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The Idea of the University and the Concept of "Useful" Knowledge

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Since the foundation of the Western modern university in the eighteenth and nineteenth centuries, there has always been debate on the purpose and social or political utility of scientific knowledge. The question remains as to what we consider as 'useful knowledge' to be (Flexner, 1939; Gibbons et al., 1994). The purpose of this paper is to explore and propose an alternative conception of scientific knowledge usefulness, advocating for a balanced approach between direct and indirect utility of knowledge in higher education. To this end, the paper revisits Mill's (1859) conception of epistemic utility as explained in his work *On Liberty* to present an idea of scientific knowledge usefulness which is utilitarian in a *broader* sense. Building on this foundation, the paper promotes a pluralistic conception of epistemic utility and suggests a typology by discerning between direct and indirect utility of knowledge. Overall, by revisiting Mill's (1859) notion of utility, this paper aims to demonstrate that the notion of 'utility' is not only a function that serves the Idea of the University, but it is also linked to the notion of 'self-development'—*Bildung*. In that sense, one can make the case for a broader and more complex scientific utilitarianism.

Keywords: useful knowledge, epistemic utility, higher education, knowledge economy, idea of the university

Introduction

> No one can be a great thinker who does not recognise, that as a thinker it is his first duty to follow his intellect to whatever conclusions it may lead. (Mill, 2001, p. 33)

The primary aim of universities with regard to epistemic utility has been a long-standing and complex subject of debate. Specifically, the following question arises: Should universities prioritize the pursuit of knowledge for its intrinsic value, focusing on intellectual exploration and the expansion of understanding, or should their primary mission be to address and resolve the immediate and pressing challenges faced by society? This tension between valuing knowledge for its own sake and emphasizing its practical application reflects a fundamental divide in contemporary discourse on the role of higher education (Flexner, 1939; Gibbons et al., 1994; Boyer, 1990; Clark, 1998; Oakeshott, 2001; Flexner & Dijkgraaf, 2017; Fish, 2008; Etzkowitz, 2008).

To illustrate this tension, consider the following example. Albert Einstein's theory of relativity in the early 20th century was initially seen as a purely theoretical construct, with little to no practical utility. However, as science and technology advanced, the implications of Einstein's theories became clear, forming the basis for innovations such as GPS systems, satellite communications, and particle accelerators. This example highlights

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a critical issue at the heart of the debate: What constitutes the 'usefulness' of knowledge? And consequently, what kind of knowledge should universities prioritize?

The debate surrounding the purpose of knowledge in higher education hinges on these fundamental questions. On one hand, some argue that universities should focus on generating knowledge that has direct utility—knowledge that can be immediately applied to solve real-world problems in fields like industry, technology, or policy-making. This viewpoint is aligned with what Gibbons et al. (1994) term 'Mode 2 knowledge', where research is closely tied to societal needs and practical outcomes. On the other hand, there is a contrasting belief that universities should safeguard the pursuit of knowledge for its own sake. This view, championed by thinkers like Abraham Flexner (1939), emphasizes the value of basic research driven by intellectual curiosity, creativity, and the desire to deepen our understanding of the world without concern for immediate practical outcomes.

In light of these two competing perspectives, this paper aims to critically evaluate the purpose and value of knowledge in higher education, with particular attention to the balance between theoretical and practical approaches. By situating this debate within the broader framework of epistemic utility, the discussion examines how universities can navigate these tensions and contribute meaningfully to both individual intellectual growth and societal progress. Through this approach, the paper aims to contribute to the field by reconciling the often-divergent perspectives of knowledge as an end in itself and knowledge as a tool for practical application. Specifically, by proposing a more pluralistic and nuanced conception of epistemic utility, the paper aims to offer a framework that can inform both academic discourse and institutional practices, fostering a deeper understanding of how knowledge serves diverse purposes across contexts.

To achieve this, the paper will begin by examining the two contrasting views in the literature on the purpose of knowledge: knowledge for its own sake and knowledge for direct utility. Within this framework, Gibbons et al.'s (1994) often too narrowly drawn definition of utility and the application of their Mode 2 knowledge will be discussed and compared with Flexner's (1939) argument for the support of the "Usefulness of 'useless' knowledge". Following this review, the paper revisits Mill's (1859) conception of epistemic utility as articulated in his work *On Liberty* to present a broader understanding of the usefulness of scientific knowledge—one that is utilitarian in a *broader* sense.

