overall argument with respect to the preservation of the countryside and the democratic state's duty to foster and guide the communal emotion of the population is impressively represented by the grassroot developments of the interwar years. The communal feeling Keynes describes is evident from — for example — privately organised hikes and Trentmann even argues that

the popular open-air movement was, above all, an exercise in group activity. Rambling parties consisted of an average of four to twelve members. Rambling societies, mushrooming in suburban England in the 1920s and 1930s, prided themselves on 'providing exercise and companionship'. Solitude became the ideal of an individualist past, brotherhood and community the prime virtues of the present (Trentmann 1994, p. 589).

This sentiment also animated Keynes's own life and thought. An ardent group hiker himself, he believed that the state ignored these dimensions of the countryside and the arts, marginalising non-economic factors for the sake of the calculable. He draws an intermediate conclusion:

Our present policies are a just reflection of a certain political philosophy. I suggest that this philosophy is profoundly mistaken and that it may even, in the long run, undermine the solidity of our institutions. We shall only change our policies if we change the philosophy underlying them. I have indicated an alternative point of view (CW XXVIII, p. 347).

A fundamental misunderstanding of economics, the role of the state, and the relationship between non-economic and economic values, Keynes warns, risks eroding the foundations of society itself.

Remarkably, given the introductory and reflective tone of the article, Keynes concludes with a concrete policy proposal — likely inspired by Abercrombie and the CPRE — which closely echoes the scheme discussed with Raymond Unwin. He suggests to use the unique authority and power of the state not only for the preservation but also for the creation of beauty. He asserts that firstly,

There should be a Commission of Public Places with power to issue an injunction against any act of exploitation or development of land or any change or demolition of an existing building, where it considered such act to be contrary to the general interest, with power to grant compensation to the extent that was fair in the circumstances [...] Similarly where the repair or maintenance or acquisition of a place or building was in the general interest, the Commission should have power to meet any part of the expense (CW XXVIII, pp. 347-348).

His use of the introductory article to propose a commission underscores his enduring passion for the cause. Naturally, this is not the place for a detailed compensation scheme, however it seems like he deliberately leaves the question of “fair” compensation open once again to “oil the wheels”.

The second part of his proposal focuses, much in the spirit of Marshall and Horsfall, on “the unplanned, insalutary and disfiguring quarters of our principal cities” (CW XXVIII, p. 348). He suggests to prepare plans that could be carried out immediately during the next economic slump to increase effective demand, stabilise the economy, and improve the living conditions of urban workers. Taking London as an example Keynes argues that a lot of “the space is at present so ill used that an equal or larger population could be housed in modern comfort on half the area or less, leaving the rest of it to be devoted to parks, squares and playgrounds, with lakes, pleasure gardens and boulevards, and every delight which skill and fancy can devise”, to create “the most magnificent, the most commodious and healthy working-class quarter in the world” (CW XXVIII, p. 348).

Reminiscent of the CPRE suggestions, he proposes leaving the reshaping of the cities to experts, allowing their architectural and engineering efforts to reflect optimism emerging from the Great Depression

Into this scheme there should be introduced the utmost variety. All our architects and engineers and artists should have the opportunity to embody the various imagination, not of peevish, stunted, and disillusioned beings, but of peaceful and satisfied spirits who belong to a renaissance (CWXXVIII, p. 348).

Towards the end of the article Keynes shortly returns to the question of finance and the differentiation between financial means, and resources and capacities. He ensures the reader that the opportunities are solely limited by the availability of labour, material resources and time, but not by money itself. An argument he would pick up again in the context of post-war planning. In a 1942 broadcast reprinted in *the Listener* about post-war reconstruction and employment schemes he addressed the question “How Much Does Finance Matter?” (CW XXVII, pp. 264-270).

Here he argues that there is a different answer for the individual and for the society. What might be a financial constraint for the individual is solely a matter of redistribution of resources for the society as a whole. In fact, there is plenty of capacity and redistribution to consider since after “meeting our daily needs by production and by export, we shall find ourselves with a certain surplus of resources and of labour available for capital works of improvement. If there is insufficient outlet for this surplus, we have unemployment. If, on the other hand, there is an excess demand, we have inflation” (CW XXVII, p. 267). If enough schemes like the one suggested in “Art and the State” are ready to be put in place, then those in charge must “concentrate on the vital task of central management, the pace at which the programme is put into operation, neither so slow as to cause unemployment nor so rapid as to cause inflation” (CW XXVII, p. 268). Further, the “proportion of this surplus which can be allocated to building must depend on the order of our preference between different types of project” (CW XXVII, p. 267). In any case, Keynes is reminding the listener that “we can do almost anything we like, given time. We must not force the pace — that is necessary warning” (CW XXVII, p. 269).

Arguing that “not all planning is expensive” he again makes country planning an exceptional case where there is “nothing costly there”:

To preserve as the national domain for exercise and recreation and the enjoyment and contemplation of nature the cliffs and coastline of the country, the Highlands, the lakes, the moors and fells and mountains, the downs and woodlands furnished with hostels and camping grounds and easy access — that requires no more than the decision to act. For the community as a whole the expense is insignificant (CW XXVII, p. 269).

We are reminded of Keynes’s argument of his earliest writing on the preservation cause over a decade earlier. The expense for the whole of society is “insignificant” while the gain, the preservation and access to domains for exercise, recreation, enjoyment and contemplation of natural beauty, is “immeasurable”. Not only is the material cost and opportunity cost of the preservation insignificant compared to the number of individuals enjoying an immeasurable benefit, not even the compensation is costly to the society as a whole. He repeats the argument from the 1936 “Art and the State”:

take the question of compensation, which Mr Osborn¹⁰⁴ discussed so clearly and so fairly a fortnight ago. Compensation uses up no resources. It is out of one pocket into another and costs nothing to the community as a whole (CW XXVII, p. 269).

¹⁰⁴ Most likely Frederic Osborn (1885-1978), who was a socialist, member of the labour Party and the Fabian Society, a leading figure in the Garden City Movement and chairman of the Town and Country Planning Association (19).

At the end of his broadcast, he repeats another attack he levied over the past decades against discriminating the non-economic in favour of the economic. In the case of preserving land and beautiful structures, no building is needed, but “where we are using up resources, do not let us submit to the vile doctrine of the nineteenth century that every enterprise must justify itself in pounds, shillings and pence of cash income, with no other denominator of values but this” (CW XXVII, p. 270).

Even at the end of the war Keynes still continued the fight against the favouritism of economic returns over social returns. In a memorandum on post-war organisation on the 21 June 1945 he commented on the concept of a capital budget where the costs and benefits of capital expenditure are accounted for. He harshly criticises the prevailing accounting practice which discriminates between social and material returns arguing that after the war

Forestry, national parks, contributions from the Exchequer to the capital costs of town and country planning etc. will present larger-scale issues than formerly. The existing practice is an unnecessary deterrent to capital expenditure. With a full employment policy, we should not be biased [sic] as between two useful capital projects because one will bring in a direct cash return and the other a social or indirect cash return (CW XXVII, p. 407).

Earlier evidence suggests that Keynes advocates not only for treating economic and non-economic factors equally but also for the economic to serve and support the non-economic. This is also encapsulated in the final passage of “Art and the State” (1936). He closes by arguing that such a scheme would not just increase the material or economic wealth of the country but its overall richness in terms of cultural, social, natural and communal assets – its “potentialities of *social* wealth” (CW XXVIII, p. 349, own emphasis).

Hitherto, the history of Keynes’s use of rural preservation as an outstanding example, his engagement in the cause, and his appreciation of natural beauty have shown that natural beauty is not just a convenient example amongst other non-economic goods discussed in “Art and the State”. This interpretation is further supported by the almost immediate republication of the text in a volume edited by one of the most important activists for the preservation of rural England, Clough Williams-Ellis, the architect and polemicist of the CPRE (Selman and Swanwick 2010, p. 10; Jenkins and James 1994, pp. 61, 82; F. Reynolds 2017, pp. 36,41-42)

Britain and the Beast

Clough Williams-Ellis (1883-1978) was a Welsh architect deeply involved in the movements for the preservation of rural England and Wales, being a founding member and later honorary

secretary of the CPRE, and chairman of the CPRW¹⁰⁵ from 1928 to 1947 (Gruffudd 1989, pp. 35, 40). Witnessing the horrors of World War I and the extreme inequality in England during the early 20th century turned him to socialism. Like many other leftist intellectuals, he visited the Soviet Union in the 1920s and wrote for the *Left Review* and the *Socialist Review* (Gruffudd 1989, pp. 38-40). As a member of the Federation of Progressive Societies and Individuals and in the tradition of Ruskin and Morris, he understood the fight for landscape preservation as an important part of a wider political philosophy and access to beauty as a human right (Gruffudd 1989, pp. 38-40).

The CPRE commissioned him to write a book detailing the problems the Council was facing in its work. *England and the Octopus* (1928), with an epilogue from Patrick Abercrombie, became a classic (Gruffudd 1989, pp. 40-43, Jenkins and James 1994, p. 61; Reynolds 2017, pp. 36). Its polemic style aimed at shocking “a still complacent public into awareness and action” (Gruffudd 1989, p. 40). London being the octopus that reaches with its arterial roads deep into the country was seen as the manifestation of “the materialist age whose tentacles were slowly suffocating the countryside” (Jenkins and James 1994, p. 62). It suggested that the ruthless laissez-faire industrialism of the nineteenth century was to blame for the ugliness of the cities and the encroachment on the countryside.

However, Williams-Ellis did not place the blame on the working class and expressed sympathy for the struggles of town dwellers who increasingly fled the cities into the countryside, bringing with them unsightly bungalows and litter. They were driven by broader structural dynamics, he argued, and only proper planning could prevent the resulting dilemma (Gruffudd 1989, p. 41). In a parallel to Keynes’s critique of utilitarianism and his defence of beauty, Williams-Ellis writes:

We know the morbid symptoms - false standards and values, blindnesses and callousnesses and such like. We need to discover the root causes of these disastrous abnormalities, and having discovered them, we may hope to prescribe for a cure. False values and insensitiveness - particularly to beauty - these are probably at the root of the trouble (quoted from Gruffudd 1989, pp. 41-42).

It is therefore no surprise that Keynes and Williams-Ellis established a rapport once their paths crossed. Gruffudd who accessed the CPRW archives reports that

When land near Harlech known as Shell Island was threatened with development, Clough Williams-Ellis’s campaigning on the issue attracted the interest of the economist John Maynard Keynes. Keynes attempted to persuade King’s College to purchase the land and even offered to buy it himself. Though the land was ultimately saved, in Britain and the Beast the following

¹⁰⁵ Council for the Preservation of Rural Wales.

year Keynes criticised the Conservative government's soulless utilitarianism (Gruffudd 1989, p. 84).

Britain and the Beast, published in 1937, is a volume edited by Clough Williams-Ellis and interesting in many regards. It features a wide array of contributions from a diverse set of highly esteemed authors of the time. Not all agree on everything, but there is a staggering unanimity on questions of rural preservation even extending to more radical propositions like land nationalisation. The volume starts with congratulating letters and messages from many politicians and public figures including the likes of David Lloyd George, who endorsed the intention of the book to awaken "the nation to the treasures of our neglected countryside" and to "stimulate and inform public opinion" (Williams-Ellis 1937, v).

Keynes article "Art and the State" is the opening one, setting the stage for more specific contributions. It has not been altered and was printed as it appeared in *the Listener*. Keynes contribution to this volume underlines his devotion to the cause. Not only does it supply more evidence for his apparent personal relations to important figures of the movement, it also shows his personal investment and that of his social circle. The volume contains not only official statements of the CPRE, the National Trust, Williams-Ellis and Abercrombie themselves, but also articles of G.M. Trevelyan and Keynes's friend, fellow Apostles and Bloomsbury Group member E.M. Forster.

Forster, at the time already a renowned author, and thoroughly influenced by Moore's *Principia Ethica* (Sidorsky 2007), contributed a piece called *Havoc*. He reminds the reader of Ruskin who was belittled when he was "fretting and railing because a little dirt fell from a factory into a stream, but Ruskin knew what was ahead...He preached and no one took any notice" (Forster 1937, p. 45). Forster continues to describe the manifold private threats to the beauty of rural England to then focus on a little discussed issue that would only later receive attention of historians (Willis 2018) – the requirement of land for the armed forces in preparation for the looming World War II. Forster condemns that "wherever they see a tract of wild, unspoiled country they naturally want it for camps, artillery practices, bomb-dropping, poison-gas tests" (Forster 1937, p. 45). The state, he argues, is therefore not only unwilling to protect natural beauty from private exploitation, but cannot resist to spoil it itself. He commends the National Trust and Octavia Hill, as well as his fellow Apostle G.M. Trevelyan¹⁰⁶ specifically for their efforts to preserve large areas and hopes for the establishment of national parks. However, he cannot help

¹⁰⁶ Forster wrote an admiring and wholesome short piece about Trevelyan's love for letters and his enigmatic lecturing at Cambridge (Cannadine 1993, pp. 232-233).

but be saddened by the prospect that the characteristic beauty of the English landscape can, if at all, only be preserved in a museum like fashion of large plots, rather than be omnipresent in small green belts.

Trevelyan, alluding to Keynes's article titled his piece *Amenities and the State*. He picks up the thread from the land value tax debates and bemoans the fact that the "State is Socialist enough to destroy by taxation the classes that used to preserve rural amenity; but it is still too Conservative to interfere in the purposes to which land is put by speculators to whom the land is sold" (Trevelyan 1937, p. 183). Echoing his joint letter with Keynes, he calls for central *national* intervention as the latest legislation relegates the responsibility of planning and the financial burden of compensation to wholly overwhelmed local authorities. However, his main contention strongly resembles Keynes's arguments with respect to the economic rationale and the treasury view which marginalises non-economic factors. It is a question of philosophy and institutional setup.

Trevelyan is aware of the necessity of a trade-off between economic and non-economic ends on a "small island full of folk" with "needs of industry, housing, and defence", but argues that in disputes and bargains between these rival interests, the interest of amenity is unduly handicapped" (Trevelyan 1937, pp. 184-185). As Williams-Ellis points out in the introduction, there is a wide agreement amongst the authors on the need for a "Ministry of Amenities" that could watch over the costs in amenity, just like the treasury does with respect to cost of money (Williams-Ellis 1937, xvi). This ministry could assist the other ministries in the same way the treasury does — naturally not as quantitatively exact, but it should have a guiding role.

The second point of unanimity amongst the contributions is the desperate need for national parks "before it becomes too late to achieve even that much salvage from the general wreck" (Williams-Ellis 1937, xvi). Just like Keynes, Trevelyan argues that "nothing is done about National Parks, because the Treasury and the politicians, by an old Victorian tradition, now wholly out of date, regard amenity as a thing on which public money ought not to be spent" (Trevelyan 1937, p. 184). This fact is especially bewildering as a scheme of compensated reservation which does not interfere with ownership and solely limits unauthorized development "would be of limited cost to the Treasury" (Trevelyan 1937, p. 184).

Williams-Ellis's own contribution *Houses and Parks- National and Private* shows interestingly strong similarities to Keynes's development of his own philosophical perspective on beauty. At the beginning Williams-Ellis "confesses" that he has an "instinctive, illogical, and quiet inde-

fensible feeling that seemly architecture and a gracious landscape are sufficient ends in themselves, self-justified, regardless of their social implications” (Williams-Ellis 1937, p. 91). This instinctive belief that beauty is an intrinsic characteristic of objects mirrors Keynes’s early stage reflected in “Beauty” (1904).

Williams-Ellis continues that “not without difficulty” he has at last persuaded himself into the belief “that the mere existence of beauty is of no importance, it is only its enjoyment by man that signifies” and “it follows [...] that what really matters is that the appreciation and enjoyment of beauty shall be as widely diffused and shared as possible” (Williams-Ellis 1937, p. 91). This idea of the significance and relevance of natural beauty relying on the experience through people, mirrors the change we see in Keynes’s “Miscellanea Ethica” (1905) and “A theory of Beauty” (1905). Not the object is intrinsically beautiful, but the mental state evoked by its characteristics. The moral obligation to provide as many people as possible with the opportunity to experience natural beauty arises and fits the broad progressive philosophies of both Williams-Ellis and Keynes. This conception illuminates Keynes’s focus on full employment from the non-economic perspective and shows the interconnectedness of his philosophy and policy approach. Williams-Ellis’s last sentence also echoes Keynes’s call for a change in philosophy when he says that already the not too difficult to accomplish establishment of national parks would be “a heartening sign of a civilized change in national values, a symbol of returning sanity, an insurance against the perils of an ever-changing future” (Williams-Ellis 1937, p. 100).

It seems to be no coincidence that Keynes was willing to provide the first article for this volume. His original “Art and the State” for *the Listener* was written, despite many other obligations, due to his great interest in the matter. His dedication to challenging the dominance of the economic rationale in public life is evident, as is his advocacy for prioritizing non-economic values, particularly in the context of rural preservation and ensuring public access to natural beauty. Like many other contributors to the volume, Keynes commends the efforts of the National Trust and the CPRE. He strongly supports the idea of state intervention to establish national parks and calls for the coordination of existing legislation to protect rural amenities. Additionally, Keynes, along with his peers, advocates for the creation of a Ministry of Amenities to counterbalance the perceived soullessness of the Treasury’s economic focus. Collectively, they encourage a philosophical shift toward valuing the essential, instinctively understood good in the world, rather than pursuing what they see as blind material progress.

In the introduction to the volume Williams-Ellis puts forward a hopeful notion:

Maybe this book, a report and a reconnaissance, will provoke others (perhaps a group of realist philosophers who see the vital import of our physical background in terms of human well-being as do we who have written it) to produce the sort of politico-aesthetic-economic treatise that can move governments to action. Their data are here (Williams-Ellis 1937, xviii).

Given the evidence of Keynes's desire to advance the cause and his specific philosophical and methodological approach to science, one could have only hoped for him to be less occupied with other pressing matters, as he surely would have been a fitting candidate for such an important "politico-aesthetic-economic" treatise.

Epilogue

Keynes, who suffered his first heart attack in 1937 and was barely able to take part in discussions surrounding the *General Theory*, was soon to be heavily involved with the war effort, questions of Post-War organisation and international monetary reform. Other than the Broadcast on planning in 1942 and the comment on social and material returns in accounting in 1945 he would not address the preservation cause again. However, two years before his death he made some interesting remarks about the economic and non-economic trade-off relevant for this discussion.

Keynes read Hayek's *The Road to Serfdom* (1944) on his voyage to America to attend the Bretton Woods negotiations. In a letter to Hayek, he expresses his deep moral and philosophical agreement with the book, but cannot help to disagree with the "economic dicta in it" (CW XXVII, p. 385). Further, he disagrees with Hayek's view of the economic problem of subsistence. Keynes believes that there is evidence that the economic problem is, as he already pointed out in his *Economic Possibilities for our Grandchildren* (1930), on its way to being solved and that quiet some progress had been made in this direction. Given this progress he questions — similarly to his criticism of the dominance of the economic rationale in "Art and the State" — the irrational and increasing focus on the economic problem and asks if society is not now "better able to afford economic sacrifices, if indeed economic sacrifices are required, in order to secure non-economic advantages?" (CW XXVII, p. 385). Given the possibilities for greater planning, he questions if any sacrifices actually have to be made to advance non-economic causes as "quite likely from the purely economic point of view it [planning] is efficient" (CW XXVII, p. 385).

