

Plumbers, designers, or dentists? A triad of metaphors and how they reflect the current debate on the role and scope of economists in society and science

Felix A. Dörstelmann¹

Abstract

The discussion on the role of economists is characterised by metaphors, which range from plumber to designer to dentist. This paper aims to clarify the meaning of these metaphors for applied economists. To this end, the source of these metaphors, which is located in John Neville Keynes' conception of the *art of economics*, is examined. In this context, it is argued that a return to John Neville Keynes' tripartite systematisation of economics, namely positive, normative, and art of economics, can provide both structure and framework for the demands for theoretical-methodological complementarity, application orientation, and transparent values in economics. Through the synthesis of Kant's *sensus communis* with Keynes' tripartite systematisation of the economics, interdependencies between the three sub-areas are discussed. A central finding of this synthesis is that the disclosure of normative aspects in economics is necessary in order to establish intersubjectivity and thus create the conditions for an open discourse, which ultimately increases the resilience of economic analysis.

Keywords: Keynes, Kant, applied economics, history of economic thought, systematisation of economics.

JEL Classification Codes: A10, A11, B10, B20.

1. Introduction

What are economists: philosophers, plumbers, designers, or even dentists? The wide variety of metaphors shows that answers to this question are multifaceted. The question also arises what these metaphors stand for. The answer to this is directly related to the debate on the role and scope of economists in society and science. This becomes particularly relevant against the background of public debates in which economic research results are often misinterpreted or even instrumentalised. This is evident in various discussions about the COVID-19 pandemic but has already been apparent in dealing with economic results on topics such as the financial crisis, climate change, or migration. A lack of awareness of what applied economics can achieve and what not poses a significant challenge. In particular, an extensive closure to

¹ Research assistant to the Chair of Economic Policy at the Andrassy University of Budapest, Pollack Mihály tér 3, H-1088 Budapest, e-mail address: felix.doerstelmann@andrassyuni.hu.

normative aspects turns out to be a handicap of economics, since this hides the very principles of economic analysis. As a consequence, research results may not be understandable, may be easily exploited, or may have no effect at all.

In the light of this discourse, this study aims to examine the origin of the metaphors mentioned at the beginning of this paper and to determine whether recourse to this origin provides an insight into the current debate. Therefore, the following *research questions* are going to be discussed in this paper:

1. Where does the idea of the economist as a highly specialised craftsman originate from? 2. Can the original idea contribute constructively to the current debate on the role of economists?

To explore the origin of the idea, this study examines the concept of the *art of economics* by John Neville Keynes (1890³), since this concept specifies what can be understood when referring to an economist as a specialised craftsman. In order to understand the concept of the art of economics, the tripartite systematisation of economics, according to John Neville Keynes, is analysed in its entirety. He divides economics as a science into three sub-areas: *positive economics*, *normative economics*, and *art of economics*². The analytical focus of this article will thus be placed on the *fundamental* trains of thought on the systematisation of economics, as formulated by John Neville Keynes. As a new approach to this topic, Keynes' systematisation is discussed in the light of Kant's *sensus communis*. This will open up fresh perspectives on the interactions between the three sub-areas mentioned above.

In order to answer the aforementioned questions, Section 2 outlines the ongoing debate on self-image and field of activity in economics. In Section 3, John Neville Keynes' trichotomy of economics is explained; it is discussed whether recourse to this systematisation can make a fruitful contribution to the current debate. In the course of this, Kant's *sensus communis* is connected with Keynes' systematisation. Section 4 concludes.

² It should be pointed out that universal dogma history is not dealt with in this paper. Also, the essay does not aim to give an overall presentation of the history and genesis of concepts so that *no* historical analysis of the concepts or pairs of concepts (positive, normative and art) is conducted. Rather, this paper is devoted to the use and meaning of the concept as developed by John Neville Keynes and its usefulness for the current debate. Consequently, the author wishes not to put forward an argument for a *particular* ontology, epistemology, axiomatic, or method, but rather wants to stress the potential added value of Keynes' (1890³) outline for the current debate.