Building on these discussions, the paper will propose a pluralistic conception of epistemic utility and suggest a typology that distinguishes between the direct and indirect utility of knowledge. By revisiting Mill's (1859) notion of utility, the paper aims to demonstrate that 'utility' is not only a function that serves the *Idea of the University* but is also closely tied to the notion of self-development, or *Bildung*. In this sense, a case can be made for a broader and more nuanced vision of scientific utilitarianism that aligns intellectual growth with societal progress.

Competing Perspectives on Epistemic Utility in Higher Education

The purpose of knowledge in higher education has been a subject of long-standing debate, with two prominent perspectives emerging regarding the value and purpose of university research: one that advocates for knowledge driven by direct utility, and the other that champions the intrinsic value of knowledge, independent of practical applications. This section explores these competing perspectives, highlighting Flexner's (1939) position on knowledge for its own sake, and Gibbons et al.'s (1994) shift towards practical, applied knowledge.

Intrinsic Value vs. Direct Utility of Knowledge

The first perspective on the purpose of knowledge in higher education advocates for the pursuit of knowledge for its own sake, valuing its inherent worth over immediate practical applications. This view, most prominently championed by Abraham Flexner (1939), asserts that intellectual inquiry fosters creativity, curiosity, and a deeper understanding of the world, ultimately enriching both individuals and society. Flexner famously argued that universities should prioritize knowledge free from the pressures of practicality, stating:

> Institutions of learning should be devoted to the cultivation of curiosity, and the less they are deflected by considerations of immediacy of application, the more likely they are to contribute not only to human welfare but to the equally important satisfaction of intellectual interest which may indeed be said to have become the ruling passion of intellectual life in modern times. (Flexner, 1939, p. 545)

Flexner critiques narrow utilitarianism, asserting that demanding immediate usefulness from research stifles creativity and innovation. He points to historical examples such as James Clerk Maxwell, Heinrich Hertz, and Michael Faraday, whose groundbreaking discoveries—though initially deemed "useless"—ultimately became cornerstones of transformative technologies (Flexner, 1939, pp. 545-546). According to Flexner, intellectual curiosity and freedom, unencumbered by utility, are what truly drive human progress. As he puts it:

> …throughout the whole history of science most of the really great discoveries which had ultimately proved to be beneficial to mankind had been made by men and women who were driven not by the desire to be useful but merely the desire to satisfy their curiosity. (Flexner, 1939, p. 545)

He further emphasises that,

> Any suspicion of utility would have restricted [Faraday's] restless curiosity. In the end, utility resulted, but it was never a criterion to which his ceaseless experimentation could be subjected. (Flexner, 1939, p. 546)

This intrinsic perspective on knowledge is further echoed by scholars like Robbert Dijkgraaf (2017), Stanley Fish (2008), and Michael Oakeshott (2001). Specifically, Dijkgraaf (2017) highlighted that scientific breakthroughs often arise from curiosity-driven research, while Fish (2008) advocated for academic freedom, urging universities to resist pressures to align their work with societal or economic utility. Similarly, in *The Voice of Liberal Learning*, Oakeshott (2001) argued that education should cultivate the mind and nurture intellectual growth, focusing on learning as an end in itself rather than a means to practical or vocational objectives. Collectively, these thinkers advocate for preserving the intrinsic value of knowledge, asserting that it enriches society in profound ways, even when its utility is not immediately apparent.

In contrast, the second perspective emphasizes the direct utility of knowledge, advocating for research that addresses real-world challenges and aligns with societal needs. This view is best articulated by Gibbons et al. (1994), who propose a transformative model of knowledge production through their concept of 'Mode 2 knowledge'. Unlike the traditional 'Mode 1 knowledge', which focuses on theoretical, discipline-specific research, Mode 2 knowledge is inherently interdisciplinary, problem-oriented, and context-driven. Gibbons et al. (1994) argued that this approach reflects the demands of contemporary society, where academic research must engage with practical problems across sectors such as industry, government, and healthcare.

As Mode 2 knowledge is characterized by its responsiveness to societal needs, the research questions are thus shaped by industry demands, policy concerns, and global challenges. This shift represents a collaborative

model of knowledge production that moves beyond the confines of academia to actively engage with broader societal contexts. Gibbons et al. (1994) contended that universities should embrace this model to remain relevant in an increasingly complex and interconnected world.