However, Keynes qualifies his demand for more planning by saying that the success crucially depends on the moral convictions of the community, "both followers and leaders" (CW XXVII,

p. 387). In such an environment moderate planning can be safely applied rather than fatally abused. It is interesting in itself to see Keynes argue for planning on efficiency grounds, but even more interesting is the repetition of the appeal to the right moral foundation. It echoes his plea for changing the philosophy of the state before institutions are eroded in “Art and the State” (1936) and similar pleas by Williams-Ellis and G.M. Trevelyan. At the end of his letter, he therefore argues not for a change in economic programmes, but for a change in moral values - “what we need is the restoration of right moral thinking — a return to proper moral values in our social philosophy” (CW XXVII, p. 387). Evaluating policies requires considering the evolving nature of societal values, and Keynes, perpetually optimistic, believes in the potential for profound shifts in public attitudes.

A task primarily achievable through the slow channels of education and persuasion — methods that Keynes and organizations like the CPRE and the National Trust employed between the wars. Keynes especially believed that persuasion was not only the key to rational discussion but also the ultimate goal of the economist: to persuade and convince decision-makers and the public of the truth of their ideas or their intuitively felt ethical convictions. (O’Donnell 1989, pp. 213-215, 274-276).

From the perspective of preserving natural beauty, there were some minor achievements between the wars, but it took the disruptive event of World War II to truly shift the tides. It seems legitimate to draw a similar conclusion to Hardy (1989), who argues for the Garden City movement and the impact of World War I on its development. The groundwork was laid before the war, while the unique and extreme experience of war acted as a catalyst for social reforms and progress in establishing planning as a legitimate function of a democratic state. The landslide victory of Labour at the end of World War II, based on a program of welfare reforms, thorough application of planning principles and state intervention, suggests that a change in social philosophy, as Keynes wished for, had occurred. Voters were primarily occupied with questions of housing, full employment and social security (Taylor 1965, p. 596). Then Prime Minister Clement Attlee, who had sat on the Committee on War Time Reconstruction, which planned for the time after the war and who “devoured” the works of Ruskin and Morris, was convinced of the importance of the preservation of rural beauty (Reynolds F. 2017, pp. 49-51).

Keynes himself lived to witness the result of the general election in 1945¹⁰⁷. Sadly, however, he would not live to see the implementation of the comprehensive Town and Country Planning

¹⁰⁷ He potentially even influenced the outcome to some degree by communicating his ideas to the Labour Party and its leader Clement Attlee over the years in hopes of gaining Labour’s support for his economic doctrines (Toye 1999).

Act (1947) and the National Parks and Access to the Countryside Act (1949), which culminated in the establishment of England's first National Park in 1951 – the Peak District National Park (Reynolds F. 2017, pp. 49-51).

3.5 Conclusion

This paper has shown that Keynes's engagement with the rural preservation movement was neither incidental nor marginal. Rather, it emerged from a deeply rooted set of philosophical and aesthetic commitments shared with his intellectual milieu, and was reinforced by the political and social dynamics of interwar Britain. The romantic tradition, G.E. Moore's ethical intuitionism, the legacy of Ruskin and Morris, as well as the influence of Marshall and the town planning and public health movements, all converge in Keynes's thought to make natural beauty not a luxury, but a necessity to which the state should attend. Bringing together a mosaic of texts, speeches, and private correspondence, this paper has reassembled a neglected dimension of Keynes's work. It reveals a figure deeply committed to the preservation of natural beauty — not only as an aesthetic concern but as an intuitive moral good, a political imperative, and an essential element in a worldview that resisted the reduction of value to material or calculable terms.

His insistence on integrating non-economic values into public life — particularly through planning — reflected a broader concern that without such integration, the moral and institutional fabric of democratic society might begin to fray. In this view, rural preservation was as much about the appreciation of hedgerows and hillsides as it was about safeguarding a shared sense of value and the conditions of a good life — something to strive for amidst the moral void of modern capitalist accumulation.

At the heart of Keynes's contributions to rural preservation lies a sustained and philosophical reflection on the relationship between the economic and the non-economic — a concern that shaped his understanding of economics as a moral science. The separation of faculties — intuition and analysis, aesthetics and rationality — remained central to his thinking. These were not opposites to be resolved, but distinct capacities that, together, offered a fuller, more humane basis for judgment and policy. His recognition that the intuitive apprehension of value — especially in the appreciation of beauty — could not be reduced to economic calculation gave his political and economic writing a distinct orientation, elevating his insistence on the importance of judgment and persuasion into a philosophical cornerstone of his thought.

His recurring reference to the destruction of natural beauty — of cliffs, moors, downs, riversides — as a kind of moral outrage, and his appeals to act even in the absence of calculable economic return, reflect a principled stance, which stood apart from the Benthamite tradition and its expression in Treasury orthodoxy. Keynes rejected the idea that all value must be measurable — the “bogus calculations” he derided were not simply methodologically flawed; they missed the point entirely as for Keynes, beauty and goodness were not peripheral or idealistic — they were essential to any social and economic order worth sustaining.

In this light, Keynes’s contributions to rural preservation appear not as footnotes to his economic work, but as integral to his broader project, and reflect his ambition to persuade — to shift public thinking not only through data or models, but through appeals to shared values. In this sense, his outlook — not only in terms of preservationist thought, but also methodologically — aligned with the CPRE’s own strategies of public engagement. Its leaflets, pamphlets, and educational materials worked through rhetoric as much as reason, aiming to rekindle intuitive recognitions of what mattered. The countryside, in this context, became not just a physical space, but a symbol — a reference point in debates about planning, democracy, and the role of the state. It stood for a way of thinking that resisted reductive economics and embraced a richer understanding of collective life.

Throughout the interwar years, Keynes returned repeatedly to questions of planning, beauty, and non-economic value. His engagement with rural preservation was neither a personal quirk nor a digression from his economic concerns. It was a consistent and intellectually grounded part of his thinking. Recognising this offers a more complete picture of Keynes and of the role he imagined for economics — not merely as a science of efficiency and scarcity, but as a discipline bound up with ethics, judgment, and the possibility of a better collective future.

3.6 References

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4. Three Pioneers of (Social) Ecological Economics – On (Post) Keynesian Influences and the Intellectual Roots of E.F. Schumacher, Kenneth Boulding and Nicholas Georgescu-Roegen

4.1 Introduction

The history of ecological economics as an increasingly established and recognized research field is still a young one. Therefore, a lot of intellectual history of the field has yet to be written. Just as Juan Martinez-Alier wrote in 1987, the year of the establishment of the International Society for Ecological Economics (ISEE): “As in all newly founded branches of science, so it will happen in ecological economics: historiographic reviews of its own disciplinary tradition will now begin to appear...” (Martinez-Alier and Schlüpmann 1987, p. viii).

In terms of the history of ecological economic thought Martinez-Alier himself started the investigations with his¹⁰⁸ 1987 book *Ecological Economics, Energy, Environment and Society* where he shows that the intellectual history of ecological economics, focussing on the economic analysis of energy flows, dates as far back as the formulation of thermodynamic theory in the late 19th century. A more recent investigation into the history of ecological economic thought, also focussing on previously neglected thinkers and adopting a wider definition of ecological economics as “ideas of economic importance which are characterised by common ontological and epistemological conceptions of the functioning of human societies and the natural world“ comes from Franco and Missemer (2023, p. 6). However, distinct histories of ecological economic thought are still scarce. Partly because the research field remains difficult to define.

Ecological economics, broadly understood as an ecologically informed approach to economics and therefore the transdisciplinary attempt to integrate social and natural sciences, posits a curious challenge to the historian of economics. Its transdisciplinary and therefore decidedly pluralistic nature leads to a plethora of potential investigations into the history of thought, while the inbuilt paradigmatic tension arising from the gathering of many different scientific traditions from economics and the natural sciences leads to a complicated sociology of science of the modern institutionalised research field. As per usual these two histories — the intellectual development of ecological economics and its institutional formation as a research field — are

¹⁰⁸ Klaus Schlüpmann aided Martinez-Alier and wrote some paragraphs (Martinez-Alier and Schlüpmann 1987, ix).

intricately interwoven as the struggle for paradigmatic primacy is directly related to the question of the relevant pioneers and founding concepts of the modern field.

This paper contributes to this debate in a twofold way. It identifies three pioneers of the field, relating to one interpretation of what constitutes the core of ecological economics and therefore contributes not only to the history of ecological economic thought in general, but also to a specific paradigm within.

4.1.1 Paradigmatic struggle in ecological economics

Røpke (2004) provides a detailed investigation into the early history of modern ecological economics. Here she concentrated on the (re)emerging awareness for socio-ecological issues in the 1960s and 1970s, the long gestation period in the 1970s and 1980s and the eventual institutionalisation in 1987, and provides a picture of the inbuilt paradigmatic struggle, which she expands on in Røpke (2005). Broadly speaking, as identified by Røpke (2004, p. 312; 2005), Franco (2018, p. 201), and Spash (1999, 2012, 2013)¹⁰⁹, there is general agreement within ecological economics on the importance of environmental concerns, transdisciplinarity, and pluralism. However, there is strong disagreement over the extent of pluralism and the ontological foundations of the field.

In the face of extreme diversity and broad scope of the new research field many have advocated for a critical, but generally indiscriminate methodological pluralism, which yet others see as “anything goes” or “unstructured” pluralism (Franco 2018, p. 201). Røpke (2005, p. 262) summarises the still ongoing¹¹⁰ discussion: “Is ecological economics a transdiscipline; a new paradigm; something different from environmental economics or, rather, a part of environmental economics; open for anything with a relation to the environment; or something more well defined?”

Spash (1999), a key figure in the paradigmatic tensions, tells the story of the development of environmental thought in economics with a special focus on the late 20th century. A central goal of the contribution was to emphasise the distinction between orthodox environmental and resource economics and ecological economics. While there may be a shared concern about environmental issues, according to Spash, approaches, especially from a philosophy of science perspective, differ significantly.

¹⁰⁹ Note while Spash is also a contributor to the normative discussion of what ecological economics *should* be about, Franco (2018) and Røpke (2004, 2005) summarise the discussion and reference several different viewpoints. The reader is referred to these detailed discussions and extensive references including the contributions of Spash.

¹¹⁰ See Spash (2020) and Levrel and Martinet (2021).

Further, as the main critic of the development of the research field, he argues that the adopted unstructured pluralism unduly favours an orthodox approach to ecological economics, barely distinguishable from neoclassical environmental and resource economics. To him the approach is characterised by justifying price-making markets as a social provisioning mechanism, rationalism and extreme formalism based in a specific version of scientific positivism matched with a mechanistic world view (Spash 2013a; Spash 2012a, p. 38).

In his view, what set out to be an intellectually revolutionary movement, emerging from the radical environmental movement of the 1960s and 1970s, explicitly trying to counterbalance the dominance of the neoclassical and conservative approach of orthodox environmental economics, has been appropriated by this same approach based on its institutional power (Spash 2013a, pp. 351-353). To him orthodox economics “has an implicit ontology and advocates — though does not necessarily practice — a very specific epistemology and prescriptive methodology”, which can be described as teaching “economics via mathematical formalism as an exclusive approach” that “positively rejects deep reflection and questioning by bounding concepts within a narrow language of presumed logic and unwarranted objectivity” (Spash 2013a, p. 353). With regards to “unstructured pluralism” he therefore argues that “the impossibility of scientific progress in ecological economics has arisen because of the pretence that opposing ontological presuppositions and epistemological positions could be combined or at least held in conjunction” (Spash 2013a, p. 353).

These positions relate to three “camps”, which he identifies in the modern ecological economics movement¹¹¹: *New Resource Economists* (NRE), who “basically accept most of the doctrines of mainstream neoclassical economics. They do not want any fundamental changes but are concerned that the formal models be adjusted to take into account environmental issues such as ecosystem sustainability and resilience” (Spash 2012b, p. 20).

Further, *New Environmental Pragmatists* (NEP), who basically assume that any approach to the subject is warranted as long as it results in sustainable environmental policy and therefore

¹¹¹ It should be noted that the classification is based on a literature review including keyword searches for ontology (1 result out of 3402 articles) and epistemology (4 results out of 3402 articles) in the journal *Ecological Economics* (Spash 2012a, p. 37) and has been supported by a survey amongst practitioners of conferences of the *Association of Heterodox Economics*, *European Association of Environmental and Resource Economists* and the *European Society for Ecological Economics* (Spash and Ryan 2012). It should further be noted that the classification, according to Spash, allows for overlaps. However, some of the criticism — such as that by Levrel and Martinet (2021) — that the classification is overly normative, aiming to delegitimize certain groups of scientists contributing to ecological economics while ignoring the role of straightforward formalism (as seen in fisheries economics or scientific ecology), seems justified. Nevertheless, while such critiques raise important concerns about potential biases and exclusions, the underlying questions about the aims and methodological boundaries of ecological economics remain inherently contestable and subject to normative judgement.

“adopting the dominant form of power discourse in society, which is commonly perceived to be money” (Spash 2009, p. 253).

Next to the orthodox and pragmatist camps he identifies the third camp as the *Social Ecological Economists* (SEE). A heterodox approach to economics, that sees “the explanations offered by externalities and optimisation of behaviour as part of the problem, not the solution” (Spash and Ryan 2012, p. 1100).

He identifies SEE as the original core of ecological economics that set out to accomplish a paradigm shift away from orthodox environmental and resource economics (Spash 2012a). In that sense Spash (2012) and his book Spash (2024) *Foundations of Social Ecological Economics* retrospectively defines what set social ecological economics apart and suggests how it should proceed forward. A clear distinction is the preoccupation of the SEE camp with the philosophy of science and a clear ethical pre-analytic vision. Most prominent is the idea that ontological and epistemological presuppositions should be made explicit, including the claim that interdisciplinary knowledge formation and integration can only be achieved on a shared ontological and epistemological basis (Spash 2012a, pp. 44-45; Fragio 2022, pp. 32-35).

To structure the knowledge formation amongst SEE and other heterodox social science approaches, Spash suggests to utilise critical realism as a meta theory, or under labourer (Spash 2024, p. 83). Spash (2024, pp. 70-71) summarises:

In this regard, an interesting development is the introduction of critical realism to economics (Archer et al. 1998; Fleetwood 1999; Lawson 1997). This posits the existence of an objective reality that is knowable and can be described, while accepting that all knowledge claims are fallible. Critical realists in economics conclude that social explanation is possible, but only if we move away from deductivist methodology. Lawson (1997: 36), a major advocate, states the following.

‘Specifically, social explanation, appropriately conceived, is not the attempted deduction of events from sets of individual conditions and constant-conjunction ‘laws’, but identification and illumination of structures and/ or mechanisms responsible for producing, or facilitating, social phenomena of interest.’

Regarding economics, critical realists claim that orthodox economics lacks ontological reflection, which shows in its perceived uncritical usage of empirical and theoretical mathematical modelling, or formalism in general (Lawson 2003, pp. 288-289). The idea being that economists, who explicitly consider the fit of method to their conception of the nature of social reality, tend to be sceptical of formalism. A main reason for the term “realist” is the idea that the models

used should not only address real problems but also fit observed reality, which is argued is not the case in orthodox economics, most prominently supported by its lack of predictive power (Lawson 2003, p. 67).

Critical realism understands objective reality as independent but complexly influenced by humans, including unpredictable emergent properties (including novelties), and understands society as irreducible to its parts as well as social facts inseparable from values (Spash 2012a, p. 45; Lawson 1997, p. 84). While there is an objective truth to be discovered about deep mechanisms at work, they are not reducible to event regularities and the idea of a dynamic, non-ergodic world exhibiting fundamental uncertainty is of utmost importance. In this setting of complexity, deep knowledge can only be reached via *retroduction* or *abduction*. Retroduction is understood as the intuitive identification of deeper mechanisms and often follows “a logic of analogy and / or metaphor, and rest[s] usually upon ingenuity as well as luck” (Lawson 2003, p. 80). It is the “artful” cycling between empirical observations and theoretical hypothesising and aims to explain *why* certain phenomena occur and identify their deep causal mechanisms. Lawson (2003, p. 145) uses an example from nature:

If deduction is illustrated by the move from the general claim that ‘all ravens are black’ to the particular inference that the next one seen will be black, and induction by the move from the particular observation of numerous black ravens to the general claim that ‘all ravens are black’, retroductive or abductive reasoning is indicated by a move from the observation of numerous black ravens to a theory of a mechanism intrinsic (and perhaps also extrinsic) to ravens which disposes them being black.

This mode of reasoning or hypothesising is akin to what has been identified in Keynes’s philosophy as “intellectual intuition” (Crespo 2008, p. 685) or in Keynes’s own words “direct inspection”, “direct knowledge” or “direct judgement” (quoted from Crespo 2008, p. 685)¹¹². It has been captured in many passages by Keynes and finds a succinct exposition in his essay on Newton (quoted from Crespo¹¹³ 2008, p. 689):

I believe that the clue to his mind is to be found in his unusual powers of *continuous concentrated introspection* (Keynes 1972: 364). [. . .] His peculiar gift was the power of *holding continuously in his mind* a purely mental problem until he had *seen straight through it*. I fancy his pre-eminence is due to his muscles of *intuition* being the strongest and most enduring with which a man has ever been gifted [. . .]. It was his *intuition* which was pre-eminently extraordinary – ‘so happy in his conjectures,’ said de Morgan, ‘as to seem to know more than he could possibly have any means of proving.’ The proofs,

¹¹² Keynes’s preoccupation with ontology and epistemology have been variously discussed and this specific notion of intuition as a key epistemological concept has generally been agreed on. See for example Runde and Mizuhara (2003), which contains further references to seminal literature on Keynes’s philosophy.

¹¹³ His emphasis.

for what they are worth, were, as I have said, dressed up afterwards – they were not the instrument of discovery (Keynes 1972: 365). [. . .] His experiments were always, I suspect, a means, not of discovery, but always of verifying what he *knew* already. (Keynes 1972: 366)

Another distinct aspect of what Spash puts forward as the foundations of SEE is an explicit pre-analytic vision. Most generally put it is the idea that science should not only seek truth about objective physical and social reality, but try to change it for the better, alleviate suffering, address specific societal problems and promote a good life. The concept of a *good life*, worthwhile life or *buen vivir* explicitly rejects subjective value relativism and a focus on hedonistic value measures and argues for “more meaningful aspirations for human existence” (Spash 2012a, p. 45).

4.1.2 Three pioneers of (Social) Ecological Economics and the relationship with Post Keynesian Economics

If SEE is one out of a plurality of paradigms within ecological economics, and if its main distinction is the preoccupation with ontology and more precisely an ontological (and as a result epistemological and methodological) stance that could be understood as critical realist then one could argue it should have a distinct set of intellectual pioneers¹¹⁴. However, it is not the goal of the paper to argue that a certain set of scholars worked in what was later to be narrowly defined as critical realism, but to show the shared believe in core principles that can be related to critical realism and highlight an intellectual continuity towards modern SEE. A similar role will be played by the idea of an ethical preanalytic vision as an important aspect of SEE and its pioneers.

While Nicholas Georgescu-Roegen and Kenneth Boulding are commonly understood as not only pioneers of the knowledge field but also as important influences on the establishment of ecological economics as an institutionalised research field, E. F. Schumacher is not as often called upon¹¹⁵. However, in light of the paradigmatic struggle a pattern is recognisable. If one considers what Spash describes as an ontological divide, as a spectrum between heterodox and orthodox economics, one notices that self-identified ecological economists that see little issue

¹¹⁴ The word “pioneers” here means the idea that a specific scholar had a direct or indirect impact on the establishment of the field. However, clearly the notion of Franco and Missemmer (2023, p. 3) to consider and rediscover forgotten or marginalised scholars who worked within a similar metaparadigm (Franco 2018), especially from a history of thought perspective, is equally important.