2. An overview of the debate: the economists' daily bread

2.1 How should economists operate?

On an abstract level, the debate on the role of economists revolves around the relationship between theory and practice. Their role in the development, search, and discovery of universal theorems and models is undisputed. Moreover, all schools of economic thought claim to deliver results that generate new insights and, in the best case, have an impact on the (real-world) economy. Contrary to this claim, Frey (2000) finds empirical evidence that points to a decline in the influence of economics on economic policy. Based on these findings, one can cautiously conclude that the discipline sees itself as an influential science even as it is confronted with a decreasing influence on practical policy decisions.

The reasons for this decline in influence are complex: the difficulty of translating scientific findings into actual measures is not a problem of economics alone, but a general problem of transfer between science and application. It becomes more complicated when recommendations are accepted and implemented, but these do not deliver the predicted results. In this case, we are dealing with an application problem in economics.³ Furthermore, results may be subject to misinterpretation or misuse due to the veiling of fundamental values.

The causes of these problems are complex but are partly located in the theoretical and methodological approach. Accordingly, one cause could be the way economic analyses are conducted (Okruh, 2003: 67). Special attention is paid to the transfer of general theoretical findings to practical applications. In other words, the debate is *not* about methodology or theory in general, but rather about the ability to translate theoretical knowledge into practice using the complete range of economic theories, methods, and models, while openly communicating value judgments.

In this context, the modelling of interrelationships is criticised for lack of complexity and being too presuppositional to provide answers to real problems. A prominent example of this criticism is the global financial crisis and the European sovereign debt crisis. In their wake, the reputation of economics as an effective companion to economic policy measures and regulations was noticeably damaged. One accusation was that the discipline had failed

³ The application problem is certainly only one of many factors that are relevant in this context. It is interesting because a possible language barrier between external and internal actors makes research results inaccessible, which is attributed to algebra being the common language of the discipline. Scientists such as Tirole (2017: 109), van den Berg (2015: 9) or Romer (2015: 92) consider the criticism to be justified because the development, calculation, and 'aesthetics' of mathematical models is sometimes erroneously understood as the goal of economic research, rather than an aid.

because it was not able to foresee the crisis. This gained traction worldwide when Queen Elizabeth II of England famously declared at the London School of Economics: ‘Why did nobody notice it?’ (The Telegraph, 2009). Moreover, some researchers have stated that the discipline has failed to show effects and was unable to present development scenarios and adequate solution strategies on time (Otte, 2009; Fine, 2017).

This criticism is based on the argument raised by Buchanan (2008), Krugman (2009), or Colander et al. (2009), among others, that the unreflective application of models that are only theoretically sound has led to errors in economic policy advice.

One reason seems to lie in the sub-complexity of the used models. For this, Felber (2019) puts forward a ‘panopticon of critique’. In summary, this includes the accusations of theoretical monism, explicitly the stiffening to neoclassicism⁴, the disproportionate use of dynamically stochastic general equilibrium models (DSGE models⁵), as well as the defamation of history and context (Felber, 2019; Hodgson, 2015: 322-23). Even harsher are the accusations of ‘intellectual monoculture’ or the declassification of the economist as an ‘apolitical expert who sees himself as a market ideologist, calculator, or specialist of the establishment’ (Netzwerk Plurale Ökonomik, 2018).⁶

Interestingly, an empirical study by Beckenbach et al. (2016) indicated that this discussion passed by almost without leaving a trace. Similar criticism is expressed by Colander and Su (2018) as well as Peukert (2013: 236). This indicates that the problem is unresolved and thus continues to pose itself for current and future generations of economists.

The background of this ignorance is a self-understanding that has prevailed since Friedman (1953: 4), according to whom economics should be pursued in the same way as the natural sciences.⁷ Depending on the perspective, this self-understanding may be unproblematic. As a pure theoretician, this claim can be fulfilled: theoretical thought constructs can be just as precise and calculable as models from the natural sciences; incalculable disturbing factors, such as man, can be transformed via assumptions into mathematically calculable variables (e.g. homo oeconomicus, expected values, complete information). Such restrictive models are not only unproblematic but desirable, as long as they provide added value in terms of

⁴ An illumination of the many-sided criticism of neoclassicism is not the aim of this work and goes far beyond its claim. For further discussion, please consult works of critics, such as Pahl (2018), Heise (2016; 2017) or Chick and Dow (2015), among others.