This perspective on the utility of knowledge is further supported by scholars such as Ernest Boyer (1990), Burton R. Clark (1998), and Henry Etzkowitz (2008). Boyer's (1990) concept of the "scholarship of engagement" calls for universities to focus on research with direct societal impact, addressing real-world problems and contributing to the public good. Similarly, Clark (1998) advocated for an "entrepreneurial" university model that fosters collaboration with industry and government to produce knowledge with tangible applications. Lastly, Etzkowitz's (2008) 'Triple Helix' model further underscores the importance of university-industry-government collaboration in driving innovation and addressing societal challenges.

Overall, the research literature on higher education remains deeply divided between those who advocate for practical, applied knowledge with direct societal benefits, and those who emphasize the intrinsic value of intellectual inquiry, arguing that knowledge for its own sake enriches both individuals and society. This ongoing tension, however, continues to influence how universities prioritize their research, teaching, and institutional missions today.

Revisiting Mill's Conception of Epistemic Utility

After reviewing the competing perspectives on the utility of knowledge, this section will now turn to a reexamination of John Stuart Mill's (1859) conception of epistemic utility. Mill's utilitarian framework offers valuable insights into the broader concept of epistemic utility, especially when we consider the distinction he makes between narrow and broad utilitarianism. In particular, his broader conception of utility, which extends beyond mere practical applications, aligns closely with the idea that knowledge has a deeper, more lasting value that transcends immediate, short-term results. This perspective has significant implications for how we understand the role of knowledge in promoting human flourishing.

In greater depth, Mill distinguishes between narrow and broad utilitarianism, particularly in terms of their focus on different kinds of outcomes. Narrow utilitarianism, according to Mill, tends to prioritize immediate, measurable benefits—short-term gains that focus on practical and quantitative results. This approach often emphasizes utilitarian outcomes that are easily identifiable and more immediately relevant to everyday concerns. In contrast, broad utilitarianism seeks to understand utility in a deeper sense. It emphasizes the quality of utility itself, recognizing that higher forms of satisfaction—especially those grounded in intellectual and moral pursuits—contribute far more significantly to overall well-being and long-term happiness. Mill argues that the ultimate goal of utility should not be measured merely by its short-term effects but by the enduring and more profound benefits it brings, which enhance the quality of life and individual development over time. He states:

> I regard utility as the ultimate appeal on all ethical questions; but it must be utility in the largest sense, grounded on the permanent interests of a man as a progressive being. (Mill, 2001, p. 14)

Mill also acknowledges that the usefulness of any opinion or belief is itself a matter for debate and discussion, reinforcing the idea that utility cannot be narrowly defined but must also accommodate intellectual diversity and growth:

> The usefulness of an opinion is itself matter of opinion: as disputable, as open to discussion, and requiring discussion as much as the opinion itself. (Mill, 2001, p. 23)

Furthermore, Mill's concept of self-development, as articulated in *On Liberty* (1859), is integral to his utilitarian philosophy and serves as a safeguard against reducing utilitarianism to a merely quantitative approach. By placing a strong emphasis on personal growth, individuality, and the free development of character, Mill positions intellectual and moral advancement as central to the utilitarian notion of well-being. For Mill, true happiness and well-being are not solely derived from the pursuit of material or immediate pleasures, but from the cultivation of individuality and the exercise of intellectual autonomy. He argues:

> If it were felt that the free development of individuality is one of the leading essentials of well-being; that it is not only a co-ordinate element with all that is designated by the terms civilisation, instruction, education, culture, but is itself a necessary part and condition of all those things; there would be no danger that liberty should be undervalued. (Mill, 2001, p. 53)

Overall, Mill's broader conception of utilitarianism redefines the role of knowledge, as it highlights the importance of viewing knowledge not merely in terms of its practical applications, but through a more holistic lens that integrates ethical considerations. He advocates for a deeper understanding of how knowledge can be utilized in ways that promote both individual enlightenment and contribute to the betterment of society as a whole.