¹¹⁵ This statement and the following are based on mentions of these three figures in: Franco and Missemmer (2023), Fragio (2022), Martínez-Alier and Muradian (2015), Martínez-Alier (1987), Common and Stagl (2005), Daly and Farley (2004), Constanza et al. (1997), Röpke (2004, 2005), Spash (1999, 2012, 2013, 2020, 2024), Spash (ed.) (2017), Daly (2005), Daly (ed.) (1973, 1980, 1993).

with orthodox economics tend to leave Schumacher out, while contributions from the SEE camp mention him, as well as Boulding and Georgescu-Roegen more often and more decisively.

For example, the textbook by Common and Stagl (2005), which heavily relies on standard economics, relegates Boulding to one textbox (p. 104), Georgescu-Roegen to further reading (pp. 64, 119) and does not mention Schumacher. The very first introductory textbook Constanza et al. (1997), which Spash (2012, p. 36) claims “maintained an uneasy balance between requesting a new worldview, to address our social and environmental woes, and not ejecting the body of orthodox thinking”, although clearly acknowledging Boulding and Georgescu-Roegen as important pioneers, makes no mention of Schumacher either. Generally, in all other texts, Schumacher is usually considered either part of the 1970s radical challenge on orthodoxy (Fragio 2022, p. 83), a pioneer for the post-growth movement within ecological economics or a leading figure for the question of values, ultimate ends and the notion of a *good life*. Interestingly, in the *Routledge Handbook of Ecological Economics* (2017) edited by Spash, Schumacher is referenced several times in these contexts (pp. 190, 218, 477).

Part of the modern history of ecological economics is a contribution, which predates the institutionalisation, from one of the main protagonists and founding fathers of the ISEE and the journal *Ecological Economics*, Herman Daly (Victor 2022, p. 37). In 1973, he published the anthology *Toward a Steady-State Economy* identifying seminal texts for the slowly emerging field. The 1973 volume, as well as the two consecutive volumes *Economics, Ecology, Ethics: Essays Toward a Steady-State Economy* (1980) and *Valuing the Earth: Economics, Ecology, Ethics* (1993) included, amongst others¹¹⁶, several seminal texts by Boulding, Schumacher and Georgescu-Roegen. In a 2005 essay for the *Scientific American* Daly argues that the “modern-day approach stems from work in the 1960s and 1970s by Kenneth Boulding, Ernst Schumacher and Nicholas Georgescu-Roegen” (p. 102). This essay was reprinted in a 2007 selected essay collection of his, where Daly, amongst other topics, considers the

sorry history of stonewalling by the mainstream to avoid confrontation with the critique of the neoclassical production function by Nicholas Georgescu-Roegen. Some chastise ecological economics for not challenging standard economics from within the fold. This was indeed the approach of Georgescu-Roegen, Kenneth Boulding, E.F. Schumacher, and other early ecological economists (Daly 2007, p. 63).

¹¹⁶ It is important to clarify that this paper does not suggest that these scholars are the only or most important pioneers of (social) ecological economics.

This interpretation of the radical roots of early ecological economics is in line with Spash's interpretation. Interestingly, in an article addressing the paradigmatic struggle within ecological economics Farley and Washington¹¹⁷ (2018, p. 448) argue that

In conclusion, we, like many other ecological economists, including Herman Daly, are disappointed that the field of Ecological Economics appears to be drifting away from its core principles. In particular, the *Journal of Ecological Economics* is increasingly filled with articles applying the theory and methods of NCE [Neoclassical Economics], or what Spash (2012, 2013) refers to as the 'new resource economics'. Methodological pluralism is desirable, but suitable methods cannot be based on theories that conflict with the core principles of ecological economics: a finite planet rules out models exhibiting endless growth, complexity rules out Walrasian general equilibrium, ubiquitous externalities rule out Pareto optimization, concern for just distribution rules out valuations weighting preferences by purchasing power, and so on. [...] We support Spash's (2012, 2013) call for socio-ecological economics, which we view as a return to the core principles of ecological economics.

Given this interpretation of the heterodox roots of ecological economics it is perhaps unsurprising that another issue increasingly discussed in recent years is that of the compatibility of Post Keynesian thought and ecological economics. While some ecological economists used to be sceptical of (Post) Keynesianism (Daly 2007, p. 26)¹¹⁸ due to its focus on effective demand and therefore positive stance on economic growth (Spash 2024, pp. 47-48), a growing number of contributions focused on potentially fruitful overlaps (Gowdy 1991; Holt et al. 2009; Kronenberg 2010; Lavoie 2022, pp. 630-641; Fontana and Sawyer 2016). It is believed that Post Keynesians due to their negligence of environmental issues¹¹⁹ could benefit from ecological insights, while ecological economics would find use in Post Keynesian macroeconomics.

More specifically, overlaps are found on the theoretical level with respect to production theory, where for example the aggregate production function is mutually rejected, or consumer theory, where approaches like non-compensatory choice and lexicographic preferences are preferred over standard economic trade-off concepts like gross substitution (Kronenberg 2010, pp. 1489-1492; Spash 2024, p. 52).

However, beyond specific theoretical and methodological approaches, the idea has emerged that those similarities go back to a similar stance on the philosophy of science. Their shared

¹¹⁷ Daly is explicitly included: "Daly has kindly reviewed this article, and agrees with our analysis. In the context of this article, "we" refers to Daly, Farley and Washington" (Farley and Washington 2018, p. 442).

¹¹⁸ However, note, Daly was aware that Keynes himself was not advocating for endless materialistic growth and supported the notion of objective absolute wants (Daly 1980, p. 27).

¹¹⁹ This allegation may not be entirely justified, as we find environmental concern even in early Post Keynesian writing. See for example Schincariol (2021) on environmental and ecological elements in Joan Robinson's writings. However, it is true that ecological concerns and especially biophysical limits to growth were never a key aspect of Post Keynesian thought (Kronenberg, 2010, p. 148).

concerns for pluralism, uncertainty, historical time and institutions reveal a shared concern for ontology (Holt and Spash 2009). In fact, after its introduction into economics, critical realism has been discussed as the meta theory of Post Keynesian economics, and has been cautiously but generally accepted by leading Post Keynesians (Brown 2012, p. 125). While there is still debate over the question to what extent econometrics and formal modelling can play a role within critical realism (King 2015, p. 39), even the most technical early Post Keynesians like Michal Kalecki have been suggested to have worked within the principal ideas of critical realism (Jefferson and King 2011).

However, even given the continued discussion over the acceptability of any formalism, as Mearman et al. (2023) conclude with respect to realism in light of their interviews with leading heterodox economists: “Our respondents agree that in such an open and complex world, one cannot insist on using mathematical modeling, and that a significant problem with mainstream economics is a dogmatism about mathematical modeling” (p. 1134).

In any case, the fact that social ecological economics, understood as the heterodox core of ecological economics, and Post Keynesian economics share these ontological reflections can be seen as reasons for the interest in collaboration. Considering the paradigmatic struggle in ecological economics and the idea of structured pluralism (Dow 2004) one can argue that a certain subset of shared ontological beliefs or propositions amongst these two schools led to the exploration of collaboration beyond mere strategical concerns¹²⁰. This ontological closeness and potential influence between the two approaches to economics can be traced back historically. It can even be argued to share, to some degree, a root in Keynes’s reflections on ontology, most clearly related to uncertainty, organicism over atomism and what has now, in accordance with critical realism, been called open-system thinking (Dow 1999). The ever-changing nature of material under consideration.

Additionally, what Spash (2024, p. 99) suggests as the preanalytic vision, which not only influences the ontological position but is also clearly ideological and ethical in nature, has been discussed, again in close accordance with critical realism, in Post Keynesian terms as simply *realist*. Dow (1999, pp. 23-24) argues:

Recent accounts of Post Keynesianism (see, for example, Arestis, 1992; Lavoie, 1992) present it as a “realist” approach. For philosophers, the term “realist” has many possible meanings. But for most Post Keynesian economists it is not a problematic term [...] Post Keynesians have always focused on “real” policy problems and criticized the assumptions of mainstream theory

¹²⁰ That is, the idea that marginalised approaches to economics should form a unified front against what is perceived as an unequal power structure within the discipline and state-funded institutions.

for being "unrealistic" in the sense of being fictions rather than abstractions. Because the aim has been policy action to correct socially damaging market outcomes, or at least an understanding of the causes of these outcomes, the belief in the existence of an external reality has gone without saying.

There is a clear preoccupation with *real* problems in both traditions. Therefore, this paper argues that the mutual sympathy goes back to similar preanalytic visions and philosophical presuppositions, which are reflected in shared academic experiences, mutual influence and, for some, even personal relationships between early ecological economists, John Maynard Keynes and early Post Keynesians. Despite all the similarities, the paper also historically reflects the still existing diversity in ecological and Post Keynesian economics, as well as persisting potential points of friction.

The contribution of this paper is thus threefold. Firstly, it contributes to the growing literature on the history of ecological economics by exploring the academic life and relationships of some of its prominent pioneers. Secondly, it contributes to the discussion of potential synergy between the two schools by illuminating the similar ontological basis of their early pioneers. Thirdly, it contributes to the calls for paradigmatic unity and structured pluralism by showing how the shared ontological positions mostly facilitated communication for early Post Keynesian and ecological economists.

Section 4.2, 4.3 and 4.4 each discuss one pioneer. Throughout the discussions, the focus will lie on the different aspects of the shared preanalytic vision and ontology, namely a clear concern for unemployment, poverty and the good life, as well as open-system thinking in a critical realist sense leading to scepticism of formalism. While it becomes obvious that all three authors are very different in personality and approach, all had some interaction with (Post) Keynesian thought that may have shaped their own economics. Georgescu-Roegen for example sees himself as a Schumpeterian, but strongly acknowledges the epistemological importance of judgement when confronting (Post) Keynesian uncertainty as well as the critique of formalism and orthodox production theory; Boulding could not be more vocal about his Keynesian roots and Schumacher was friends with and continuously worked with important early Post Keynesians and Keynes himself. Section 4.5 concludes.

4.2 Ernst Friedrich Schumacher, Keynes, and the Cambridge Circus

4.2.1 Early contact with Keynes and Post Keynesians

Schumacher was born in Bonn, Germany in 1911 as the son of Hermann Schumacher¹²¹, a famous Professor of Political Economy¹²². When Schumacher first went to University in Germany, indecisive on what to study, he signed up for a lecture by Schumpeter, whom he found to be a “terrific fellow” with “lively knowledge” (Wood, 1984, pp. 14-15). Through some contacts¹²³, Schumacher obtained the opportunity to meet Keynes in 1929 when he first visited England to continue his studies. Although his knowledge of economics was still limited, he impressed Keynes enough to be invited to his secret seminars, which in turn impressed Schumacher’s father (Wood, 1984, p. 20). From that day on, he developed a deep interest in Keynesian economics. He read and admired Keynes so thoroughly that he was puzzled when students at his first lecturing post — at the School of Banking at Columbia University in 1933 — failed to grasp ideas that seemed so clear to him (Wood, 1984, p. 51).

After a two-year period back in Germany — marked by the emotionally painful realisation of the extent of the Nazi regime — Schumacher returned to London to take up a financial position at Unilever (Leonard 2019, p. 161). Upon the outbreak of war, Schumacher and his wife were classified as enemy aliens. However, they avoided detention and were allowed to work on a farm, where Schumacher continued his economic studies at night and, through contacts¹²⁴, reconnected with Keynes (Leonard 2019, pp. 161–162). In a 1940 letter to Keynes, he wrote: “I should like to tell you that there are very few books which have given me as much joy as yours and if this were not...immodest, I should like to say that a certain familiarity with your thought is among the greatest gains I can show for the last ten years” (Wood, 1984, pp. 127-128).

Another revealing instance of Keynesian influence on Schumacher — and of his emerging realist stance toward economics — can be found in a 1941 letter to the family friend Lord Astor. At Astor’s initiative, Geoffrey Crowther of *The Economist* had read a paper by Schumacher but

¹²¹ As Goldschmidt (2005) shows, Hermann Schumacher was both Protégé of Gustav Schmoller and, for a while, teacher and mentor to Walter Eucken. Interestingly, with regard to his potential influence on his son’s approach to economics, Hermann Schumacher argued for a more theoretical framework to organise the historical material collected in the tradition of the German Historical School. At the same time, however, he maintained that economic science must remain grounded in historical-empirical evidence and that any theory must be adapted to historical context and change.

¹²² Biographical details mostly rely on the biography of his eldest daughter Barbara Wood (1984) and the works of Robert Leonard (2018, 2019, 2022a, 2022b), who thoroughly consulted the archives.

¹²³ Leonard (2018) speculates that it might have been Schumacher’s father, who wrote a letter of recommendation for his son, as Professor Schumacher at that point already published an article in Keynes’s *Economic Journal*.

¹²⁴ Leonard (2019, pp. 161-162) assumes through the owner of the estate: “This was the estate of Robert Brand, who, married to David Astor’s aunt, was a Lazard Brothers banker, an acquaintance of Keynes, and a higher civil servant during the war”.

responded with what Schumacher perceived as an absurd critique: namely, that his arguments were “too highly coloured by German experience” (Wood 1984, p. 127). In a hurt response to Astor, Schumacher pointed out that since leaving school he had spent only three years in Germany, compared to nine years in English-speaking countries, where he had also received all of his economics education. He wrote that he might have understood being called “too Keynesian” — as he regarded “Mr Keynes to be easily the greatest living economist” — or even “too American”, but objected strongly to the suggestion that his thinking was overly German. “In any case”, he added, “it is my ambition that [my views] should be highly coloured by experience, whatever extraction or nationality” (Wood 1984, p. 127). The exchange highlights Schumacher’s early alignment with a realist, experience-based approach to economics in the Post Keynesian tradition, one grounded in common sense and personal judgement rather than abstract formalism.

Another notable feature of Schumacher’s early work was its ethical grounding and problem-oriented focus. During his time working as a day labourer on a farm — while classified as an enemy alien — he continued his intellectual development through intensive reading at night. This period deepened his engagement with Marxist thought and nurtured ideas he had begun formulating in the 1930s regarding the conditions for lasting world peace — likely influenced by Keynes’s *The Economic Consequences of the Peace* (1919). Schumacher became convinced that “the principle of ‘Balance’ is the only one which is compatible with international economic peace, and... any nation which achieves a surplus... is endangering the economic security of some other nation or nations...” (quoted from Wood 1984, p. 125). Motivated by the desire to contribute to peace through economic reform, he developed a proposal for multilateral clearing — an international trade framework designed to counteract regionalism and bilateral tensions by establishing global institutions and planning mechanisms aimed at achieving full employment across nations (Faudot 2021).

He developed these ideas at the beginning of the war and, through his personal contacts, was able to initiate a dialogue with Keynes. As it happened, Keynes was working on a similar proposal and expressed considerable interest in Schumacher’s approach. According to Schumacher, they shared broad agreement on the importance of such a scheme. However, from the outset, there were notable differences: Schumacher believed Keynes was thinking too bilaterally, while Keynes considered his own proposal to be technically more advanced and to “go rather further” than Schumacher’s (Wood 1984, pp. 129–130). Nevertheless, the exchange —

which included an invitation to Bloomsbury for a discussion over tea — reintroduced Schumacher to academic circles, leading to his appointment at the wartime Oxford Institute of Statistics (Leonard 2018, p. 2).

After Keynes caused some irritation by withholding his own proposals and asking Schumacher to delay publication, Schumacher eventually published his article on multilateral clearing in *Economica* in 1943, while the “Keynes Plan” was released the same year as a government white paper (Leonard 2018, p. 9). Keynes’s proposal clearly departed from the traditional, and arguably strategically motivated, position of the U.S. delegation, which maintained that deficit countries bore primary responsibility for restoring balance (Faudot 2021, p. 752). Keynes, by contrast, proposed exchange controls and a clearing union that would allow, for instance, country A to run a deficit with country B while maintaining a surplus with country C — thus avoiding the need to contract imports solely on bilateral grounds. Each country would aim for equilibrium with the Clearing Union as a whole, tolerating bilateral imbalances in the interest of promoting global trade expansion (Faudot 2021, p. 757).

In typical Post Keynesian fashion, Schumacher and his colleagues Michal Kalecki and Thomas Balogh at the Oxford Institute critiqued the Keynes Plan using Keynesian concepts, while also advancing more radical proposals of their own¹²⁵. They challenged the plan from the perspective of full employment and distributive justice, particularly regarding developing economies. Unlike Keynes — whose priority lay in establishing an international currency (the *bancor*) and securing continuous trade equilibrium, and who later compromised with American demands — they emphasized the importance of ensuring long-term global full employment (Faudot, 2021, p. 766). From their standpoint, Keynes’s proposal fell short in addressing structural mechanisms such as targeted long-term lending for industrializing nations and stronger exchange controls. They argued that penalizing imbalances through the *bancor* system could lead to deflationary pressures in surplus countries and failed to foreground employment and economic development as central objectives.

This approach of applying Keynesian principles to radical full-employment policies was characteristic of Schumacher and the Oxford University Institute of Statistics. In his 1944 article *Public Finance – Its Relation to Full Employment*, published as part of the Institute’s report *The Economics of Full Employment*, Schumacher applied Keynesian concepts to public finance

¹²⁵ This is a characteristic of all the early Post-Keynesians and famously encapsulated in the story of the Cambridge Circus desperately trying to get Keynes to realise the revolutionary aspects of his newly developing ideas that eventually lead to the General Theory — for some Post Keynesians, Keynes did not go far enough and never completely freed himself from his Pre-Keynesian shackles (Robinson 1973, p. 3).

and contrasted them with what he called the “classical” approach. He essentially argued that redistributive taxation or deficit spending could ensure full employment and full utilisation of productive capacity (Schumacher, 1946).

The emphasis on deficit spending and redistribution as a means of stabilising effective demand and investment may reflect Kalecki’s influence. While Kaldor, during the war, tended to assume that stimulating private investment could suffice to achieve full employment, Kalecki had already stressed the importance of boosting private consumption through measures independent of the fickle expectations of private enterprise (King, 2009, p. 55). In any case, the significance Schumacher attached to Keynesian thought at the time is evident in his repeated use of the terms “revolution” and “revolutionary” in the opening of the article: “His book, *The General Theory of Employment, Interest and Money*, produced – or rather brought to a head – a revolution of economic thought. It is the purpose of this paper to apply the results of this ‘revolution’ to another field – the field of Public Finance”.

Moreover, on the same page: “...if the result [Keynesian Public Finance] occasionally appears paradoxical or provocative, this is due to the fact that the Keynesian analysis itself has produced results which-measured against the classical doctrine-represent a revolutionary departure” (Schumacher, 1946, p. 85). Again, his commitment to realism rooted in a Keynesian understanding is expressed in his opening quote of Keynes’s statement about the “special case assumed by the classical theory”, which is not one “of the economic system in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience” (quoted by Schumacher 1946, p. 85).

Although Schumacher had not yet explicitly articulated his concerns about the philosophy of orthodox economics, his commitment to realism and his restrained use of formalism — reminiscent of *The General Theory* — are notable and earned him praise from Joan Robinson. In her review of the Oxford Institutes investigation into full employment she asserts:

In general the essays seem somewhat unnecessarily technical and severe in style. This does not apply to Mr. Schumacher’s contribution, which provides an interlude in pleasant pastures between the rocky uplands of Mr. Kalecki’s austere exposition and the dense forest of Dr. Balogh’s close packed argument (Robinson, 1945, p. 77).

This quote is particularly insightful from a modern perspective, as it speaks to broader questions about the role of Critical Realism — not only in the work of ecological economics pioneers, but also within Post Keynesian economics. Not only does Robinson’s casual scolding of her friend Kalecki echo internal debates within Post Keynesianism, but it also anticipates ongoing

discussions about the role of formalism and econometrics within the school of thought. Interestingly, both Kalecki and Kaldor — despite being among the Post Keynesians pioneers¹²⁶ most inclined toward formal modelling — have been argued to operate within the key tenets of Critical Realism. This is especially evident in their commitment to realism¹²⁷, methodological pluralism, open-system thinking, historical specificity, and the endogeneity of institutions (Jefferson and King 2009, 2011; Lawson 1989).