⁵ An overview of DSGE models can be found in Heer and Maussner (2009²) or Pahl and Sparsam (2017).

⁶ For further information on the Netzwerk Plurale Ökonomik, see Fullbrook (2002).

⁷ This idea was already present before Friedman (1953). This view is exemplified by representatives of the 19th century, such as Walras (1954[1874]) or Pantaleoni (1889).

knowledge about fundamental economic mechanisms.⁸ This view becomes problematic when theoreticians go beyond the abstract and make statements about concrete economic policy measures, while their analytical approaches remain solely rooted in the abstract. This implies that they have not considered the genuine differences of this new situation, which arises from a change in perspective, i.e. from the abstract to the specific. Consequently, we are dealing with a problem of systematisation and delimitation, which leads to a problem of application.

The following example illustrates this issue: In the context of Pareto improvement, a calculatory capacity for the agreement would also have to result in a de facto capacity for consensus. Even though the capacity for agreement may undoubtedly exist in a calculative sense, this agreement does not fit into the de facto course of political decision-making processes. Such a procedure, involving the execution of alleged truths, circumvents the necessary socio-political discourse and reduces multidimensional and open social processes to a one-dimensional economic argumentation that is supposedly capable of delivering predestined results.⁹

As a consequence, such a view of economics weakens the influence that economic research results could have on the policy process. Finally, a result based on restrictive assumptions, such as the Pareto Improvement, remains utopian in the social context, which leads to the resulting critical assessment of a political measure *ad absurdum*. As a result, this disrupts the view of ‘economic policy as a struggle for influence and meaning’ (see Meier and Mettler, 1988). At the same time, it fades out the course of political processes, which, in particular, involve learning processes (see Wegner, 2004; Okruch, 2002, 2010). Correspondingly, the view that economics in practice could be pursued just as deterministically as the natural sciences provokes sharp criticism from applied economists since such an approach does not do justice to the historical, context-specific, and processual character of *specific* economic policy measures (Elsner, 2017: 940-942).¹⁰

⁸ The concept of knowledge is generally debatable. The questions of what knowledge exactly is and which facets it can show (e.g. explicit and implicit knowledge or presumption of knowledge) has still not been clarified across different scientific fields. On the epistemological foundations of the economic concept of knowledge, see Polanyi (1958, 1985) and Hayek (2007). Furthermore, the complete inaccessibility of knowledge, e.g. in the context of forecasts can be seen in Vanberg and Buchanan (1994: 187).

⁹ Most theorists of the economic guild are aware of the model-immanent limitations of the (abstract) models they design, even more so, they often name them explicitly, so that an unreflective transfer from the abstract to the concrete must be considered a major problem by an application-oriented economist. An example of the existence of this problem awareness can be found in Keynes Jr. (1936: 152; 161-162).

¹⁰ Furthermore, such an approach puts the Enlightenment thought ‘on the back burner’, because if a reference to Enlightenment thinkers such as Descartes is to be more than a deception, answers to social challenges must be debated from multiple perspectives. An enlightened economy must, therefore, necessarily exhibit a high degree of recursiveness. Forgetting the methodology used by Descartes for this purpose - the radicalization of

Ultimately, the analysis of specific policy measures, their implementation, and their side effects and consequential effects are open-ended processes. These effects, even with precise models and forecasts, cannot be analysed without error, because in the context of application, the difference between intended and actual effects is not apparent *ex-ante*, but in the *ex-post* analysis. This is because of the characteristics of policy measures, which are understood as open social processes, and are full of uncertainty due to ignorance and complexity due to multifactoriality. Therefore, they have experimental (trial and error), adaptive, and learning properties (see Witt, 2003; Wegner, 2004; Okruch, 2003, 2010). For applied economists, this means that in addition to empirical work, there is a need for interdisciplinary and open-ended working methods that also require continuous learning and adaptation (Velupillai, 2007: 275-276).

Consequently, this approach would require a more inductive rather than a deductive approach. Nevertheless, this takes us back to a debate from the end of the 19th century — the older dispute over methods¹¹. This historical debate shows the periodicity of the recurring dispute in economics between abstract theoretical and historical-social approaches. It is problematic that the respective methodological approaches are made absolute. This legacy is still reflected today in a confrontational rather than complementary view of different theoretical and methodological approaches throughout the discipline.