Key Aspects of Mill's Idea of the Utility of Knowledge

In further detail, in *On Liberty* (1859), Mill offers a compelling argument for the utility of knowledge, closely linked to his defense of free speech and the open exchange of ideas. Mill contends that knowledge is inherently valuable because it contributes to individual and societal well-being by facilitating the discovery of truth, strengthening true beliefs, fostering moral and intellectual progress, preventing intellectual stagnation, and empowering individuals.

a) Discovery of Truth

Mill emphasizes that the pursuit of truth is central to the utility of knowledge. He argues that open debate, including the expression of false opinions, is essential because it challenges existing beliefs and leads to a clearer understanding of truth:

> The truth of an opinion is part of its utility. (Mill, 2001, p. 24)

b) Strengthening of True Beliefs

True beliefs, according to Mill, are strengthened and made more resilient when subjected to criticism and defense against challenges. He notes that even established truths, such as Newtonian philosophy, must be open to scrutiny to ensure their continued vitality:

> If even the Newtonian philosophy were not permitted to be questioned, mankind could not feel as complete assurance of its truth as they now do. (Mill, 2001, p. 22)

Furthermore, Mill underscores the connection between truth and its utility, asserting:

> And in point of fact, when law or public feeling do not permit the truth of an opinion to be disputed, they are just as little tolerant of a denial of its usefulness. (Mill, 2001, p. 24)

c) Moral and Intellectual Progress

Mill argues that knowledge drives moral and intellectual progress by enabling societies to discard outdated ideas and adopt more just and rational ways of thinking. He highlights the need for individuals to discover new truths and challenge existing norms:

> There is always need of persons not only to discover new truths, and point out when what were once truths are true no longer, but also to commence new practices, and set the example of more enlightened conduct, and better taste and sense in human life. (Mill, 2001, p. 60)

Mill further critiques the "despotism of custom", identifying it as a significant barrier to human improvement:

> The despotism of custom is everywhere the standing hindrance to human advancement. (Mill, 2001, p. 65)

d) Avoidance of Intellectual Stagnation

Mill warns that suppressing dissent and failing to question established truths leads to intellectual stagnation. The continuous questioning and reevaluation of ideas are necessary to keep knowledge dynamic and relevant:

> If there were nothing new to be done, would human intellect cease to be necessary? (Mill, 2001, p. 60)

e) Empowerment and Autonomy:

Mill also associates the utility of knowledge with its ability to empower individuals, enabling them to make informed decisions and exercise autonomy. This empowerment is crucial for both personal freedom and effective participation in a democratic society:

> The worth of a State, in the long run, is the worth of the individuals composing it; and a State which postpones the interests of their mental expansion and elevation to a little more of administrative skill, …will find that with small men no great thing can really be accomplished. (Mill, 2001, p. 106)

Mill further asserts that true freedom is tied to the pursuit of knowledge and self-determination:

> The only freedom which deserves the name, is that of pursuing our own good in our own way, so long as we do not attempt to deprive others of theirs, or impede their efforts to obtain it. (Mill, 2001, p. 16)

In summary, Mill's conceptualization of the utility of knowledge extends beyond immediate practical benefits, advocating for its role in fostering truth, progress, autonomy, and societal well-being. This broader understanding underscores the enduring relevance of his ideas in contemporary debates about the purpose of knowledge in higher education.

Proposal for a Pluralistic Conception of Epistemic Utility

Having explored Mill's perspective on epistemic utility, the next section proposes a pluralistic conception of epistemic utility. As discussed above, the direct and indirect utility of knowledge in higher education is increasingly recognized as essential in addressing both immediate societal needs and fostering long-term intellectual and moral growth. Hence, this section proposes a pluralistic conception of epistemic utility, one that acknowledges the immediate practical applications of knowledge while also highlighting its broader, developmental impacts. By understanding the various roles that knowledge can play, this proposal aims to provide a framework for a more comprehensive approach to the utility of knowledge in the context of contemporary higher education. Below is a suggested typology.

Typology of Epistemic Utility (in Brief)

1. Direct Utility of Knowledge

- Immediate Practical Application

2. Indirect Utility of Knowledge

- Long-term Impact of Fundamental Research
- Self-Development (Bildung)
- Fostering Social Cohesion and Critical Discourse

Support for Both the Direct and Indirect Utility of Knowledge

In the past, science operated within a one-way communication model, where knowledge was generated by researchers and then shared with society, with little feedback or direct influence from societal needs. However, economic and social transformations, such as the rise of global challenges and the democratization of information, have shifted this dynamic towards a two-way communication model. Society now actively engages with science, not only benefiting from its discoveries but also coming back to it with new questions, concerns, and priorities. This evolving relationship has fostered increasing collaboration between industry, government, and research councils, reflecting a practical alignment with societal needs (Gibbons, 2005, pp. 6-7). Consequently, the focus of scientific research has transformed, placing greater emphasis on solving real-world problems. This shift has made the pursuit of knowledge for direct utility indispensable, particularly in addressing urgent global challenges and driving innovation in a rapidly changing world.