Schumacher not only worked with Kalecki at the Oxford Institute, but was also directly involved with Kaldor¹²⁸ and Robinson, becoming friends with both (Leonard 2022b, p. 188; Wood 1984, pp. 230-231). Sir William Beveridge, who had already published a famous report on the Social Services¹²⁹, set himself the task of contributing a similarly impactful work on full employment policy. Schumacher got involved through his lifelong friend David Astor who suggested Schumacher to Beveridge's secretary Frank Pakenham over lunch (Wood 1984, p. 161). Without further consultation, Pakenham employed Schumacher who, according to Wood, swiftly put together a lengthy draft (Wood 1984, p. 161). Two other members of the “technical committee”¹³⁰ that Beveridge privately employed were Joan Robinson and Nicholas Kaldor. Beveridge's biographer José Harris asserts that all the members of the committee were politically “left” to Beveridge (Harris 1977, p. 435).

However, in matters of economic policy, Schumacher and his colleagues convinced Beveridge that a Keynesian strategy — based on state regulation of demand to achieve full employment — was preferable to one centred on state ownership (Harris 1977, p. 435). According to Wood, Schumacher authored all the economic content of the Beveridge report, while “Kaldor compiled the appendices and Joan Robinson helped knock the final book into shape” (Wood 1984, p. 162). In contrast, Hayek claimed it was “quite a well-known fact” that the entire book was

¹²⁶ There looms still the unresolved question as to whether Sraffa and neo-Ricardian economics belongs to Post Keynesian economics. Proponents of the argument that Post Keynesianism receives its coherence from being structured around shared philosophical and methodological positions, and more specifically Critical Realism, argue that they possibly do not belong to Post Keynesianism — however, the issue is still unresolved. A still relevant and excellent summary of the issue, including further literature, is provided by Pratten (1999).

¹²⁷ Only consider Kaldor's famous “stylised view of the facts” (Kaldor 1957) or the many references collected by Jefferson and King (2009, p. 469) which show Kaldor's insistence on the need for economics to refer to “*the world as it exists*”.

¹²⁸ Notably, Kaldor attended lectures of Hermann Schumacher when he enrolled at the University of Berlin in 1925 (King 2009, p. 4). King (2009, p. 4) mistakenly refers to him as “Kurt” rather than Hermann.

¹²⁹ Later known as the “Beveridge Report”, which substantially influenced the post-war social welfare state system in Great Britain (Harris 1977, chapter 16 and 17).

¹³⁰ The whole committee consisted of “Frank Pakenham, Barbara Wootton, Joan Robinson, E. F. Schumacher, Nicholas Kaldor, and Lady Beveridge's youngest daughter, Elspeth Mair” (Harris 1977, p. 435).

written by Kaldor (Kresge and Wenar 1994, p. 75)¹³¹. Harris (1977) offers a more balanced view, suggesting that Beveridge acknowledged the economics were largely provided by Schumacher (p. 435) and Kaldor (p. 439), while his own contribution lay primarily in synthesising the material (p. 439). In any case, the episode illustrates that Schumacher worked closely with both Kaldor and Robinson, and that they shared broad agreement along Keynesian lines.

Harris provides an interesting insight into the committee's deliberations on inflation concerns associated with full employment, the rising bargaining power of labor, and the consequent pressure for wage increases – a glimpse into early post Keynesian argumentation: Beveridge suggested, “that the best antidote to inflation was price control, combined with compulsory arbitration in trade disputes” (Harris 1977, p. 437). These proposals were not “met with any enthusiasm in the trade union movement”, who believed in the unions' common sense (Harris 1977, p. 437). Kaldor and Schumacher, however, emphasised the need for institutional adjustments and believed that the “removal of the disciplinary effects of unemployment could be compensated for by a greater degree of workers' control”, with Kaldor arguing that ““a collective treaty with all workers would result in a fixing of relative prices and wages”” (Harris 1977, p. 437).

Robinson addressed the importance of ideological and cultural factors, arguing against the assumption of an automatic, law-like response of inflation to full employment. In a letter to Beveridge she asserted that “everything depends on the moral atmosphere... If the workers feel that genuine progress towards social justice is being made it will not be hard to solve the problem. But so long as the economic system presents itself as a dogfight they will naturally take advantage of every increase in their bargaining power” (quoted from Harris 1977, p. 437). These applied discussions of post-war reconstruction were new for the prior abstract theorists (King 2004, p. 306), but clearly exhibit an understanding of the economic system as open, ethically adjustable, and historically, culturally and institutionally dependent. Further, the overarching theme of promoting full employment not only for the stabilisation of effective demand but also for reasons of social justice is prominent in all of Schumacher's further work.

4.2.2 Schumacher's Post War development

Interestingly, in 1945, at the end of the war, Schumacher — alongside his wartime colleagues Nicholas Kaldor and Kurt Mandelbaum (later Martin)¹³², — contributed to the United States

¹³¹ King (2004, p. 307) also argues that Kaldor “was in fact the principal draftsman of the (second) Beveridge Report on Full Employment in a Free Society (Beveridge, 1944)”. However, in King (2009, p. 50) Schumacher is acknowledged by reference to Wood: “Along with Fritz Schumacher, in fact, he was Beveridge's chief economic adviser on the full employment project (Wood 1984, p. 162).”

¹³² A long-time mutual friend of Schumacher and Robinson (Leonard 2022b, p. 188).

Strategic Bombing Survey, led by John Kenneth Galbraith (Wood 1984, p. 168; King 2009, p. 57). Their task was to analyse why strategic bombing had failed to cripple the German war industry as expected (Wood 1984, p. 168). Schumacher remained in Germany for another four years, working on post-war reconstruction with the British section of the Allied Control Commission (Leonard 2022b, p. 170).

In 1946, Schumacher wrote the obituary for Keynes in *The Times*, which offers insight into which aspects of Keynes he found most admirable. He described Keynes as a “political economist” (own emphasis), a “man of genius”, a “prodigy of intellect”, and a “master of a variety of other subjects”, lauding both his “civic virtues — courage, steadfastness, and a humane outlook” and his “private virtues” as a good son, loyal friend, and “unwearying helper of young men of promise” (*The Times*, 1946). Reflecting the enduring influence of Keynes on his thought, Schumacher praised how Keynes’s genius manifested not only in his fundamental contributions to economic science, but also in his rare ability to engage the public on critical economic issues, and in his command of English prose. He emphasized the *General Theory* as resting on “a very subtle and intricate analysis of the working of the whole system”, and noted that while critics accused Keynes of inconsistency, “his views changed in the sense that they developed”. Unlike most professional theorists, Schumacher noted, Keynes was quick to adapt theory to new circumstances.

Remarkably, given the brevity of the obituary format, Schumacher also took space to highlight the *Treatise on Probability* (1921) as “a notable work of philosophy”, which, “although using mathematical symbols freely [...] does not seek to add to the mathematical theory of probability, but rather to explore the philosophical foundations on which that theory rests [...] Written clearly and without pedantry, it displays a vast erudition in the history of the subject”. Clearly, Schumacher does not just praise or appreciate Keynes, but also many of the aspects that were later identified as pivotal for Post Keynesian thought, including the importance attached to the philosophical dimension of the *Treatise on Probability*.

4.2.3 Back in England

Leonard (2022a and 2022b) describes the fundamental shift in Schumacher’s life and thought beginning in 1950 when he gladly and ultimately returned to England as an economist for the National Coal Board. Here, for twenty years he would lead a double life, retreating from public academic life, becoming one of the most influential employees of the National Coal Board, while in private being increasingly drawn to nature, philosophy, mysticism, and religion (Leonard 2022b, pp. 170-171).

His increasing interest in these topics led him to a three-months stay in Burma in 1955 on secondment to the United Nations (Leonard 2019, p. 160) and a visit to India in 1961. Here, he began the intellectual journey that would ultimately lead him to fully reject the capitalist view of human nature and the associated conception of the individual, which culminates in the modern doctrine of economic growth (Leonard 2022b). Leonard describes a shift “from the early, leftish Keynesian, and believer in modern progress, to the later critic of growth and modernity (and Keynesian morality)” (Leonard 2022a, p. 529) and “from being a conventional, and, indeed, highly capable, economist to becoming a disciplinary heretic and outsider” (Leonard 2022b, p. 168). This is true in so far as the profession itself changed during the 20th century. While Kaldor, Robinson and Kalecki were at the time considered to be “conventional” economists, they would later be considered forerunners of heterodox economics or heterodox economists themselves. While the discussion of what is heretical and what is heterodox is interesting in itself¹³³, it is not needed for the purpose of this paper.

However, it has been argued so far that the early Post Keynesian pioneers, at least when they first encountered Schumacher after the publication of the *General Theory*, had already inherently begun to challenge the philosophical foundations of neoclassical economics, emphasizing the importance of realism, history, institutions, and ethical preconceptions. This shared inherent preanalytic and ontological basis, which the protagonists further deepened and made more explicit alongside the development of orthodox economics in the 20th century, explains their productive cooperation and enduring personal relationships. Another aspect that will be questioned is the short hand “Keynesian morality”. It will be argued that Schumacher, and in turn Leonard, misrepresented Keynes in that regard.

Schumacher’s growing interest in non-Western cultures, spirituality, and religion — combined with his first-hand exposure to the widespread unemployment in what were then termed “underdeveloped” countries — began to shape the direction of his economic thinking. In the 1960s he coined the concept of *intermediate technology*, which he presented to the economics profession for the first time at the *Cambridge Conference on the Role of Industrialisation in Development* in 1964. He starts off by describing the “process of mutual poisoning” between urban

¹³³ One could argue that Schumacher did not just become a heretic: Spash (2011, p. 351) summarises an argument made by Frederic Lee and relates it to some pioneers of ecological economics: “As Lee (2009: 6) has defined heterodoxy there are those heretical economists who are tolerated because they use many of the same tools and models and whose ideas have led to theoretical advances in the orthodoxy, e.g., Knetsch. Then there are blasphemous economists whose ideas are a rejection of and challenge to the orthodoxy, e.g., Kapp, Geogescu-Roegen, Daly. They are non-brethren and their persecution is a legitimate act in defense of the orthodoxy. Economists who are lauded as part of the establishment (e.g., Nobel prize winners) often have some heretical ideas, but they are not blasphemers because they still believe in the fundamental core ideas of the orthodoxy, they protect and defend that core and hold back from pursuing the logic of their ideas to revolutionary ends”.

and rural areas: The establishment of modern industry in metropolitan areas and cities leads to competitive pressure on traditional industries in the countryside, causing mass unemployment in rural areas, which in turn leads to mass migration towards the metropolitan areas, “causing them to grow to a totally unmanageable size” (Schumacher 1965, p. 91).

Against the post–World War and Cold War preoccupation with quantitative concepts of economic growth and an uncritical optimism about technological change (Gilman, 2018)¹³⁴, Schumacher argues that this stance cannot be accepted “as a rational objective of policy” and that ‘experience shows that there are types of economic growth which spell increasing misery for ever more people and destroy all social cohesion’ (Schumacher, 1965, p. 91). He further criticises “the experts that rarely refer to the twin evils of mass unemployment”, who — like Keynes’s academic opponents — believe that unemployment is merely transitional and cannot persist in the long run (Schumacher 1965, p. 92).

Again, to refute the conventional belief that this sort of mass unemployment will turn out to be only transitional, rooted in the idea that technological change will create new opportunities, Schumacher turns to realist argumentation — he writes: “In case after case unemployment is greater at the end of a Five-Year-Plan than it had been at the beginning. India is a case in point and so is Turkey” (Schumacher 1965, p. 92). To support labour-abundant countries, Schumacher advocates the use of intermediate technology — technologies more advanced than traditional methods, yet deliberately less capital-intensive than modern Western technologies. In his view, Western technology is unsuitable in development contexts as it fails to utilize the abundant labour effectively. Intermediate technology, while lacking a precise definition due to its dependence on specific regional circumstances — as noted by Schumacher — should aim to keep people employed rather than displacing them. In that sense it would technically be less *efficient* than advanced alternatives, but would be more appropriate and *productive* by keeping people in work and within their social structures. Combined with a form of economic organisation in districts, that aim to decentralise the creation of workplaces and make use of local resources could provide a bridge or possibly an alternative to modern industrial organisation.

Interestingly, this proposal, critically received by many at the conference, let “sparks fly of” between the old wartime friends Kaldor and Schumacher (Robinson R., 1965, p. 3). It is important to note that Kaldor was far from being orthodox or removed from practical experience regarding the development context; in fact his opinions on the necessity to involve sociological

¹³⁴ The entire volume paints a clear picture.

studies, his appreciation of the structuralist approach of Raul Prebisch¹³⁵, and “his experience of poor countries made him realise that economics of any sort had to be nested in a deeper understanding of the social and political framework of each individual country” (King 2009, pp. 132).

King (2009, pp. 117-118) describes Kaldor’s reasoning for his rejection of the intermediate technology “myth”. He advocated for the efficient use of the little capital available. He criticised the romantic scepticism of urbanisation and the attempt at industrialising the countryside by referring to the catastrophic results of the Indian experiments and the Chinese “great Leap forward” (King 2009, p. 118). He argued that there was no alternative to urbanisation as the spatial concentration provided skilled labour, proximity to markets and allowed for close cooperation of advanced firms. Clearly, at the core of the argument were different ideas of what development was supposed to entail.

Kaldor and the advisor to the Indian Ministry of Finance, V. K. Ramaswami, argued that rapid industrialisation could allow for subsequent compensation for the countryside to which Schumacher replied that “the political and human costs in the meantime were so great as to threaten social disintegration” (Leonard 2022b, p. 183). Although, Kaldor did not believe that the latest technology was always the best (King 2009, p. 118), these theoretical quarrels between like-minded heterodox academics curiously parallels the fickle modern relationship of ecological and Post Keynesian economics, with Schumacher emphasising the social costs of rapid industrialisation, and Kaldor, while methodologically unorthodox, genuinely championing development through economic growth. Interestingly, not only did the literature on the development versus economic growth discussion move closer to Schumacher’s perspective, Kaldor himself in the early 1980s “admitted that he had disagreed with Schumacher at the time, but that he now felt more open-minded about the matter” (Leonard 2022b, p. 183)¹³⁶.

4.2.4 *Small is Beautiful* and Meta-Economics

Leonard (2022a, p. 549) describes Schumacher’s growing disillusionment during the 1960s, reflected in his essays for the radical magazine *Resurgence*, as he struggled with the double life

¹³⁵ “Whom he had met during his visit to the United Nations Commission for Latin America (UNECLA, or CEPAL in Spanish) in Chile seven years earlier” (King 2009, p. 116).

¹³⁶ This aligns closely with Jefferson and King’s (2009) observation that Kaldor began to engage in explicit discussions of methodology and in turn more explicit refutation of neoclassical economics relatively late in his career. In fact, King (2009, p. 132) argues that “these lessons from the problems of development gave Kaldor an aversion to the closed-system modelling that appealed so strongly to the great majority of mainstream economists, and conditioned his own thinking on questions of economic methodology”.

he led while working for the National Coal Board. Disenchanted with industrial society's fixation on rationality, efficiency, productivity, and the depletion of non-renewable resources, Schumacher ultimately resigned from the Coal Board in 1970 — a decision he reportedly found relieving (Leonard 2022a, p. 549). Shortly thereafter, he revised and compiled his essays into *Small Is Beautiful: A Study of Economics as If People Mattered* (1973), which became an influential bestseller¹³⁷ and was promptly included in Daly's original 1973 anthology. The book likely resonated not only because of the era's political climate and anti-modernist sentiment, but also due to its engaging prose, broad thematic scope, and firm stance on sustainability, ethics, and the philosophy of science.

Regarding Keynes, Victoria Chick — a leading Post Keynesian economist — reflected on *Small Is Beautiful* “for the first time since shortly after its publication” and “was struck by the similarities to and differences from Keynes's approach to the ethical dimension of economic life” (Chick 2013, p. 33). She noted that both thinkers were interested in the long-term trajectory of the economy and the ethical implications of its direction. “They were both concerned with values,” she emphasized, “a subject in short supply in today's economics” (Chick 2013, p. 33).

One clear continuity is his focus on unemployment as a social evil. However, given his new-found religious view of human nature, the argumentation for the case of unemployment changed. In *Small Is Beautiful* he talks admiringly of what he calls *Buddhist Economics*¹³⁸: “The very start of Buddhist economic planning would be a planning for full employment” (Schumacher 1975, p. 56). From his ethical standpoint, Schumacher believed that no form of unemployment could be justified — even if it were thought to contribute to total output and be offset by unemployment insurance. The reason advanced is that work in itself is part of a *good life*. Beyond providing the means of subsistence, or “a becoming existence”, It can give a man¹³⁹ a chance to utilise and develop his faculties and to overcome his ego-centredness (Schumacher 1975, pp. 54-55).

¹³⁷ In 1995 it appeared as one of “The Hundred Most Influential Books Since the War” in the Times Literary Supplement (Bulletin of the American Academy of Arts and Sciences, 1996) and according to Tony Binns “it had a truly global impact, with over 700,000 copies sold in numerous languages” (Binns 2006, p. 218).

¹³⁸ The first draft of this essay had already been written during his 1955 stay in Burma and revised in 1965 (Leonard 2022b, p. 173).

¹³⁹ The role of women in the version of Buddhist economics Schumacher endorses is, to say the least, problematic — rooted in essentialist and exclusionary assumptions: “Women, on the whole, do not need an ‘outside’ job, and the large-scale employment of women in offices or factories would be considered a sign of serious economic failure. In particular, to let mothers of young children work in factories while the children run wild would be as uneconomic in the eyes of a Buddhist economist as the employment of a skilled worker as a soldier in the eyes of a modern economist” (Schumacher 1975, p. 57).

Earlier in the book, Schumacher bitterly attacks Keynes for his essay *Economic Possibilities for our Grandchildren* (Keynes 1930), in which Keynes describes the future to be rich and plentiful due to the eventual abundance of capital, which would come about through accumulation within a capitalistic system that — for the time being — places economic over ethical values. Schumacher asserts the “Keynesian message is clear enough: Beware! Ethical considerations are not merely irrelevant, they are an actual hindrance, ‘for foul is useful and fair is not’” (Schumacher 1975, p. 24).

Trying to paint Keynes as an advocate for an unethical economic science seems, especially considering Keynes’s other writing, their personal acquaintance and Keynes’s tendency towards irony (Chick 2013, pp. 38-39), oddly misled. Especially considering that this view of what Leonard called “Keynesian morality” (Leonard 2022a, p. 529) is based on one essay. Ironically, a few pages later Schumacher himself quotes the end of the same essay that led to the heavy critique, which shows that Keynes “admonished us not to ‘overestimate the importance of the economic problem, or sacrifice to its supposed necessities other matters of greater and more permanent significance’ [...] Such voices, however, are but seldom heard today” (Schumacher, 1975, p. 41). Other passages in *Small is Beautiful* suggest that Schumacher’s frustration was directed more toward the orthodox interpretation of Keynesianism than Keynes himself. Had he not been so disillusioned with the field of economics as a whole, he would probably have made content use of Joan Robinson’s pejorative term “Bastard Keynesians” (Robinson 1973, p. 6).

The preoccupation with ontological, epistemological and methodological questions and the role of ethical value judgements are clear parallels to those of the Post Keynesians. Many aspects of his work, like his exploration into uncertainty, seem clearly influenced by Keynes, who wrote in 1937:

The sense in which I am using this term [uncertain] is that in which the prospect of a European war is uncertain [...]. About these matters there is no scientific basis on which to form any calculable probability whatever. We simply do not know. Nevertheless, the necessity for action and for decision compels us as practical men to do our best to overlook this awkward fact [...] (Keynes, 1937, p. 214).