This view becomes problematic when the practical application of economic knowledge is discredited as an unscientific activity. If the application does not subsequently take place or produces useless results, this can result in the discipline becoming deliberately or unintentionally irrelevant (Okruch, 2002: 302; 2003: 67).

In response, a need has arisen to sharpen awareness for an applied approach. One possible way to achieve this could be to adopt a constructive-complementary view that has a mediating effect. In particular, this view would make it possible to catch up with the modern natural sciences, where the concept of complementary theoretical approaches, i.e. contradictory theories, has long been standard practice. General relativity and quantum mechanics can be cited as examples from physics (Fullbrook, 2012: 21-22).

methodological doubt - weighs heavily, because only by permanent questioning of given facts and through critical examination one can gain new insights (Descartes, 2008[1642]: 51-53).

¹¹ Triggered by the further differentiation of economics as a science, the question arose as to how the discipline should address historical case studies and specific rules and regularities. Principal protagonists of the debate were Carl Menger and Gustav von Schmoller. The dividing line of the dispute over methods ran between Schmoller's inductive method, which places individual cases in the analytical focus, and Menger's deductive approach, which aims to explore empirical regularity, and which should finally be cast as generally valid laws (see Menger, 1883; 1884; von Schmoller, 1883).

This complementary view must be interpreted as an equal coexistence of inductive and deductive as well as applied and theoretical activities. Holding such a view provides a chance to constructively overcome the back and forth in the dispute over methods. Newer approaches, such as those of Duflo (2017) or Felber (2019) argue for a complementary approach.

2.2 The applied perspective: origin, strengths, and weaknesses

Based on the situation described above, Duflo (2017) uses the metaphor of the plumber as a starting point to argue in favour of a more applied approach. In this sense, a plumber stands for a perspective that advocates a complementary view of theories and methods as well as applied economics. However, how is the metaphor to be understood in detail, and where does it originate?

Duflo's (2017) approach can be interpreted to mean that the decision on which theoretical and methodological approach is useful depends on the specific problem and question of interest: Is it about universal theorems, policy designs, or concrete policy measures?

According to Duflo (2017: 11), economists are qualified by their studies to work in all three sub-areas (as a result of varying degrees, depending on their specialisation). No qualitative distinction is made between the three areas, but all are understood to be of equal value and immanent to the discipline. All economists need not always be exclusively either theoreticians, designers, or plumbers. Instead, they are engaged in application from time to time in order to overcome real social challenges (Duflo, 2017: 3, 23). This implies, however, that the work should be done *without* ideological blinkers.

If one follows this line of argumentation, economists become highly specialised craftsmen, who craft and implement concrete policy measures. Tinkering or crafting is understood as a confrontation with the 'unknown unknowns' that also occur in the actual implementation of sound theoretical models and detailed planning (Duflo, 2017: 4). If one describes the metaphor, then it is a matter of integrating socio-economic and institutional interdependencies, namely through an explicitly contextual perspective that incorporates details such as environment, tradition, power relations, space, behaviour, and history in the analysis. Many of the factors that are thus relevant cannot be precisely determined or predicted ex-ante and therefore require ex-post analysis, which must be carried out during or after the implementation process of a policy measure.

Duflo (2017) is not alone with this applied perspective. A similar view was shared by Roth (2002) and Banerjee (2002), who used the terms *designers* and *craftsmen* for economists.

According to Roth (2002), an engineering approach for market design is part of the economic craft (Roth, 2002: 1341). Meanwhile, Duflo (2017) states that economic measures should be planned in a context-specific manner, requiring consideration of situational details. The former approach contrasts with Duflo's (2017) as this is done in the planning phase, i.e. *ex-ante*. This is the central difference between the metaphors of the engineer and the plumber: While the engineer plans the measures, the plumber installs them. All approaches are embedded in a general theoretical framework. Based on this, Duflo (2017: 3) developed the triad of 'scientists, engineers, and plumbers'.