While the application of knowledge is critical, pure disciplines, however, remain foundational for advancing practical applications. Basic research provides the theoretical frameworks that underpin interdisciplinary and applied work. As Barnett (2006) noted, interdisciplinary research can only function effectively when built upon solid foundational knowledge from individual disciplines. This highlights the value of basic research, which, while not immediately applicable, is essential for informed, long-term problem-solving. Additionally, while problem-based learning and real-world applications are vital, overlooking the underlying theoretical frameworks risks preventing students from attaining a comprehensive understanding of their field. Consequently, both direct utility, which addresses immediate, practical concerns, and indirect utility, which nurtures fundamental research, understanding, and intellectual growth, are integral to a comprehensive approach to knowledge in higher education.

Typology of Epistemic Utility (at Length)

1. Direct Utility of Knowledge:

- Immediate Practical Application: Knowledge that is directly applied to solve real-world problems or improve everyday life. This includes technological innovations, medical advancements, and policy solutions that have clear, measurable impacts in society. Examples include the development of new drugs, engineering solutions, and environmental policies.

2. Indirect Utility of Knowledge:

- Long-term Impact of Fundamental Research: The significant, often unforeseen contributions that fundamental or theoretical research can make to future advancements. Fields like pure mathematics and theoretical physics may lack immediate applications, but theorems from such research often lead to unforeseen breakthroughs in technology and society, demonstrating the future value of seemingly abstract knowledge.

- Self-Development (Bildung): Knowledge that contributes to the intellectual, moral, or personal growth of individuals. It fosters critical thinking, ethical reasoning, and personal autonomy, aligning with Mill's broader view of human development. This kind of utility emphasizes knowledge as a tool for Bildung, or self-cultivation, rather than immediate external application. The humanities and the arts play a particularly vital role in achieving this form of self-development, as they encourage individuals to engage with diverse perspectives, reflect on the human condition, and explore creative and philosophical dimensions of thought.
- Fostering Social Cohesion and Critical Discourse: Knowledge indirectly fosters social cohesion and critical discourse by empowering individuals to engage in open dialogue, challenge injustices, and promote informed citizenship. This process enhances cultural understanding and critical thinking, allowing people to scrutinize outdated norms and collectively address societal issues. Ultimately, this cultivates a more engaged, empathetic, and equitable society, aligning with Mill's vision of fostering a vibrant democracy and a more progressive society. The humanities and the arts are essential in this context too, as they provide the tools to explore shared cultural experiences, ethical challenges, and diverse perspectives, further enriching public dialogue and fostering collective understanding.

In summary, this typology reflects a pluralistic conception of epistemic utility, where knowledge serves multiple functions, including immediate, tangible outcomes (direct utility) and long-term intellectual, moral, and cultural growth (indirect utility). In this way, it integrates Mill's humanistic perspective on utilitarianism, emphasizing the value of knowledge not only for its practical applications but also for its contribution to intellectual and moral development. Knowledge, in this sense, benefits both individuals and society as a whole.

Conclusions

The ongoing debate surrounding the purpose of universities and the concept of "useful" knowledge brings to light two key perspectives: knowledge for its own sake, as advocated by thinkers like Flexner (1939), and knowledge for direct utility, as emphasized by Gibbons et al. (1994). These perspectives highlight the tension between the intrinsic value of knowledge and its practical applications in addressing societal needs.

In response to this debate, I propose a balanced approach to higher education, informed by Mill's (1859) broader sense of utilitarianism. Mill's conception of utility, which extends beyond immediate practical benefits, offers a more holistic view of knowledge. It recognizes the long-term, enriching value of knowledge for both individuals and society.

Incorporating both perspectives, this pluralistic approach advocates for a more nuanced scientific utilitarianism that acknowledges the diverse forms of knowledge usefulness in today's world, ensuring that universities remain relevant and contribute to both individual fulfillment and broader societal advancement.

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