Schumacher, correspondingly writes with respect to his rough statistical estimations:

Exploratory calculations, of course, do not prove anything. A *proof* about the future is in any case impossible, and it has been sagely remarked that all predictions are unreliable, particularly those about the future. What is required is

judgement¹⁴⁰, and exploratory calculations can at least help to inform our judgement (Schumacher 1975 p. 28).

The overarching argument, in line with Post Keynesian thought, emphasises a continuous connection to the “real world”: “economics must derive its aims and objectives from a study of man” and “it must derive at least a large part of its methodology from a study of nature” (Schumacher 1975, p. 47).

This parallel becomes even clearer in his account of the Cambridge Conference and his discussion with Kaldor — a friend who, like Keynes, had come to personify the mainstream of economics in Schumacher’s view. He questions the realism of arguments against intermediate technology when he writes: “one sometimes wonders how many ‘development economists’ have any real comprehension of the condition of the poor” (Schumacher 1975, p. 181), adding that their arguments “are evidently static in character and fail to take account of the dynamics of development” (Schumacher 1975, p. 182). In line with a critical realist argumentation, Schumacher stresses that entrepreneurial ability and the quantity of inputs are not fixed in underdeveloped economies. Drawing on his industrial experience, he questions the very existence of any “law” — a term he pejoratively places in quotation marks — of fixed capital/output ratios. In his view, proponents of such theories fail to recognise that “the most sophisticated equipment, transplanted into an unsophisticated environment” is not always used at full capacity (Schumacher 1975, p. 182). He concludes that “to do justice to the real situation it is necessary to consider the reactions and capabilities of people, and not confine oneself to machinery or abstract concepts” (Schumacher 1975, p. 182).

Given Kaldor’s relatively late and cautious engagement with the philosophy of economics, and Schumacher’s apparent indifference to drawing distinctions between orthodox and heterodox Keynesianism, it seems natural that Schumacher aligned more with Robinson, who was outspoken in her critique of neoclassical economics and attentive to the ethical and philosophical dimensions of the discipline. Leonard notes that Schumacher owned several of her books, including *Economic Philosophy* (1968 [1962]) (Leonard 2022b, p. 198).

¹⁴⁰ The role of judgment as a complex and interdisciplinary cognitive process is a constant for all the authors considered. This is especially evident in the discussions of Boulding (1948), and Georgescu-Roegen’s concept of dialectics, which closely relates to the process understood as “retroduction” — operating in an environment marked by fallibility, ethical relevance, and the challenge of perceiving reality while imprecisely and intuitively relating it to theoretical concepts and prior knowledge. Schumacher also engages with this central epistemological concern, articulating an ontology aligned with critical realism. Like Boulding (see p. 28), he emphasizes the importance of judgment when dealing with qualitative differences in economics: “It is of course true that quality is much more difficult to ‘handle’ than quantity, just as the exercise of judgement is a higher function than the ability to count and calculate. Quantitative differences can be more easily grasped and certainly more easily defined than qualitative differences; their concreteness is beguiling and gives them the appearance of scientific precision, even when this precision has been purchased by the suppression of vital differences of quality” (Schumacher 1975, p. 48).

In an interview with Schumacher's daughter and biographer Barbara Wood, Robinson later remarked that Schumacher had a "very original" approach based on "real common sense, and not on conventions" (quoted in Leonard 2022b, p. 188). On the basis of that judgment and their personal relationship, she invited him to speak at the 1972 conference of Section F of the British Association. In the foreword to *After Keynes* (1973), the published collection of the conference papers, she emphasised Schumacher's contribution to economic philosophy. His paper, "Does Economics Help? An Exploration of Meta-economics", in Robinson's words, "attacks the model-builders who have tried to reduce economics once more to a mechanical system" (Robinson 1973, ix).

In his contribution Schumacher asks economists to study "meta-economics", the intellectual presuppositions upon which economics as a derived system rests:

Meta-economics, it seems to me, can be conveniently divided into three parts; first, a metaphysical 'critique' of economics itself; secondly, a study of the physical factors, with regard to their essential, qualitative natures, which economic reasoning has to respect; and, thirdly, a study of man in his wholeness, not simply of 'economic man', a bloodless abstraction (Schumacher 1973, p. 33).

Schumacher's metaphysical critique targets the ethical value judgements that, in his view, are problematically inherent and insufficiently acknowledged in economics — particularly in its focus on monetary value as a measure of worth (Schumacher 1973, pp. 26–33). The realist aspect of his critique concerns the true nature of the material under consideration. As discussed earlier, uncertainty plays a crucial role in this, but Schumacher also emphasises "the relationship between quantity and quality" (Schumacher 1973, p. 33). Highlighting the fundamental importance of qualitative factors, and implicitly responding to Friedman's influential 1953 *Essays in Positive Economics*, Schumacher criticises the trend of "pushing economics ever more in the direction of a purely quantitative science, econometric, mathematical, model building, as if the actions of people were essentially the same as the behaviour of atoms" (Schumacher 1973, p. 33).

Paired with the way monetary price conceals qualitative differences, significant distinctions are erased — such as whether goods "are home produced or imported, renewable or non-renewable, the product of sweated labour or fair dealing etc." (Schumacher 1973, p. 34). To address these qualitative dimensions, Schumacher insists that "economists must diligently pursue interdisciplinary co-operation with people who are reliably expert in various important aspects of the physical world" (Schumacher 1973, p. 35). This concern also extends to the third dimension of his critique: the prevailing image of human nature. When humans are seen "as a mechanical

robot, whose reactions are ascertainable and predictable like those of mindless matter, or as a ‘rational’ homo oeconomicus solely concerned with material self-enrichment,” the essential human capacities for self-reflection and moral development are neglected — capacities that Schumacher sees as fundamental (Schumacher 1973, p. 36).

Robinson comments on the reaction Schumacher got for his paper:

laymen in the audience were immediately on the speaker’s side but some of the professional economists were shocked and reacted with indignation. As the argument went on, more and more points were conceded to Schumacher, except by the hard core of professionals who were still shouting at each other when the meeting broke up (Robinson 1973, ix).

Although Schumacher voiced critical views of Keynes at various points in his life¹⁴¹, it appears that his disillusionment was directed more broadly at modern professional economics. He tended to associate the prevailing orthodoxy of his time with Keynes and his friend Kaldor. Nevertheless, he contributed to the “After Keynes” conference without reiterating his earlier personal moral criticisms.

In any case, the strong and lasting influence¹⁴² Keynes had on Schumacher is evident. He worked closely with leading Post Keynesians such as Kalecki, Robinson, and Kaldor — the latter two becoming lifelong friends — and his economic writing consistently reflects core tenets of both Post Keynesian and social ecological economics. These include a sustained emphasis on philosophical reflection, realism (including attention to dynamics, uncertainty, and qualitative factors), a rejection of excessive formalism, and a call for engagement with ethical value judgements. However, it remains a matter of speculation whether Schumacher would have endorsed Robinson’s closing remark in the 1973 *After Keynes* foreword: “Economics is *some* use, but it would have been a great deal more if the Keynesian revolution had really succeeded” (Robinson 1973, p. x).

¹⁴¹ See Leonard (2018) for Schumacher’s volatile opinions about Keynes in his later life.

¹⁴² This is not to suggest that Schumacher was influenced by Keynes alone. On the contrary, his thinking was shaped by a wide array of sources, including religious traditions and figures like Gandhi. However, many of these influences — including those of socialist thinkers such as Marx — can be seen as complementary to Keynes’s impact, particularly in regard to ontological and ethical reflections. Consider, for example, Schumacher’s remarks on Marx in 1942: “I am also convinced – at the moment – that a great deal of Marxism is true. *Marx has looked the facts in the face*” and that he “should not be ignored by present day students” (Wood 1984, p. 138, emphasis added).

4.3 Kenneth Ewart Boulding – Keynes, Robinson, and the Coming Spaceship Earth

The next pioneer of (social) ecological economics, Kenneth Boulding, had far less direct contact with Keynes or the early Post Keynesians. Nonetheless, he was a self-professed Keynesian whose approach to economics was grounded in similar ethical and philosophical concerns — concerns that were, to some extent, clearly influenced by Keynes. This is most evident in his stance on the mathematization of economics, which reflects a deep commitment to open-system thinking, ontological uncertainty, and realism — understood here as an engagement with the “hopeless” heterogeneity of the complex real world.

The question of how to classify Boulding’s position — particularly his relationship to Post Keynesian economics and his contribution to ecological economics — has been addressed by Robert Scott, both in his biography of Boulding (Scott 2015) and in his contribution to the collected volume *Post Keynesian and Ecological Economics* (Holt et al., 2009). Scott identifies “four principal theoretical concepts that Post Keynesians and Boulding share” (Scott 2009, pp. 105–106): an emphasis on uncertainty, historical time, the recognition of the social costs of economic growth, and open-system thinking. While this paper concurs with Scott’s assessment, it further argues that these shared concerns are not merely theoretical overlaps but reflect deeper, shared ontological and ethical commitments. Many of these dimensions are historically evident in the way Boulding engaged with Keynes and the early Post Keynesians.

Kenneth E. Boulding (1910–1993) was born into a working-class Methodist family in Liverpool. After attending Liverpool Collegiate School on a scholarship, he went on to study chemistry at Oxford, also on a scholarship, but soon switched to economics. His early commitment to a realist approach is evident in a later autobiographical note, where he recalled:

In 1929 [...] I was horrified by the unemployment problem, which I had seen first hand not only in Liverpool but in South Wales. As an earnest young man wanting to save the world, I was pretty sure chemistry wouldn’t do it. At that time the great problems of the human race seemed to be economic (Boulding, 1989a, p. 369).

Boulding’s first interaction with Keynes occurred in his final year as an undergraduate, when he wrote an article on displacement cost and submitted it to *The Economic Journal*, where Keynes served as editor. After receiving extensive comments from Keynes, the article was accepted — an experience Boulding later described as an “extraordinary piece of courtesy towards an unknown Oxford undergraduate” (Boulding 1989a, p. 370). That same year, Keynes’s *Treatise on Money* was published, which Boulding recalled reading “with great excitement, especially the historical chapters at the end” (Boulding 1989a, p. 370). Boulding was once asked

about the impact Keynes had on him as a young man, to which he replied with “Wordsworth’s famous line on the French Revolution: “Bliss was it in that dawn to be alive, but to be young was very heaven” (Boulding 1989a, p. 370).

He recalled the same quote again in a note on Joan Robinson, this time in reference to another major work emerging from Cambridge in the 1930s — *The Economics of Imperfect Competition* (1933), which, as Boulding recounted, “made a great impact” on him “as a budding young economist in the mid-1930s” (Boulding 1989b, p. 854). He identifies two intellectual revolutions of the time: the Keynesian revolution and the imperfect competition revolution initiated by Robinson and Chamberlin, asserting that “Joan had a good deal to do with both of them” (Boulding 1989b, p. 854). Boulding praises both Keynes and Robinson for engaging with real-world economic problems: Keynes “in the sense that at least someone was wrestling with the real causes of what looked like a catastrophic failure of the market economy in the Great Depression”, and Robinson because the theory of imperfect competition “seemed to liberate economics from its absurd commitment to pure competition, which everybody knew didn’t exist, and opened up another possibility of a much more realistic image of market economies” (Boulding 1989b, p. 854).

Discussing the Cambridge capital controversy — which he described as “one of the most trivial controversies in the history of economic thought” — Boulding nevertheless commends Robinson’s literary elegance¹⁴³ and clarity in identifying the problems within neoclassical production theory (Boulding 1989b, p. 855). Although he may not have been invested in the controversy itself, he agrees on a more fundamental level, arguably going beyond the critique of capital aggregation. He was broadly critical of “the operational value of the traditional triad labor, land and capital,” arguing that they are “hopelessly heterogeneous aggregates” (Harcourt 1983, p. 153). For Boulding, these categories are not merely economically heterogeneous — as often implied in standard notions of physical capital — but contain a wealth of conceptual complexity, touching on political theory, sociology, psychology, and history, which, in his view, only an integrated social science could adequately address (Harcourt 1983, p. 153). Alongside this concern with the heterogeneity of economic categories, another key aspect of his realism is his emphasis on economic complexity — an emphasis he also appreciated in Robinson’s work.

¹⁴³ This is an interesting parallel if we consider Boulding’s own poetic writing and general interest in literature. He also expresses his admiration for Robinson’s literary skills in his review of Robinson’s *Economic Philosophy* (1962), even though he believes that “Mrs. Robinson is selling economics too short” (Boulding 1963, p. 658).

In *A Personal Note on Joan Robinson*¹⁴⁴, Boulding applauds Robinson's "wonderful intuitive feeling of the appalling complexity of the economic system and of the enormous amount of information that was lost in trying to reduce complexity to a single number" (Boulding, 1989b, p. 856). In the same vein, he commends Joan Robinson for not falling into the trap of excessive econometrics and "ritual mathematization" – unlike "most of the economics profession" (Boulding 1989b, p. 856). A clear general parallel between Boulding and the *Cantabrigians*¹⁴⁵, who were — completely in the tradition of Marshall and Keynes — highly critical of the ongoing mathematisation and the attempt to make precise what they perceived as imprecise in nature. The common denominator — shared with Schumacher and Georgescu-Roegen — is a dual commitment: first, to capturing the essential structure of the real world; and second, to addressing real-world problems, such as the biophysical limits of ecosystems or what Boulding called the "totally unacceptable" levels of unemployment (Boulding 1989b, p. 854). His unease with aggregating heterogeneous elements stems directly from this commitment to realism and relevance.

4.3.1 Mathematical economics

One particularly interesting example of Boulding (1948) discussing the role of mathematics is his review of Samuelson's *Foundations of Economic Analysis* (1947). Not only because Samuelson was becoming an authority in the field, with his textbook eventually surpassing Boulding's best-selling *Economic Analysis* (1941)¹⁴⁶ as the principal textbook in the US and worldwide (Scott 2015, p. 48), but also given Samuelson's status as a neoclassical synthesis Keynesian — the diverging stance on the role of mathematics perfectly exemplifies the inherent ontological divide.

While freely acknowledging the strengths that abstraction and mathematics can bring to economics, Boulding firmly criticises the notion that economics is a mathematical science. Mathematical abstraction, he argues, can help clarify relationships between variables, but also risks obscuring "the actual complexity of the internal structure of the variables concerned" — a limitation that "can lead to error where this structure is important" (Boulding 1948, p. 189). For Boulding, a clear example of this shortcoming was Paul Samuelson's failed attempt to forecast

¹⁴⁴ Whom Boulding only saw twice in person (Boulding 1989b, p. 853).

¹⁴⁵ For a short summary of the standing of mathematical economics at Cambridge before World War II see Turner (1989, p. 237).

¹⁴⁶ Its first edition was based on Irving Fisher and Keynes's *Treatise on Money* (1930) (Scott 2015, p. 48), the second edition (1948) however was to be fully Keynesian, as by then he had "properly absorbed" the *General Theory* (Harcourt 1983, p. 151).

the post-war economic transition in a 1944 *New Republic* article, which relied on a highly formalised version of Keynesian macroeconomics (Boulding 1948, p. 189).

While not criticising Samuelson for getting it wrong — as Boulding admits he would have agreed with the forecast on non-formal grounds — he argues that the assignment of variables to aggregate concepts like *interest rate* or *income* dangerously ignores their internal structure. Without being more specific, Boulding argues that it “may well be that the composition of income, or of the capital stock, may have more effect on the volume of consumption or of investment than the aggregate size of income or capital” (Boulding 1948, p. 189). To him, no following analysis in the realm of variables can overcome the “fatal defect of their heterogeneity” (Boulding 1948, p. 189) and is doomed to carry on the loss of information resulting from that abstraction.

Pondering on how to judge “what variables are significant, [...] what basic assumptions are reasonable about the nature of assumed functional relationships” he comes back to the power of “judgement or insight”: “[...] these involve the exercise of a faculty of mind which is more akin to literary criticism than to mathematical analysis” (Boulding 1948, p. 189). It not only comes into play when choosing the relevant variables, but is the key cognitive process that allows knowledge creation in economics. Boulding argues that economics is “‘empirical,’ in the sense that it is interested in the interpretation of actual human experience”, and must therefore be concerned with both setting up a “pure” logically consistent model and then apply it to the facts of reality (Boulding 1948, p. 190).

When Boulding asserts that “there is an infinite number of possible economic ‘models,’” and that “the task of ‘judgment’ in economics is to select, out of the many possible frameworks, those which have interpretive value when applied to reality” (Boulding 1948, p. 190), he comes surprisingly close to the way Keynes described the subject in a letter to Harrod when they discussed similar issues ten years earlier with respect to Harrod’s Presidential Address to Section F of the British Association named “Scope and Method of Economics”:

Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world. It is compelled to be this, because, unlike the typical natural science, the material to which it is applied is, in too many respects, not homogeneous through time [...] Good economists are scarce because the gift for using ‘vigilant observation’ to choose good models, although it does not require a highly specialised intellectual technique, appears to be a very rare one (Keynes CW XIV, pp. 296-297).

And in the same vein, Boulding argues that the decision regarding the fit between a model and reality should be based on the “homogeneity of the variables of the framework” and the “stability through time of the functional relationships assumed to exist among these variables” (Boulding 1948, p. 190). However, to *know* if these conditions exist is impossible and even if one believed that “the homogeneity of variables and the stability of relationships in any *given* system can perhaps be *tested* by empirical and statistical research [...] the decision of ‘what to test’ rests on the faculty of judgment or insight rather than on that of manipulation” (Boulding 1948, p. 190).

After critically, but appraisingly discussing the mathematical economics of the *Foundations* he turns back to the role of mathematics within economics. A quip about the limited scope of mathematical welfare economics — about which Samuelson included an essay in the book — leads him to the concluding remarks of the review: “Welfare economics can perhaps tell us what toll we should charge on a bridge once it is built; it has remarkably little to say about whether we should build it or where we should put it!” (Boulding 1948, p. 199). He therefore persists that “mathematics is only part of the foundations of economic analysis; its other foundations lie in philosophy, in the other social sciences, and even in art and literature where that essential but nonmathematical quality of critical judgement is developed” and “if economics becomes a preserve of the higher mathematicians, it will lose its essentially humanistic and empirical quality” (Boulding 1948, p. 199). While he acknowledges that purely literary economists have, in the past, also hindered the creation of knowledge, and that no economist who studies the *Foundations* “can fail to profit from it”, he “cannot help feeling a certain sense of rapidly diminishing marginal productivity in the application of mathematics to economics” — he therefore concludes that “it may well be that the slovenly literary borderland between economics and sociology will be the most fruitful building ground during the years to come” (Boulding 1948, p. 199).

A lasting recognition of Keynes’s special approach is found in Boulding’s 1972 essay *Toward the Development of a Cultural Economics*. Here Boulding argues that Keynes curiously stood “aside from this movement towards abstraction”, which he perceives as fruitless (Boulding 1972, p. 268). Although Keynes did contribute an important abstract model, he generally retained a “sense of the real world, at least of the speculators and financiers, which he knew so well”, which gave “his work something of the richness of cultural detail that one feels in Adam Smith, even though in a more limited range of culture” (Boulding, 1972, p. 268). While some

economists¹⁴⁷ worked in the tradition of a what could be called a “total systems approach” — the idea that the economy was a “totality of interrelated parts” — the breakthrough only came with Kuznet’s pioneering work in “economic instrumentation” and Keynes’s “almost poetic insights” into the workings of the capitalist system (Boulding 1972, p. 281).