However, Duflo's (2017), Roth's (2002), and Banerjee's (2002) metaphors are not based on a new idea. John Maynard Keynes Jr.¹² had coined the term *dentist* for economists in the 1930s:

'If economists would manage to get themselves thought of as humble, competent people, on a level with dentists, that would be splendid.' (Keynes Jr., 2010³[1930]: 332)

Duflo (2017), Roth (2002), Banerjee (2002) agree with Keynes Jr. (2010³[1930]) that economists should act in the same way as highly specialised craftsmen. All three authors emphasise the distinction between applied and theoretical economics. This distinction is not new either, but is a subject of constant discussion in the discipline across time and economic schools.¹³

Understanding economists as specialised craftsmen involves various problems at different levels. On the one hand, application-oriented activity is generally not recognised by different people across the discipline as a scientific activity. Dorobăț (2017) and Klein (2017), for example, agree that the activity outlined by Duflo (2017) is *not* scientific work conducted by economists in the narrower sense, but *only* the work of plumbers. But even from an internal perspective, newer positions do not succeed in overcoming the criticism of a lack of transparency of fundamental values in economics. If fundamental value judgments, which are made explicitly or implicitly within research, are inaccessible, then this weakens the results enormously.

¹² In order to avoid confusion between the father John Neville Keynes and John Maynard Keynes, John Maynard Keynes shall be henceforth referred to as "Keynes Jr."

¹³ Denham-Steuart (1767: 3), for example, formulated already in the 18th century the idea that there is a fundamental difference between universal theorems and principles of economics on the one hand and their practical application on the other. This train of thought can also be found 69 years later with Nassau William Senior (1965[1836]: 4), who argues that a mixture of applied and theoretical economics, understood as the mere execution of theoretical models, is associated with fundamental problems, since general theoretical results are too vague for practical application. The details for the application are missing. Senior (1965[1836]: 3-5) further explains that economists in their function as theoreticians do not have 'one syllable' to say about concrete measures. While the authors may be children of their time and adhere to different economic schools, they all have in common the emphasis on the separation between theory and practice.

In order to overcome the outlined problems, the origin of the metaphor of the dentist, as derived by Scherf (2016²: 132-133; 143-144), will now be examined. This leads to the tripartite systematisation of the economic sciences according to John Neville Keynes, which is discussed below.

3. More than old wine in new skins? Discussion of John Neville Keynes' trichotomy of economics

3.1 Trichotomy of economics: positive economics, normative economics, and the art of economics by John Neville Keynes

In his work 'The Scope and Method of Political Economy', Keynes (1890³) proposes a three-fold division of economics into *positive economics*, *normative economics*, and *art of economics*. All fields of activity are presented as equal and immanent components of economics as a scientific discipline.

Keynes (1890³: 34) defines *positive economics* as 'a body of systematised knowledge concerning what is'. The knowledge interest of positive science in economics is 'the establishment of uniformities'. Keynes' definition thus basically describes the activity of economists as theoreticians seeking universal laws, i.e. the theorems and principles of economics. On the one hand, this description is quite broad, since it is unspecific concerning ontology, epistemology, axiomatic and method. Furthermore, the description also collides with the aforementioned problems concerning the 'concept of knowledge'¹⁴. On the other hand, this concept allows for *general* subsuming of economists engaged in theoretical work, regardless of their ideological background. Above all, this broad viewpoint allows for the coexistence of contrary theories.

The second sub-area is *normative economics*. In this context, it is understood as a 'body of systematised knowledge relating to criteria of what ought to be, and therefore, concerned with the ideal as distinguished from the actual' (Keynes, 1890³: 34). According to this, Keynes is concerned with the examination of economic goals, namely with the comparison of a hypothetical state, an ideal, with the actual. The difference is to be measured based on criteria that are oriented towards 'what should be'. Keynes' view, subsumed under the relationship between *political economy* and *ethics*, expresses that normative economics is about the examination of fundamental values in economics.

¹⁴ See footnote No 8.

If this concept has apparent strengths and weaknesses, it is an asset to the current debate on the role of economists for the sole reason that it invites a preoccupation with normative aspects in economics. Central to this debate is how values and ideals are determined, which means that the criteria used for this must be the focus of a critical discussion.¹⁵ However, the demand for transparent disclosure of fundamental values in economics remains unaffected by this and applies regardless of how these values are defined.