Firstly, the recognition of the so called “widow’s cruse” in his *Treatise*, arguing that profits would never run dry as long as they were redistributed and reinvested and secondly, the realisation that there was a level of economic activity at which unemployment could persist indefinitely (Boulding 1948, pp. 281-282). To Boulding, the clear description of the idea that “the actual quantities of product produced, consumed, invested and so on were not the result of the decision of individual households, businesses, or even governments, but were the result of the interaction of the decisions of all parties to the system” constitute to Boulding “perhaps one of the most profound insights to come out of economics” (Boulding, 1972, p. 282). To Boulding this was not an insight achieved through sheer abstract reasoning, but the “almost poetic” power of the faculty of judgement, or as Harcourt (1983, p. 151) puts it, Boulding felt “that Keynes was acutely intuitively aware of the cybernetic processes which characterise capitalism (well before cybernetic processes themselves had been discovered)”.

4.3.2 A reconstruction of economics

In light of these aspects of the philosophy of economics and further showing the importance of the *widow’s cruse* to Boulding another interesting parallel to Keynes and the Post Keynesians can be found in Boulding’s attempt to rethink standard economics. The fourth edition of Boulding’s *Economic Analysis* (1966 [1950]) turned out to be poorly received. He attributed this to the fact that it was published in two volumes, which made it both expensive and impractical to students and lecturers (Scott 2015, p. 49). Randall Wray, himself a Post Keynesian, argues that its Post Keynesian character did not fit the *Zeitgeist* of the hegemonic “Samuelson bastard Keynesianism” (Wray 1997, p. 448). In fact, the fourth edition was an extensive revision based to a large extent on Boulding’s *A Reconstruction of Economics* (1950), which marked, according to Scott, in Boulding’s own words the height of his career as a mainstream economist and his move from a pure economist to a social philosopher (Scott 2015, p. 66). The book was the result of Boulding’s increased dissatisfaction with static equilibrium analysis, the confusion between flows and stocks, the lack of attention paid to fundamental uncertainty and distribution

¹⁴⁷ He names Adam Smith, Alfred Marshall, Leon Walras, Irving Fisher and Knut Wicksell specifically (Boulding 1972, p. 281).

theories, as well as economics missing integration into other social sciences (Scott 2015, pp. 67, 173).

In the foreword he proclaims that “the influence of J.M. Keynes is almost too obvious to mention” and he “should certainly accept the title of a Keynesian” who “with all other modern economists owe[s] an enormous debt to Keynes’s brilliance of insight and imaginative sweep” (Boulding, 1950, ix). However, in Post Keynesian manner, he believes that his book can address “a number of weaknesses [in Keynes’s system] which have not been corrected by his followers” (Boulding 1950, ix).

McFarling (2002, p. 644), who just like Wray (1997) praises Boulding’s contribution from a Post Keynesian perspective, quotes from the introduction of the 1962 second edition:

In the theory of the firm, it seems to me impossible to introduce the essential concept of uncertainty when we start with the concept of income, if only because it is impossible to calculate income without assuming a certain future. If, however, we begin with the position statement, it is clear that the preferred structure of the balance sheet cannot be explained, especially in regard to the liquidity and flexibility of assets, without introducing uncertainty right from the start. The uncertainty of the future can be reflected in the present only in the uncertain value of assets, and in the defences against uncertainty which are built into the asset structure itself (Boulding, 1962, p. i).

Boulding attempts to reconstruct both micro and macroeconomics anew from the balance sheet perspective, attempting to realistically integrate fundamental uncertainty in the decision-making process of firms and households alike, by addressing the qualitative dimension of asset composition. With respects to firms he therefore incorporates liquidity preference as a preference for a specific asset structure with respect to uncertainty (Wray 1997, p. 449). Fundamental uncertainty can only be addressed if the firm recognises the need for appropriate buffer stocks to realise windfall gains or to attenuate windfall losses. The result is, according to Wray, the possibility of aggregating individual economic agents’ balance sheets to obtain a macroeconomic picture of the economy, which avoids fallacies of composition and still allows for an analysis of the total system as interrelated effects on balance sheets” (Wray 1997, p. 450). In that sense aggregate flows — like consumption or production — can be restated as adding and subtracting from existing total stocks.

Generally, Boulding argues that the concept of the stock is more important than the concept of the flow and one should not think of households maximising consumption, or firms maximising profits — both perceived as flows over time. Instead, one should consider them striving to attain a certain position or situation with regards to assets and liabilities, as all economic agents accumulate assets. The process of consumption is then understood as the “destruction of assets; in

general, consumption is an unintended and undesired consequence of utility-seeking behaviour” (Wray 1997, p. 451) — as Boulding puts it: “‘Satisfactions, therefore, must be regarded as proceeding from the stock of goods, not from their consumption’ (Boulding 1966: 125)” (quoted from Wray 1997, p. 451).

Boulding even goes as far as suggesting that one could conceive of something called *psychic capital* to explain even the most fleeting utility seeking behaviour without reference to flows. Purchasing a service could then be considered accumulation of psychic capital (Scott 2015, p. 69). He therefore opens up a philosophical discussion about human wants and their attainment that would later become a significant thread in his ecological economic contribution. Furthermore, as Scott argues, in step with these later contributions he likens the social and economic system to an ecosystem, where every agent continuously sustains oneself “in a dynamic process of inputs and outputs”, adding and subtracting from the stock, moving from one equilibrium to the next (Scott 2015, p. 68).

Lastly, he uses the balance sheet approach to arrive at a macroeconomic theory of distribution, which he believed was missing in the *General Theory*, and he found to be so much in step with Post Keynesian theories of distribution, that he often called them the “K-Theories”, “because it is to be found in some form in the writings of Keynes, Kalecki, Kaldor, and, if I may say so, Kenneth Boulding” (Boulding, 1989b, p. 856). In fact, he also included Joan Robinson as the concept “was basic to her thinking about macro distribution” (Boulding 1989b, p. 856). The cornerstone of those theories is concisely encapsulated in the by now famous quote¹⁴⁸ from Kalecki that “the workers spend what they get and the capitalists get what they spend”. He credits Keynes with the first recognition of the concept in his *widow’s cruse* doctrine in *A Treatise on Money* (1930).

The idea is that in a growing economy the addition to businesses net worth can only arise from capitalist investment, while the payment of wages does not change the businesses’ net worth, it simply shifts “assets out from a liquid form into the product of the work with the same value. Profit can therefore only arise if the product is revalued above cost at the moment of sale, which, of course, gives you good old ‘surplus value’” (Boulding, 1989b, pp. 856-857). The value of the total product exceeds the wage payment. Relating to “good old surplus value” is, especially given the fact that Boulding did not think much of Marxism, interestingly in step with Robinson’s and Sraffa’s revival of classical economic theory. It is therefore unsurprising that the book

¹⁴⁸ Which, according to Boulding, Joan Robinson admits “is not found in print in English” and it seems to him that it is “one of the curious oral traditions for which Cambridge is famous” (Boulding 1989b, p. 856).

earned modern Post Keynesian appraisal (Rimmer 1989; Wray, 1997; McFarling, 2002). However, Boulding believes no one in Cambridge ever read the book, as “why, indeed, should anybody at the center of the world read anything that came out of Iowa?” (Boulding, 1989, p. 857).

4.3.3 Spaceship Earth

Many of the elements discussed so far appear in some form or another in Boulding’s main contribution to the development of ecological economics — his famous essay “The Economics of the Coming Spaceship Earth” (1966)¹⁴⁹. At a time when the economic growth dogma was still largely unquestioned in orthodox economics, but just a few years after the “astounding publicity surrounding Rachel Carson’s (1987 [1962]) *Silent Spring*” (Spash 2013b, p. 4), it proved to be the right essay, employing the right metaphor at the right time. Overall, it was a plead for sustainability, stressing the biophysical limits of the earth, arguing for a reorientation of economics and public policy.

The essay starts by arguing that the time when earth was considered an illimitable plane were over and that — through general technological progress — a point has been reached, where earth was now understood as a closed sphere (Boulding 1980 [1966], pp. 253-255). A reality that will over time have to be fully morally, psychologically and politically integrated for society to persist. Historically, he argues, societies functioned as *open systems* recklessly utilising resources as if they were unlimited and disposing of waste as they pleased with no remorse regarding pollution — this mentality he coins “cowboy” economy.

In discussing open and closed systems, Boulding argues that in theory — with respect to *matter* — a closed system is conceivable. Relating to entropy, as a measure of the degree of disorder, resource use increases entropy, leaving them dissipated, scattered into waste and pollution; however, recycling processes are possible and through energy input material entropy can be reversed.

However, “in regard to the energy system there is, unfortunately, no escape from the grim Second Law of Thermodynamics; and if there were no energy inputs into the earth, any evolutionary or developmental process would be impossible” (Boulding 1980 [1966], p. 257).

The free energy from fossil fuels comes not only at the cost of increased pollution, but is theoretically speaking finite. Humankind has to accomplish the shift to the self-contained “space-man” economy,

¹⁴⁹ Included in all editions of Daly’s anthologies.

in which the earth has become a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, man must find his place in a cyclical ecological system which is capable of continuous reproduction of material form even though it cannot escape having inputs of energy (Boulding 1980 [1966], p. 258).

While his 1950 *Reconstruction of Economics* used ecological metaphors to illuminate economic systems, treating ecosystems as an allegory for social and economic processes, Boulding now demonstrates a deeper intellectual integration of economic and ecological thought. The economy, as a socially constructed system is not only similar to ecosystems with respect to a dynamic and novelty producing nature, but is fully embedded in a physical reality governed by natural laws. They are not only alike and coexist; they are crucially interrelated — a key aspect of what made the essay a pioneering effort for ecological economics (Spash 2024, p. 141).

The second key aspect is the inherent growth scepticism that follows these ideas. Boulding argues — going back to his work on the distinction of stocks and flows and the balance sheet approach — for a reorientation of production and — in Keynesian fashion — more importantly consumption (Boulding 1980[1966], p. 258). Both consumption and production are inherently desirable in the classic *cowboy economy* — measured by the throughput of factors of production, of which a relevant part is extracted from non-renewable resources, leading to output in the form of pollution and waste.

In line with his call to consider crucial qualitative differences over aggregate measures, Boulding suggests differentiating Gross National Product by distinguishing between renewable and non-renewable resource-based consumption, as well as between recycled and productive consumption (Boulding 1980[1966], p. 259). More importantly however, “are actually some very tricky and unsolved problems involved in the questions as to whether human welfare or well-being is to be regarded as a stock or a flow” (Boulding 1980[1966], p. 259).

While Boulding is certain that both play a role, he argues for the relatively higher importance of the stock, recalling his concept of psychic capital already found in the *Reconstruction* (Boulding 1950, pp. 135,140; Scott 2015, pp. 66-69):

[...] that is, to think of being well fed as more important than eating, and to think even of so-called services as essentially involving the restoration of a depleting psychic capital. Thus I have argued that we go to a concert in order to restore a psychic condition which might be called "just having gone to a concert," which, once established, tends to depreciate. When it depreciates beyond a certain point, we go to another concert in order to restore it. If it depreciates rapidly, we go to a lot of concerts; if it depreciates slowly, we go to few. On this view, similarly, we eat primarily to restore bodily homeostasis, that is, to maintain a condition of being well fed, and so on. On this view, there is nothing desirable in consumption at all. The less consumption we can

maintain a given state with, the better off we are. If we had clothes that did not wear out, houses that did not depreciate, and even if we could maintain our bodily condition without eating, we would clearly be much better off (Boulding 1980[1966], p. 259).

While one might find the notion of “psychic capital” a curious — or even overly economic — turn of phrase, it is in keeping with the tone and style of the essay as a whole. Boulding does not, in any case, dismiss the potential “virtue in throughput itself, in activity itself, in production and consumption itself” nor in “raising food and in eating it”, and asserts that there clearly is a want for “fluctuations in the state” and a demand for diversity in all respects of life (Boulding 1980 [1966], p. 260). He then moves on to final considerations that again reflect the key parallels discussed so far: the role of ethical judgement, as well as time and uncertainty¹⁵⁰.

The question then arises “why worry about all this when the spaceman economy is still a good way off” or differently put “what has posterity ever done for me?” and Boulding admits that it is difficult to answer satisfactorily without retreat to ethical dimensions; after all, if one does not identify with a broader notion of humanity, or some form of community that extends into the future, “conservation is obviously ‘irrational’” (Boulding 1980[1966], p. 260). The answer he proposes is that there is a “great deal of historical evidence to suggest that a society which loses its identity with posterity and which loses its positive image in the future loses also its capacity to deal with present problems, and soon falls apart” (Boulding 1980[1966], p. 260).

If so much is agreed upon the question of time discounting and uncertainty-discounting arises too. Boulding argues that there is clear evidence for conventions of discounting the future both on the general preference of present enjoyment over future enjoyment, and the uncertainty of ever reaching a specific future. However, Boulding considers that even low discount rates would rapidly diminish the importance of the vote of future generations, and that one could

¹⁵⁰ So far, Boulding’s concern for uncertainty has been somewhat singularly related to Keynes’s notion of uncertainty, based on Boulding’s own praise for Keynes. However, this is not to say that Boulding was not, to a great degree, influenced by others like Knight (and even Schumpeter), as clearly, he was. On a scholarship from 1932–1934, Boulding visited the University of Chicago. On the voyage, he encountered Schumpeter, whom he later visited at Harvard by invitation and, as he “stated several times,” Schumpeter had a great impact on him and “he learned much” from him (Mott, 1992, p. 358; Scott 2015, p. 2). In Chicago, he enjoyed Knight’s unorganised lectures, although, to Boulding’s disappointment, Knight had at that time already moved on from *Risk, Uncertainty and Profit* (Scott 2015, p. 37). Scott describes in more detail the relationship between Boulding and Knight as one characterised by heated but respectful and ongoing disagreement (see Scott 2015, pp. 37–44). In any case, Boulding did quote Knight with respect to his ideas of uncertainty: “Uncertainty is [sic] economics, as Frank Knight pointed out so well, is not just a defect of human knowledge, but an inherent property of the system, as the development of information theory has made very clear. Any system involving information has irreducible and inherent unpredictability. This does not mean that it is totally unpredictable or random. It means that exact prediction is impossible. It is absurd to try to have an exact science in an inexact world” (quoted from Scott 2015, p. 173). In any case, this supports the idea that there is a shared ontological understanding of the world close to Keynes and the Post Keynesians — one could even argue that, with respect to ontological aspects, or in Schumpeter’s case also the role of historical reasoning, both could be considered unorthodox economists.

argue that discounting the future at all is merely the result of “myopia and perspective, and hence is an illusion which the moral man should not tolerate” (Boulding 1980[1966], p. 261).

Overall, Boulding argues, mostly due to the extreme levels of pollution rather than the exhaustion of non-renewable resources, for immediate action. The “obsession with production and consumption” results not only in direct pollution, but also in waste due to planned obsolescence (Boulding 1980[1966], p. 262). Corrective taxation and improved legislation may improve the situation and continued addressing of the crisis may result in improved public awareness and helpful technological progress. Boulding ends by suggesting that his “perhaps modest optimism is better than no optimism at all” (Boulding 1980[1966], p. 263).

The essay could be considered an application of much of Boulding’s approach to social science and reflects many of the ethical and philosophical ideas this paper is concerned with: the importance of the internal structure and qualitative dimensions of the material under investigation; the role of fundamental uncertainty; a socially constructed but physically embedded ontology; and the desire to uncover deep-lying mechanisms in the face of fallibility — all of which contribute to a scepticism toward inappropriate formalism. This orientation might be described as an ethically motivated and critical realism.

Spash (1999), in agreement with the rest of the field, argued that “the current movement [ecological economics] is founded upon the concerns of the 1960s and early 1970s for limits to growth (e.g., Boulding, 1966; Meadows et al., 1972) and the study of the flow of energy and materials in the economy based upon the work of Georgescu-Roegen (1971)” (Spash 1999, p. 422). However, Spash, in a 2013 working paper¹⁵¹, is highly critical of Boulding’s status as a pioneer of the field, arguing that “Boulding did not pursue his environmental concerns, wrote little on the subject, had a techno-optimist tendency, disagreed with his contemporaries and preferred to develop an evolutionary economics approach” (Spash 2013b, i). After providing convincing evidence for these claims, Spash concludes that “In the absence of counter evidence, the sometimes-noted claim of Boulding being a founder of modern ecological economics appears to be based more on wishful thinking” and that the “claim generally relies upon appeal to the single Spaceship Earth essay” (Spash 2013b, p. 16). However, Spash also acknowledges the essay for focussing on the biophysical limits of the planet, the importance of thermodynamics and the role of recycling, the ethical question, and foremost for being a stimulating “early accessible overview of the implications for human economic activity of biophysical reality” that

¹⁵¹ Which Scott (2015, p. 106), as Boulding’s only biographer so far (Scott 2015, p. xi), found to be “an excellent analysis of the strengths and weaknesses” of Boulding’s essay.

can complement “the more substantive work by Georgescu-Roegen and Daly” (Spash 2013b, p. 22).

While the criteria for being a “pioneer” of a research field are up for debate, Spash seems to value active involvement in what he argues to be a revolutionary movement, and continued contributions to the cause above the singular public effect the essay had, and still has¹⁵². From the heterodox perspective of social ecological economics, Spash criticises Boulding’s techno-optimism, believe in the power of markets and unwillingness to abandon mainstream economic concepts and vocabulary, as well as the omission of social, structural and institutional aspects — Boulding in that view only highlighted the biophysical failure of the current system (Spash 2013b, p. 23).

One could argue if an essay at that time can be criticised for not comprehensively addressing all these issues at ones. In any case, Spash argues that social ecological economics aims to bring all these aspects together, to set “the reality of the functioning of the economy within society and society within biophysical constraints [...] against the fantasy of economic growth forever” (Spash 2013b, p. 23). Interestingly, and in line with the perspective of shared ontological and ethical concerns advanced in the present paper, he admits that “the outlines of this hierarchical ontology can be found in Boulding’s essay“ (Spash 2013b, p. 23)¹⁵³.

Irrespective of making final statements on the elusive idea of a “pioneer”, it can clearly be shown that Boulding shares these ontological and ethical concerns that relate him to Keynes, (early) Post Keynesians and therefore also to (social) ecological economics. Perhaps, Peter Victor, biographer of Herman Daly (Victor 2022) and 2015 recipient of the Boulding award summarised the issue well, when he said:

Although Boulding did not describe himself as an ecological economist, he did contribute to its foundations. And he exemplified the importance for ecological economists of having a wide and deep knowledge of economics as well as a solid appreciation of numerous other disciplines and their interconnections. This is why ecological economics is hard but it can also be fun, and no one appreciated that more than Boulding. I have spent my entire career as an academic, public servant, private consultant and development advisor, working on the ecological economics agenda that Boulding set out all those years ago, and I have had plenty of fun along the way. So this award given in Boulding’s name is especially meaningful to me (Victor 2015, p. 93).

¹⁵² The International Society for Ecological Economics annually rewards scholars with the “Kenneth Boulding Memorial Award”.

¹⁵³ Further, Spash acknowledges that Boulding did attend the “inaugural conference of the International Society for Ecological Economics in 1990, where he gave a plenary speech” and addressed the role of power and political action in the environmental arena (Spash 2013b, p. 22).

In any case, the parallels in the philosophical and ethical basis between Boulding, Keynes, Robinson and other Post Keynesians are clear. Boulding appreciates the acknowledgement of society's complexity, literary reasoning and the faculty of judgement as well as anti-formalism, and emphasises fundamental uncertainty, realism and qualitative dimensions. A last testament to this intellectual proximity can be found in the fact that Boulding “helped finance the *Journal of Post Keynesian Economics*, which began circulation in 1978, and was on their editorial board for many years” (Scott 2015, p. 109).