Keynes (1890³: 34) describes the third section, the *art of economics*, as a ‘system of rules for the attainment of a given end’. It is therefore not about goals, but about how to achieve them. This understanding corresponds to approaches of applied economics, such as those presented by Duflo (2017), Roth (2002), or Banerjee (2002). It is not about universal rules, but the selection and application of theories and methods in the context of a specific situation in order to achieve an intended goal in the best way possible.

As a reminder, Keynes emphasises the fact that it would be problematic if the tripartite systematisation were ignored, for ‘confusion between them is common, and has been the source of many mischievous errors’ (Keynes, 1890³: 35).

These ‘mischievous errors’ bring us full circle to the problem of application in economics outlined here and thus to the current debate on the role of economists. The combination of positive economics and art of economics can cause an unreflective application of general economic knowledge in specific cases. This confusion leads to deficient analytical results since interdependencies of an economic, political, social, institutional, geographical, or historical nature are often ignored in theoretical considerations. When changing perspectives from theory to practice, these are not integrated. As a consequence, a solely theoretical view fades out relevant factors so that the overall picture is distorted (Colander, 1993: 214). It is therefore crucial that economists consciously locate themselves in one of the three sub-areas in which they operate and adapt their work accordingly.

The following section explores how this tripartite systematisation can make a fruitful contribution to the current debate.

¹⁵ What Keynes (1890³: 62) understands by the ‘...demands of justice and morality’ remains opaque. Because of the nature of the question (What is justice?) there cannot be only one answer to it, but, depending on the philosophical school, there could be logically stringent but different ones (see Smith, 1994[1759]; Rawls, 1971; Nozick, 1974; Sen, 2013³).

3.2 Discussion of the added value of John Neville's trichotomy of economics

As stated above, Keynes (1890³) tripartite systematisation of economics is a *broad* rather than a *deep* conception. The broad layout of the concept is what brings advantages when used to address the critiques that have been voiced around the debate about the self-understanding of economists, namely the demand for a constructive and complementary view of theories and methods, the concern to articulate fundamental values in economics and to strengthen the awareness for an applied approach in economics.

Positive economics focuses on the discovery of fundamental economic mechanisms. These discoveries are sometimes contradictory, which leads to an open-ended discussion of their validity. This approach is not only desirable but necessary to further develop existing theories or create new ones. This point of view coincides with the general view of working as a theoretician.

However the broad conception differs in two respects: On the one hand, a coexistence of (even contrary) theories is accepted. Theories do not, therefore, face each other in a fight for supremacy, but accept their inherent limitations. In this way, it is possible to overcome camp thinking within economics. On the other hand, depending on the phenomenon, contradictory theories should be used profitably to gain new insights. Indeed, the appropriate approach is not always at hand, but must be determined by trial and error. It is, therefore, a matter of making a problem and solution-oriented choice of theory and methods — without ideological blinkers — which ignore the potential of the multifaceted theoretical and methodological schools in economics.

If we follow this approach, the theoretical-methodological openness that Fullbrook (2012: 21) characterises as a constructive-complementary diversity of theories, can be applied. Keynes writes about this:

'...according to the special department or aspect of the science under investigation, the appropriate method may be either abstract or realistic, deductive or inductive, mathematical or statistical, hypothetical or historical.' (Keynes, 1890³: 30)

This quote demonstrates the integrative power of the approach, which accepts a wide variety of ontological, epistemological, and methodological approaches, and is pluralistic in the sense that it acknowledges the various varieties of rationality.

Nevertheless, the question arises whether the application of various economic theories and methods is still a science or merely consultation and execution. Two accusations are directed

at applied economists: on the one hand, plumbers, engineers, or dentists are only craftsmen and not scientists, and on the other hand, their analysis results are arbitrary.

The position that an applied approach in economics is not science is put forward by Klein (2017) and Dorobăț (2017):

‘Economists should not “design the tap” or “lay the pipes” of economic policies.’
(Dorobăț, 2017)

and

‘...engineering is for, well, engineers, not for social scientists. Likewise, plumbing is fine and necessary, but an economist-plumber is acting mainly as a plumber, not as an economist.’ (Klein, 2017).

Specifically, there is criticism that applied economists deal with marginal problems that only infinitesimal contribute to the understanding of economics, but do not focus on the big questions around the business cycle, growth, employment, or regulation. This leads to the conclusion: *‘Economists should agonise about the immutable laws of economics and the truth of real-world prices and markets. That is all.’* (Dorobăț, 2017).