4.4 Nicholas Georgescu-Roegen — Kaldor and math, Keynes and models

Unlike Boulding, and especially Schumacher, Georgescu-Roegen enjoys an undisputed and thoroughly recognised status as the most distinct pioneer of ecological economics and it would be difficult if not impossible to find any general contribution to the field or its history that does not mention him appraisingly. Georgescu-Roegen differs yet in another respect from Boulding and Schumacher. At no point during his life did he consider himself a Keynesian economist.

However, there are fundamental parallels between the three economists here considered, which extend beyond the truth that all started out as “conventional” economists who turned their back to the twentieth century mainstream of the profession. The purpose of this chapter is to show that yet again the philosophical, especially the ontological, and ethical foundations of Georgescu-Roegen's thought parallel those of Post Keynesians. Georgescu-Roegen's prominence and extensive — as well as explicit — contribution to the philosophy and methodology of economics has led to a considerable body of literature summarising key aspects of his ideas. This chapter will therefore make a selective use of this secondary literature, supplemented by underexplored or particularly significant primary and biographical sources, to substantiate the claim that Georgescu-Roegen shared key philosophical foundations aligned with critical realism and to highlight his relationship with Keynes and the early Post Keynesians.

4.4.1 Georgescu-Roegen, Schumpeter and Kaldor

Georgescu-Roegen was born in Romania in 1906. This is not merely a biographical fact but a key foundation of his life and career, already offering insight into his ethical commitments. When Schumpeter — who was thoroughly impressed with Georgescu-Roegen — invited him to co-author a book on economic analysis, he declined, later confessing he could not imagine any reason for that “inconceivable gross blunder” other than a sense of duty to his home country (Georgescu-Roegen 1989, pp. 125–126). Fittingly, he titled his first autobiographical sketch “*An Emigrant from a Developing Country*” (Georgescu-Roegen 1989), and he remained

throughout his life deeply engaged with applied questions of agrarian economics, development, and unemployment (Martinez-Alier 1997; Suprinyak 2022).

Already as a child, he excelled in mathematics, which he went on to study at the University of Bucharest. On one of many scholarships, he went on to obtain a doctorate degree in statistics at Sorbonne in Paris and, after spending 1930-1932 in London under Karl Pearson on yet another scholarship “returned to Romania to become Professor of Statistics at the University of Bucharest, a position he held until 1946” (Maneschi and Zamagni 1997, p. 695).

Probably owing to Pearson, Georgescu-Roegen was approached by the Rockefeller Foundation to whose fellowship he eventually successfully applied (Georgescu-Roegen 1989, p. 117). Having written his dissertation on time series, he went to Harvard in 1934 to join work with the *Harvard Economic Barometer* only to find out up on arrival that the organisation was shut down as they failed to predict the Wallstreet crash of 1929 (Georgescu-Roegen, 1989, p. 117).

Here he met Joseph Schumpeter to whose evolutionary approach to economics he subscribed ever since. He even went as far as to say that “Schumpeter turned me into an economist – the only true Schumpeterian, I believe. My only degree is from Universitas Schumpeteriana” (Georgescu-Roegen 1992, p. 130). The extent to which this would remain true is apparent in a 1970 paper jointly written with Jean-Paul Fitoussi (Fitoussi and Georgescu-Roegen 1970). In the conference paper, they argue that prolonged periods of unemployment result from continuous changes in the system and the increasing rate at which true novelties, primarily in the form of innovations, disrupt it; although they maintain that their position differs slightly from Schumpeter’s, they do “believe that Schumpeter’s theory of business cycles is one of the truly great economic contributions of all time, comparable only with those of Adam Smith, Ricardo and Marx” (Fitoussi and Georgescu-Roegen 1970, p. 214).

However, Bobulescu (2012, p. 629) speculates that at the time when Schumpeter offered the joint publication, Georgescu-Roegen partly declined the offer due to his already growing doubts “about the soundness of mathematical methods in economics. Economics was essentially historical in his eyes. But Schumpeter’s project was based upon the mathematical method”. In this regard one could speculate further about the influences on Georgescu-Roegen during these formative years of his training in neoclassical economics.

At Harvard he encountered the group of other Rockefeller Fellows from Europe consisting of Oskar Lange¹⁵⁴, Fritz Machlup, Gerhard Tintner and Nicholas Kaldor (Georgescu-Roegen

¹⁵⁴ Who had spent some time at Cambridge and was a close friend to Joan Robinson (Turner 1989, p. 236).

1989, p. 118; King 2009, p. 18). They discussed mathematical economics for hours and Schumpeter, who presided over the group, would often invite them for dinner in an upstairs room of the Harvard Club: “Those memorable dinners lasted so late in the night that we were the last to lock up the club” (Georgescu-Roegen, 1989, p. 119). Considering the mathematical focus of the group, it is interesting to note the admiring tone in which Georgescu-Roegen speaks about Kaldor’s economic intuition in his recollection, asserting that he “was a special figure in the group” (Georgescu-Roegen 1989, p. 118). Apparently, Kaldor was not thrilled when he first learned that the group mainly discussed mathematical economics, saying that he didn’t understand mathematics — but after attending once out of curiosity, he became a regular (Georgescu-Roegen 1989, pp. 118–119). In essence, Georgescu-Roegen admired that Kaldor “was so well trained in economics that often he was able to better by a verbal argument a mathematical point” (Georgescu-Roegen 1989, p. 119). Later in the recollections he recalls another story of an academic exchange with Kaldor that gives a further glimpse into Georgescu-Roegen’s appreciation of Kaldor’s talent and — even commenting from within highly technical discussions — his early contempt for what he perceived as fruitless formalism.

In 1935 — just a year after arriving and beginning his work in neoclassical economics — Georgescu-Roegen published an article in *The Review of Economic Studies*. Here he contributes to the discussion of marginal productivity theory with respect to fixed coefficients. It had been acknowledged by Pareto himself, that when proportions of inputs are fixed, marginal productivity theory cannot hold without corrections as marginal substitution breaks down. However, as Georgescu-Roegen argues in the paper, Pareto “solved” the issue by moving to a higher plane of analysis, which Georgescu-Roegen considers a retreat into “synthesis” as opposed to “analysis” (Georgescu-Roegen 1935, p. 40). A methodological weakness, he argues, as on the level of the “whole economic universe” only one conclusion can be reached, that “there is a point of equilibrium which, in a static state, the whole system tends toward and finally reaches” — in a footnote he even adds that “one might sometimes feel that this conclusion does not go much beyond our hypothesis that everything is connected with everything else”¹⁵⁵ (Georgescu-Roegen 1935, p. 40).

To Georgescu-Roegen the issue with this extreme generalisation is the loss of touch with reality and therefore the lack of economic interpretability which he praised so much in Kaldor. Further — and with long standing importance for Georgescu-Roegen, parallel to Schumacher and Boulding — it ignores the role of individual factors of production and their qualitative richness,

¹⁵⁵ However, he weakens this fatal criticism by finishing the remark with “But this would not be logically justified” (Georgescu-Roegen 1935, p. 40). At the time, he was new to theoretical economics after all.

their internal structure or “nature” and role in production (Georgescu-Roegen 1935, pp. 40-41). He therefore proposes a framework that differentiates between substitutable and limitational factors in production. Toward the end of his exposition, he shortly discusses a more generalised version of his model — of a similar level of abstraction as pareto’s — which he immediately deems useless by again questioning its “economic meaning” (Georgescu-Roegen 1935, p. pp. 48-49). He ends on the question: “does economics need so many purely formal mathematical generalisations?” (Georgescu-Roegen, 1935, p. 49).

In a 1937 article, which Georgescu-Roegen only noticed upon his return to the United States in 1948 as there were no copies of *Review of Economic Studies* available in Romania, Kaldor suggests a reframing of Georgescu-Roegen’s differentiation between substitutable and limitational factors. Kaldor (1937) argues that the limitational case considered by Georgescu-Roegen can simply be seen as an extreme case of complementarity. Traditionally only two cases have been regarded, that of total substitutability and of totally fixed coefficients, however, Kaldor argues that there are two intermediary categories where there are *some* fixed coefficients relative to *some* factors, and *some* fixed coefficients relative to *all* factors (Kaldor 1937, p. 165). Kaldor argues that both “the intermediary categories should be looked upon as ‘extreme cases’ which are approximated, rather than actually achieved, in reality” (Kaldor 1937, p. 165). Georgescu-Roegen therefore repeats his praise saying that “Kaldor (Review of Economic Studies, 1937), as if bent on confirming my above-mentioned opinion about his talent, pointed out that I had overlooked one limitational type” and argues that this helped him to work out a generalisation of the issue (Georgescu-Roegen 1989, p. 123).

It is of course unclear if Kaldor’s approach to economics had any influence on Georgescu-Roegen or vice versa, and even Kaldor’s discussion style at the time is a matter of speculation. However, even if it was less mathematical and more literary in nature, it was likely still in the tradition of what Kaldor called in his recollections the “deductive analytical method” (Kaldor 1988, p. 13). Interestingly though, Kaldor asserts that he was already a Keynesian in the making when he came to Harvard. He describes how long discussions — particularly with John Hicks —, which the Great Depression generated at the London School of Economics in the early 1930s, led him to the insights of the Swedish economists, particularly Myrdal (Kaldor 1988, p. 14). They made him “realize the shortcomings of the ‘monetarist’ approach of the Austrian School of von Mises and von Hayek” and made him “such an easy convert to Keynes after the appearance of the *General Theory* three years later” (Kaldor 1988, p. 14).

In a footnote of his recollections Kaldor exclaims that his later years at LSE in the 1930s were not “altogether happy ones” and that he felt isolated:

I felt out on a limb as an early and enthusiastic supporter of Keynes, and out of sympathy with the rigid neo-classicism of Robbins, Hayek and most of the senior members of the Economics Department. Though LSE was always regarded as ‘left-wing’ by outsiders, this was an image largely created by the ‘media’. During the period while I was there ‘left-wing’ views were confined to Harold Laski and to a few lecturers in law and sociology. The economics department was dominated by those who held orthodox views both on money and the functioning of a free market system - an ideology which I embraced for a brief period, but abandoned well before the appearance of Keynes’s *General Theory* (Kaldor 1988, p. 32).

While autobiographical recollections remain a problematic historical source, Georgescu-Roegen’s earliest writing within neoclassical economics already reflects scepticism of formalism and his specific mention of Kaldor having an intuitive talent for economic interpretation relating to the real world, as well as Kaldor’s own remarks about his early shifts away from orthodoxy suggest a possible mutual influence. Kaldor eventually went back to England — but the Keynesian Revolution — following the publication of the *General Theory* in February 1936 — swiftly arrived at Harvard, which was still under the spell of Schumpeter, who had a rather competitive relationship with Keynes¹⁵⁶. Galbraith claims that although “the old economics was taught by day [...] in the evening and almost every evening from 1936 on, almost everyone in the Harvard community discussed Keynes” (Galbraith 1971, p. 49). Georgescu-Roegen, who left Harvard in Spring 1936, must have missed out on many of these discussions when he went back to Romania until 1948.

4.4.2 Georgescu-Roegen, Keynes and Robinson

Regarding the possible influence of Keynes on Georgescu-Roegen one can start out with the observation that Georgescu-Roegen does not seem fully consistent with respect to his estimate of Keynes’s importance in the history of economic thought in general and on Georgescu-Roegen’s work in particular. One of the reasons for estimating Schumpeter clearly above Keynes — other than the personal affection — could be Georgescu-Roegen’s focus on growth economics and dynamics. In the 1970 paper with Fitoussi they argue that “Keynes’s famous protest against the long-run equilibrium missed the core of the matter” (Fitoussi and Georgescu-Roegen 1970, p. 211) — the issue, according to them, lies not in the “undeniable fact” that “in the long run we are all dead”, but in the fact that long-run adaptations never come to work in a

¹⁵⁶ Samuelson recalls that Schumpeter was “jealous of Keynes and he was very jealous of the fact that all his best students went tearing after this fellow” (Pantinkin and Leith, 1977, p. 87)

reality where novelty after novelty create a situation of constant change (Fitoussi and Georgescu-Roegen 1970, p. 211). While one could argue that a chain of consecutive short-runs is a quiet Keynesian way to conceive of the long run, Fitoussi and Georgescu-Roegen seem to disagree.

In any case, another reason may be Georgescu-Roegen's reluctance to engage with monetary economics, where he was never "able to feel at home" arguing that monetary theory does not relate to the real world, "has no leading analytical thread" and is plagued with "endless controversies not only between the Keynesians and the monetarists, but also between the members of one and the same fraternity" (Georgescu-Roegen 1989, p. 126). Stemming from his experience with extreme inflation in Romania, he was especially sceptical of "Keynesian" demand policies. In his mind, it was a blank cheque for demagogues who abused deficit spending without sound taxation plans (Georgescu-Roegen 1989, pp. 126-127). To him, "Keynes and especially the Keynesians seem to have believed that because a diabetic feels better with shots of insulin, everyone else would also feel better if given such shots" (Georgescu-Roegen 1989, pp. 126-127). As with Schumacher, this seems to address more the neoclassical synthesis than "fundamentally Keynesian" thought — his final statement on the matter that "this fable pinpoints Keynes's definite impact on economic epistemology: all that counts in economics are the aggregates, structure is irrelevant" (Georgescu-Roegen 1989, p. 127) seems oddly in conflict with many of his earlier appraisals of Keynes's role in economic thought — mostly with respect to ontology in the form of uncertainty, but also with respect to epistemology regarding mathematization and the role of models¹⁵⁷.

Two articles published in 1954 and 1958 respectively heavily engage with Keynes's understanding of probability, uncertainty and the issue of measurement and comparability. In "Choice, Expectations and Measurability" (1954) Georgescu-Roegen argues that risk and uncertainty are still being confused despite the definitive treatment of both Knight and Keynes. While he credits Knight with primacy in arguing for "the entirely different essence" in probability and uncertainty, he assumes that Keynes was "first to argue that uncertainty not only has no cardinal measure, but it is not even comparable" (Georgescu-Roegen 1954, pp. 528,529).

In "The Nature of Expectation and Uncertainty" (1958) he deepens this engagement by analysing major theories of expectations and probability. Here he asserts that there has been a general

¹⁵⁷ This is not to say that Keynes did not have a significant impact in terms of economic aggregates; however, Georgescu-Roegen's dismissal seems strangely reductive, especially considering Keynes's deeper and more nuanced influence on other traditions of Keynesian thought — all the more so given Georgescu-Roegen's extensive engagement with the philosophy of science and economics.

neglect of the cautioning voices who believe that true uncertainty may resist numerical probabilities and measurement. He positions Keynes as a key figure, who argued in his *A Treatise on Probability* (1921) that expectations do not only resist numerical expression, but can at times not even be compared: “On some occasions none of these alternatives [‘equal,’ ‘more,’ ‘less’] hold, and [...] it will be an arbitrary matter to decide for or against an umbrella” (quoted from Georgescu-Roegen 1966, p. 241). An understanding Georgescu-Roegen clearly embraces when he argues that “most students have preferred to advance on the less thorny passage of measurable uncertainty — a passage more fertile in analytical results — rather than to face the delicate complexity of expectation and be content with making smaller, yet more relevant, strides” (Georgescu-Roegen 1966, p. 242).

After delving in to the history of ideas he discusses the details of said complexity and the quest for objective criteria for decision making under Knightian uncertainty and comes to the conclusion that given “the fact that the corresponding expectations are not ordinally measurable, probably not even comparable, and have only a distant and debatable connection with past observations” the only tenable solution is the common advice to “‘get all the facts and use good judgement’” (Georgescu-Roegen 1966, p. 275). This is a common theme in Keynes’s philosophy, who argued that judgement is an indispensable intellectual faculty in ways paralleled by Georgescu-Roegen in the conclusion:

Together with gathering, presenting, and analyzing in a logical fashion as many facts as possible, to detect and to use good judgment constitute the only means by which we can respond to living without divine knowledge in an uncertain world (Georgescu-Roegen 1966, p. 275).

He argues that most people may feel discouraged by the idea of not having a “best technique” at hand or may feel like one refuses to share “one’s philosopher’s stone” when suggesting to employ judgement, but to him it remains the only option. In his closing sentences he again commends Keynes for being one of the few social scientists to emphatically stand against the hope of measuring the immeasurable, arguing that “there is a limit to what we can do with numbers, as there is to what we can do without them” (Georgescu-Roegen 1966, p. 275).

While Georgescu-Roegen stands apart from Schumacher and Boulding in his greater affinity to mathematics and its extensive application, he also engages far more deeply with its philosophical limitations, making the critique of formalization an even more fundamental and recurring theme in his work. Key to the critique is the dualism between dialectical concepts and what he

calls arithmomorphic concepts¹⁵⁸. Arithmomorphic concepts describe anything that can be truly discreetly distinct and are therefore confined to the world of “logic — conceived as *Principia Mathematica*” like real numbers or the logical concepts of “is” or “is not” — there is no conceptual overlap (Georgescu-Roegen 1966, p. 21). Anything else is described by dialectics. Georgescu-Roegen argues that certain fundamental concepts, such as democracy, justice, and likelihood, lack clear, discrete boundaries. Instead of being strictly defined, these ideas exist on a spectrum where they can overlap with their opposites. For instance, a country may simultaneously exhibit both democratic and non-democratic characteristics, much like a person can be considered both young and old at a certain stage of life (Georgescu-Roegen 1966, p. 23). It is therefore “not possible to apply the methods of mathematics and logic to dialectical concepts straightforwardly” (Couix 2021, p. 13).

This conceptual dualism is also explored in the aforementioned joint paper with Fitoussi (Fitoussi and Georgescu-Roegen 1970). Here they argue that persisting unemployment is the result of qualitative structural changes which can only be analysed by the dialectical method as in fact, according to them, “the nature of all actuality is dialectical, and this characteristic is especially pronounced in the case of unemployment” (Fitoussi and Georgescu-Roegen 1970, pp. 207-208). Therefore, they argue that most economists who had addressed “unemployment in a serious way — from J. B. Say, T. R. Malthus, D. Ricardo and Karl Marx to J. A. Schumpeter, A. C. Pigou, G. Myrdall, A. H. Hansen and Lord Keynes” have done so in a dialectical fashion (Fitoussi and Georgescu-Roegen 1970, p. 208).

They argue that in contrast to the historic approach, recent modern economists have primarily used arithmomorphic models — while they do play an important methodological role in science as they should be used as a *simile* to the real world, used for “verifying already developed dialectical reasoning”, they cannot stand on its own (Fitoussi and Georgescu-Roegen 1970, p. 208). They single out Marx, as the founder of dialectical economics and Keynes as a particularly successful applicant of this method — in fact a lengthy footnote argues that “it may not be superfluous to belabour evidence” regarding Keynes (Fitoussi and Georgescu-Roegen 1970, p. 208) — as it directly relates to the arguments regarding judgement and uncertainty it is quoted here in full:

Keynes’ General Theory contains only one diagram (p. 180), and an extremely elementary one at that. The famous work at the same time abounds in dialectical expressions. One can cite at will: approximate statistical comparisons of incommensurable collections based ‘on some broad element of

¹⁵⁸ The early essential exposition of these ideas is found in the introduction to his 1966 essay collection *Analytical Economics*.

judgement rather than on strict calculations' (p. 39); expectations 'foreseen sufficiently far ahead' (p. 48); existing facts 'known more or less for certain' (p. 147); decisions 'taken as a result of animal spirits ... , and not as the outcome of a weighted average of quantitative [sic] benefits multiplied by quantitative probabilities [but reflecting] the nerves and hysteria and even the digestions and reactions to the weather [of their authors]' (p. 161f). Also, outside some spotty simple algebraic expressions, only the first section of Chapter 20 contains an argument cast in mathematical form, which, symptomatically, Keynes considers superfluous (see also note 9, below). Patinkin (1976, p. 22f), who quotes Keynes' blunt denunciation of the 'symbolic pseudo-mathematical methods', is completely right in his verdict that Keynes' merits lie 'in his creative insights about fundamental problems', not 'in rigor and precision'.¹⁵⁹

This stance on the ontological divide of arithmomorphism and dialectics directly relates to the overall stance of the role of mathematics in economics and the role of models. Couix (2021) analyses the role of models as analytical similes in Georgescu-Roegen's work and clearly positions him in a "Marshall-Wicksell-Keynes" tradition (Couix 2021, p. 26). As Couix (2021, p. 25) notes as well, in Georgescu-Roegen's seminal 1971 *The Entropy Law and the Economic Process* he relates to Wicksell and Marshall, but also directly quotes Keynes as "another economist of great repute to insist that 'the object of [economic] analysis is, not to provide a machine, or method of blind manipulation, . . . but to provide ourselves with an organized and orderly method of thinking our particular problems'" (Georgescu-Roegen 1971, p. 341).