However, the criticism misses Duflo (2017) statements regarding the criticism made: Duflo (2017: 19-21) makes it clear what the advantages for scientific knowledge gain are in an applied approach. In a nutshell: one can evaluate the equilibrium effects of certain policy measures, test specific theories, uncover unknown influencing factors, draw attention to new challenges and problems, and thus generate new economic insights in a variety of ways. Depending on the outcome, this results in an added value that can either be generalised or simply generates a positive welfare effect. Both can be viewed as gains (Duflo, 2017: 23).

A further point of criticism is that, due to the openness and breadth of applied economics, results come about by chance rather than systematically. The breadth of the approach, which allows linguistic analyses in addition to mathematical approaches, is problematic since solutions are not unambiguous and allow arbitrary interpretation. In contrast, strictly mathematical models do not have this problem (Rodrik, 2015: 31).

This assessment is undisputed but remains incomplete if one does not ask what one sacrifices for the strict formalisation. Are the restrictions in the form of a strict mathematisation of economics proportionate to the gain in knowledge? Are the results useful to solve a particular problem? A mathematical determination *alone* does not have any economic added value but is *mere* mathematics. After all, theoretical models and mathematical calculations in application draw their added value from the fact that they contribute to the solution of a concrete problem. In order to make results usable for application, it must be weighed up whether and to what

extent certainty is dispensed with so that results can be converted into criteria relevant to the discussion, which ultimately have an ordering, explanatory and problem-solving effect.

It must be clear that applied economics does not invite arbitrariness but requires the highest precision in theory and methodology. As Scherf (2016²: 132-133) shows, this requires judgment, not only in the context of evaluating specific policy measures but also in the selection of methods and theories. According to Keynes (1890³: 62), this power of judgment is a central prerequisite of the art of economics.¹⁶

It is significant that classical as well as more recent authors refer firmly to judgment as a vital characteristic of applied economics, but avoid a definition of judgment so that it remains vague. In the absence of an epistemological foundation for judgment, the accusation arises that judgments in the art of economics are arbitrary and are based solely on individual experience, views, and interests. In this context, the demand for judgment is fundamentally correct, but it requires a definition in order to invalidate the aforementioned accusation of arbitrariness. For this purpose, John Neville Keynes' concept of the *art of economics* is linked with Kant's concept of the *sensus communis*.

Kant (1965[1793]) speaks of an 'act of judgment', which he sees as a link between theory and practice. In this act, one decides 'whether something is the case of the rule or not' (Kant, 1965[1793]: 64). Practitioners must decide whether universal economic mechanisms and theories fit a specific application context and to what extent they must be adapted to the situational details. In other words: 'the theory may be as complete as it wants to be' (Kant, 1965[1793]: 64), the change from theory to practice always requires an adjustment of method and theory.

According to Kant, this power of judgment is a *reflexive process*, during which one puts oneself in all possible judgments regarding a case, thereby abstracting from subjective judgment. In this way, one overcomes one's own bias and reaches a general point of view from which one reflects on one's judgment in order to achieve intersubjectivity. In this way, one escapes the illusion '...which [arises] from subjective private conditions that could easily be considered objective' (Kant, 1995[1790]: 172-173).

The process of negotiating and communicating these intersubjective judgments, which then begins, is open-ended and is sense-giving for the art of economics. A constructive discourse is initiated, which provides a framework and structure for scientific results, enabling the

¹⁶ See also Mill (1992[1844]: 124), Colander (1994; 2001; 2005) or Su (2012).

exchange of rational ideas and arguments, even from divergent points of view or contrary theories. This procedure prevents the exaggeration of judgments made due to the restraining power of public debate. Accordingly, judgments in the *art of economics* are not arbitrary but intersubjective. Furthermore, they are controlled by the intra- and interdisciplinary debate as well as by external agents. Throughout this process, one can generate discourse benefits.

The transparency of those determinants that define a judgment thus becomes a necessary prerequisite, because without information on well-founded assumptions, theories, methods and goals, no open debate can be conducted and consequently no intersubjectivity can be achieved.