It becomes clear that an ontology of fundamental uncertainty, non-homogenous and ever-changing circumstances, and the possibility of emerging novelties, to Georgescu-Roegen, requires judgement and dialectical reasoning. It is therefore not surprising when Bobulescu (2017¹⁶⁰, p. 57) argues that "Georgescu-Roegen's idea of dialectic penumbras or permeable boundaries of systems can be explained by Dow's general systems theory, and also by Lawson's critical realism and Mearman's open-system approaches".

A further shared aspect, thoroughly explored by Bobulescu (2017) is the emphasis on historical time in economic analysis. Georgescu-Roegen's focus on the role of entropy and the embeddedness of the social world in the physical reality of thermodynamics, pushed him towards an understanding of time that stresses the irreversibility of events including production processes. Regarded from the perspective of entropy, as with Boulding, any conceptualisation of life that

¹⁵⁹ Right afterwards they argue that the overly ambitious use of arithmomorphic models are the reason for many fallacies in economics and when they move to the question of disequilibrium models they again praise "Keynes's famous model of the *General Theory*" as the "best achievement in this respect" (Fitoussi and Georgescu-Roegen 1970, p. 209).

¹⁶⁰ The pages refer to the paragraph of the online version.

involves perfect substitutability and optimisation in logical time ignores the fact that all processes are fundamentally irreversible. However, according to Bobulescu (2017, 2.1) he even stresses that time is irrevocable and that a system cannot pass through the same state more than once. Even if processes could be reversed and the original state could be reconstructed, it would be a different state of the world and time would have passed irrevocably.

Bobulescu (2017) argues further that this perspective reinforces his argument that historical investigation is essential to economic analysis because economic processes are not just mechanical sequences but deeply embedded in social, institutional, and ethical contexts. The irrevocability of time aligns with his insistence on considering institutions, power structures, and ethical concerns as central to economic reasoning. His rejection of timeless, mechanistic modelling in favour of a dynamic, historically embedded approach ultimately ties into his advocacy for a more responsible and ecologically aware economic system, recognizing that economic choices have long-term, path-dependent consequences.

Both Gram (1989) and Schincariol (2021) note the similarities in Georgescu-Roegen's and Joan Robinson's conception of historical time, with Schincariol exploring the environmental and ecological element in Robinson's work and their similar critique of neoclassical economics. Curiously, it appears that there was no direct contact or mutual reference between the early pioneers of Post Keynesian economics and Georgescu-Roegen, aside from the shared time at Harvard with Kaldor. Schincariol (2021, p. 460) notes that, despite the documented similarities, he could not find "any mention to Georgescu-Roegen on [sic] Joan Robinson's archives, including her private letters"¹⁶¹. To the author's knowledge, Georgescu-Roegen referred to Robinson only ones approvingly¹⁶² in a much later article, pondering on methodological issues of production functions (problems of aggregation, historical time) — here he eventually asserted

¹⁶¹ The only visible crossing into Georgescu-Roegen's academic orbit from Robinson's side that the author of this paper could identify appears in her *Journal of Economic Literature* article "What Are the Questions?" (Robinson 1977), where she references Hick's 1976 article "Some Questions of Time in Economics" from the collected volume *Evolution, welfare and time in economics: Essays in honor of Nicholas Georgescu-Roegen* (Eds. Tang, Westfield and Worley 1976).

¹⁶² As far as the author is aware, there are only three other mentions (Georgescu-Roegen 1965, pp. 54-55; 1966, p. 53; 1971, p. 103), which all refer to Robinson's "tempting idea of transforming the natural unit of all factors [of production] into efficiency units" to "render the production function homogenous" (Georgescu-Roegen 1965, pp. 54-55). Georgescu-Roegen, who relates to Robinson's *Economics of Imperfect Competition* (1933) argues that this is a hopeless attempt as Robinson herself "hurried to admit at the first opportunity" in her 1934 *Economic Journal* article "Euler's Theorem and the Problem of Distribution" (Georgescu-Roegen 1965, p. 55). From the perspective of speculating about direct contact it is interesting to note Georgescu-Roegen's phrasing in the 1965 mention when he argues that "*it is not certain* whether she realized the real drawback of her proposal..." (Georgescu-Roegen 1963, p. 247, own emphasis). Given the date of the publication, there would have been at least two decades of possible contact — however, there does not appear to have been a basis for personal exchange.

that “there are therefore plenty of reasons to say with Robinson, that ‘the Wicksteedian production function has been a powerful instrument of miseducation’” (Georgescu-Roegen 1990, p. 207).

However, Gram (1989), when discussing Robinson’s long-standing advocacy for historical time in economics even insinuated that Georgescu-Roegen “failed” to consider Robinson and Keynes when he praised their intellectual mentor Marshall for his intuition that “biology, not mechanics, is the true Mecca of the economist” (quoted from Gram 1989, p. 298). He notes Georgescu-Roegen arguing that even if Marshall’s

antimechanistic proclivities were reflected mainly in his famous biological analogies, we must impute to them his salient discovery of the irreversibility of long-run supply schedules. Unfortunately, Marshall’s teaching caused no lasting imprint and the fact that irreversibility is a general feature of all economic laws received no attention (Georgescu-Roegen, 1971, p. 11).

Although Gram’s wording may seem strong, it finds some justification in Georgescu-Roegen’s own emphatic formulation. Robinson had vocally proclaimed the importance of historical time and its direct impact on production theory over several decades, so it remains a matter of speculation as to why these similar outlooks on time and shared critique of neoclassical economics did not result in any direct contact or acknowledgement. However, an answer to this question as well as the before mentioned problematic relationship of Georgescu-Roegen with Keynes and the label “Keynesian” in his later recollections, may be found in Victor’s description of Georgescu-Roegen’s tendency for isolation and unduly harsh criticism of scholars even sympathetic to his views¹⁶³ (Victor 2022, pp. 33, 39-41).

One of the stories, in this case relating to Herman Daly — Georgescu-Roegen’s loyal phd¹⁶⁴ student — goes as follows (Victor 2022, pp. 39-41): in the early 1990s — a few years before Georgescu-Roegen’s death — he was enraged over a critical article in the journal *Ecological Economics*, where Daly was associate editor and whom he made personally responsible. Daly, seeking to de-escalate the conflict, agreed the article was poor and said he would try to have it removed — to which Georgescu-Roegen never responded. A letter to Kozo Mayumi reveals

¹⁶³ Robinson’s own tendencies for occasional harshness and hard-headedness aside, she was extremely supportive of “her camp” and hardly isolationist. Given her personal friendship with Schumacher — who also was not in contact with or referenced Georgescu-Roegen as far as the author knows — there remains the question of lack in contact or reference from her side.

¹⁶⁴ Georgescu-Roegen, while initially accepting Daly as his phd student, for half a year ignored Daly’s request for feedback on a draft of his dissertation — eventually, after three years of waiting in which Daly already moved on to teaching positions, Georgescu-Roegen informed Daly through a letter that he had three master theses at hand, rather than a dissertation and rejected it without any further comment or suggestions (Victor 2022, p. 27).

that Georgescu-Roegen remained upset about the incident until the end of his life. In 1992, while Daly was working at the World Bank, he was surprised by negative press in Romania targeting him and the World Bank. The reason became clear when Eugenio Lari informed him that during an award ceremony at the Romanian embassy, Georgescu-Roegen had declared Daly was “harming Romania by advocating sustainable development”, calling him “the architect” of said harmful strategy and asserting that he “should be fired” (quoted in Victor 2022, p. 40).

Daly never received an explanation before Georgescu-Roegen’s death. In a 1999 letter to Mauro Bonaiuti, he wrote that Georgescu-Roegen “could not tolerate anything less than total acceptance of his views among his friends” and that his “resentments increased with age, as did his bitterness over the fact that he did not receive the Nobel Prize, which in truth he certainly deserved” — a perceived injustice he blamed on the lack of support from his friends (Victor 2022, pp. 40–41). Daly concludes the letter, after affirming he had offered all the support he could, with a moving line: he hoped Georgescu-Roegen’s “dementia, paranoia, personal resentments, and bitterness” would “rest in peace and be forgotten” (Victor 2022, p. 41).

While this explanation is highly speculative — especially since the absence of contact or references may simply reflect mutual ignorance, unawareness, or lack of interest — it offers insight into why Georgescu-Roegen, despite his extensive knowledge of the history of economics, did not connect with the Post Keynesians and only later in life expressed such harsh views on Keynes. However, even despite the lack of personal contact and even intellectual acknowledgement the shared roots in Marshall and Keynes become clear. This unacknowledged but direct ontological and epistemological closeness informs the modern rapprochement between ecological and post Keynesian economics.

4.5 Conclusion

This paper has examined the intellectual roots of E.F. Schumacher, Kenneth Boulding, and Nicholas Georgescu-Roegen, positioning them as key figures in the development of (social) ecological economics. While their backgrounds and approaches differed, they shared a critical stance toward mainstream economic formalism, an insistence on realism, and a strong ethical dimension in their economic thinking. Their work remains particularly relevant in the ongoing paradigmatic debates within ecological economics, especially concerning the role of structured pluralism and ontological commitments.

By tracing the historical intersections between ecological and Post Keynesian economics, this paper has highlighted how their shared rejection of mechanistic equilibrium models and their emphasis on uncertainty provide a foundation for deeper intellectual engagement. This historical perspective suggests that ecological economics and Post Keynesianism are not only methodologically compatible but also share a broader ethical and philosophical vision, as well as history.

Over time, the field of ecological economics has witnessed a tension between those advocating a more orthodox economic approach and those who, like Spash, argue for a distinct and heterodox foundation. In this context, the alignment between social ecological economics and Post Keynesian thought suggests an avenue for further cooperation. Given the paradigmatic debates, recognizing these intellectual overlaps is not just a matter of historical interest but has real implications for how ecological economics evolves as a discipline. Moving forward, a continued dialogue between these traditions could provide a more coherent framework for addressing contemporary socio-ecological challenges — one that prioritizes complexity, the qualitative dimension, ethical considerations, and an economics firmly rooted in real-world dynamics.

4.6 References

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Appendix 1: Zusammenfassung in englischer und deutscher Sprache

Complexity and Abstraction of Nature in Economic Theory

This dissertation consists of three separate papers. Each constitutes an individual contribution to the role of complexity and the abstraction of nature in the history of economic thought. From the perspective of the philosophy of science and economics, different streams of thought emerging from the co-development of the social and natural sciences since the scientific revolution—evolving through the Enlightenment and the industrial revolution—can be identified. Fundamentally, these papers jointly argue that these streams reflect diverging conceptions of the nature of reality (ontological), which in turn inform different views on how knowledge can be acquired and how science should proceed.

While the organicist worldview understands the world as essentially complex, interrelated, dynamic, and organic, the mechanistic worldview interprets similar complexity as reducible to identifiable causalities open to modelling and quantification. The papers show that nature—understood as a highly complex and heterogeneous concept—resists much of the reductionist abstraction characteristic of the mechanistic tradition.

Through three case studies, the dissertation traces the trajectory taken by standard economics with respect to nature.

The first paper, *Losing Ground: On the Marginalisation of Land in Economic Theory*, surveys the literature for explanations of the declining role of land as a distinct factor of production. While external explanations such as changing class structures and the diminishing empirical relevance of land hold weight, the paper argues for a deeper, methodological cause. It identifies a “desire for analytical homogenisation” and shows how economists, working within a mechanistic paradigm, adopted simplification, formalisation, and abstraction to bypass the challenges posed by complexity—ultimately paving the way for the extreme mathematization of economics in the twentieth century.

The second paper, *Keynes and the Preservation of Natural Beauty: Philosophical Foundations and a Natural Case for Planning*, contextualises Keynes’s underappreciated advocacy for preserving rural England. This contribution to environmental history has received little attention. The paper shows that Keynes’s environmental concern was not incidental but rooted in a broader philosophical outlook. It identifies Keynes as indirectly aligned with the organicist tra-

dition, critical of the formalism adopted by younger economists. This outlook informs his support for state planning and highlights his role as a philosophically grounded alternative to orthodox economics—a view echoed by later Post-Keynesian thinkers.

The third paper, *Three Pioneers of (Social) Ecological Economics: On (Post) Keynesian Influences and the Intellectual Roots of E.F. Schumacher, Kenneth Boulding and Nicholas Georgescu-Roegen*, situates modern ecological economics within the organicist tradition. Building on the ontological principles discussed in the first paper (via Marshall and Robinson) and the second (via Keynes), it explores the paradigmatic tensions within ecological economics itself. By examining the intellectual and personal connections between early ecological economists and Keynesian thinkers, it argues for ecological economics as a philosophically and ethically distinct alternative to mainstream economics.

Taken together, the three papers contribute to our understanding of how ontological commitments and methodological choices have shaped the treatment of nature in economic thought—and why revisiting these philosophical foundations remains relevant today. In addition, the dissertation offers several distinct contributions to the intellectual history of ecological economics and provides an original perspective on Keynes's environmental thought that has so far remained unexplored.

Diese Dissertation besteht aus drei eigenständigen Aufsätzen. Jeder von ihnen stellt einen individuellen Beitrag zur Rolle von Komplexität und zur Abstraktion von Natur in der Geschichte des ökonomischen Denkens dar. Aus der Perspektive der Wissenschafts- und Wirtschaftstheorie lassen sich unterschiedliche Denktraditionen erkennen, die seit der wissenschaftlichen Revolution und im Zuge von Aufklärung und industrieller Revolution aus der gemeinsamen Entwicklung von Sozial- und Naturwissenschaften hervorgegangen sind. Zusammen genommen argumentieren die Aufsätze, dass diese Strömungen unterschiedliche Auffassungen der Beschaffenheit der Realität widerspiegeln, aus denen wiederum divergierende Vorstellungen darüber entstehen, wie Wissen gewonnen werden *kann* und wie Wissenschaft betrieben werden *sollte*.

Während die organizistische Weltsicht die Welt als grundsätzlich komplex, vernetzt, dynamisch und organisch begreift, versteht die mechanistische Sichtweise ähnliche Komplexität als Ergebnis klar identifizierbarer Kausalitäten, die prinzipiell modellier- und quantifizierbar sind.

Die Aufsätze zeigen, dass die Natur – als hochkomplexes und heterogenes Konzept verstanden – sich einem Großteil der reduktionistischen Abstraktion entzieht, wie sie für die mechanistische Tradition charakteristisch ist. Anhand von drei Fallstudien verfolgt die Dissertation die Entwicklung der Volkswirtschaftslehre im Umgang mit Natur.

Der erste Aufsatz *Losing Ground: On the Marginalisation of Land in Economic Theory* untersucht die Literatur nach Erklärungen für die abnehmende Bedeutung von Land als eigenständigem Produktionsfaktor. Während externe Faktoren wie der Wandel gesellschaftlicher Machtverhältnisse oder die sinkende empirische Relevanz von Land durchaus überzeugend sind, wird eine tiefer liegende methodologische Ursache herausgearbeitet. Der Beitrag identifiziert ein „Streben nach analytischer Homogenisierung“ und zeigt anhand verschiedener Episoden der Entstehung der orthodoxen Ökonomik, wie Ökonom*innen im Rahmen eines mechanistischen Paradigmas auf Vereinfachung, Formalisierung und Abstraktion setzten, um die Herausforderung von Komplexität zu umgehen– und damit den Weg für die starke Mathematisierung der Ökonomik im 20. Jahrhundert ebneten.

Der zweite Aufsatz *Keynes and the Preservation of Natural Beauty: Philosophical Foundations and a Natural Case for Planning* kontextualisiert Keynes' bislang wenig beachtetes Engagement für den Erhalt des ländlichen Englands. Diese Episode der Umweltgeschichte wurde bisher kaum gewürdigt. Der Beitrag zeigt, dass es sich dabei nicht um eine Randnotiz in Keynes' Denken handelt, sondern um ein Anliegen, das tief in seiner philosophischen Haltung verwurzelt ist. Keynes wird als Vertreter einer organizistischen Position erkennbar, der dem zunehmenden Formalismus jüngerer Ökonominnen kritisch gegenüberstand. Diese Haltung prägt sein Eintreten für staatliche Planung und macht sein Denken zu einer philosophisch fundierten Alternative zur aufkommenden Orthodoxie – eine Lesart, die später von Post Keynesianer*innen aufgegriffen und gestützt wurde.

Der dritte Aufsatz *Three Pioneers of (Social) Ecological Economics: On (Post) Keynesian Influences and the Intellectual Roots of E.F. Schumacher, Kenneth Boulding and Nicholas Georgescu-Roegen* verortet die moderne ökologische Ökonomik innerhalb der organizistischen Denktradition. Aufbauend auf den ontologischen Grundlagen, die im ersten Beitrag (über Marshall und Robinson) und im zweiten (über Keynes) entwickelt wurden, untersucht er die paradigmatischen Spannungen innerhalb der ökologischen Ökonomik selbst. Durch die Analyse intellektueller und persönlicher Verbindungen zwischen frühen ökologischen Ökonom*innen und keynesianischen Denker*innen argumentiert der Beitrag dafür, die ökologische Ökonomik

als eine philosophisch und ethisch eigenständige Alternative zur Mainstream-Ökonomik zu begreifen.

In ihrer Gesamtheit leisten die drei Aufsätze einen Beitrag zum Verständnis davon, wie ontologische Überzeugungen und methodologische Entscheidungen die Behandlung von Natur in der ökonomischen Theorie geprägt haben – und warum eine Rückbesinnung auf diese philosophischen Grundlagen heute weiterhin relevant ist. Darüber hinaus liefert die Dissertation mehrere eigenständige Beiträge zur intellektuellen Geschichte der ökologischen Ökonomik und eröffnet eine bislang kaum beachtete Perspektive auf Keynes' Umweltdenken.

Appendix 2: Erklärungen gemäß § 6 Abs. 6

Erklärung

Hiermit erkläre ich, **Yannick Michel Mangold, *05.05.1993**, dass ich keine kommerzielle Promotionsberatung in Anspruch genommen habe. Die Arbeit wurde nicht schon einmal in einem früheren Promotionsverfahren angenommen oder als ungenügend beurteilt.

Ort/Datum

Unterschrift Doktorand/in

Eidesstattliche Versicherung:

Ich, **Yannick Michel Mangold, *05.05.1993**, versichere an Eides statt, dass ich die Dissertation mit dem Titel:

„Complexity and Abstraction of Nature in Economic Thought“

selbst und bei einer Zusammenarbeit mit anderen Wissenschaftlerinnen oder Wissenschaftlern gemäß den beigefügten Darlegungen nach § 6 Abs. 3 der Promotionsordnung der Fakultät für Wirtschafts- und Sozialwissenschaften vom 18. Januar 2017 verfasst habe. Andere als die angegebenen Hilfsmittel habe ich nicht benutzt.

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