According to critics such as Felber (2019), van den Berg (2016), Fontana (2010), or Rüstow (2004²) a value-free economic science is just a postulate, while a ‘religious’ approach is common practice. As a result, fundamental values are concealed, leaving goals and assumptions opaque. This is problematic since it makes economic assessments inaccessible because it remains unclear on which value foundation an assessment is based. This problem becomes evident when one decides to evaluate a specific topic (i.e. to ask the question at all) and chooses a particular theory and method for evaluating the problem.

It should be made clear that this is not about the supposed fact-value dichotomy, which is often used to discredit economic approaches beyond positive economics (Colander and Su, 2015: 159). Instead, a clear distinction must be made between moral and extra-moral judgments.¹⁷ Su (2012) and Colander (1992: 195) argue that the evaluation in the context of a question or in the choice of method and theory need not be moral, but can be done using extra-moral value judgments.

However, normative criteria (even if they are extra-moral) are always included in economic evaluations. These must be clearly articulated to the addressees of an economic evaluation. This articulation is essential, because only through the transparent communication of values, one can ultimately ensure the conditions for intersubjectivity, which in turn is a prerequisite for an open discourse. The establishment of this transparency is associated with the third sub-area, *normative economics*. Engaged in this sub-area, economists should be agents of honest value judgments by making underlying values transparent.¹⁸ This increases the overall resilience of economic research results.

¹⁷ For this purpose, recourse to philosophical foundations, such as those of Frankenas (1963²: 9; 62-62).

¹⁸ The demand for a normative economy is made by authors like Milonakis and Finn (2009: 94, 198), Reuter (1996: 134) or Stieglitz (1988: 13-14).

The above discussion shows that the tripartite systematisation of economics, according to John Neville Keynes, creates a framework in which the new demands for theoretical-methodological complementarity, in connection with applied economics, and that for transparency of values are coherently integrated.

4. Conclusion

The metaphors of *plumber* and *designer* illustrate the current discussion about an applied perspective in economics. The discourse revolves around the relationship between theory and practice, i.e. the relationship between universal economic theorems and real economic processes.

In this context, the arguments of Banerjee (2002), Roth (2002), Duflo (2017), Colander (2018), or Felber (2019) include the demand for an economic discipline with a broad instead of a narrow layout, which is characterised by an equal interplay of theory and practice. The argumentation does not exhaust itself in the metaphors mentioned at the beginning but instead seeks to establish a complementary view of theories and methods, beyond the confrontational approaches that prevail between the economic schools. Central to their arguments is the adoption of an applied approach in economics. However, the replies of Dorobăț (2017) and Klein (2017) make it clear that a broader perspective is undoubtedly controversial.

Additionally, the retrospective perspective chosen here shows that the conflict over the relationship between theory, practice, and methodology is a cyclically recurring theme in the discipline. It certainly dates back to the older methodological dispute in the 19th century. This connection between current and previous debates becomes visible in the images used, for John Maynard Keynes already wrote of economists as highly specialised craftsmen by comparing them with dentists. In terms of content, the metaphor also reflects the demand for applied economics, although Keynes Jr. did not invent this idea.

Therefore, as the source of the idea, John Neville Keynes' tripartite systematisation of economics was analysed. Due to this systematisation, the different fields of activity in economics are placed in a definite relation to each other, whereby this approach has a structuring effect in the debate on the relationship between theory and practice, and at the same time, extends it to include the aspect of values in economics. A critical examination shows, however, that this systematisation does not cut the Gordian knot, as it is unable to solve the dispute over methods for good. At this point, the concept has consequently substantial limitations. Nevertheless, it succeeds in integrating the demands for theoretical-methodological complementarity, applied economics, and value transparency. In doing so, it

makes a constructive contribution to the current debate on the role and scope of economists by creating a systematising framework for discussion. Furthermore, by combining Kant's *sensus communis* with Keynes' systematisation, the necessity of disclosing value judgments in economic analyses could be addressed. A central result of this connection is that by dealing with value judgments in economics transparently, research results become more resilient and ultimately create the necessary conditions for an open discourse.

Future research could focus on questions around the historical genesis of John Neville Keynes' concept and about the empirical investigation of the influence of the debate on research and teaching in the present.

Acknowledgements:

The author would like to thank the Chair of Economic Policy at the Andrásy University for general support. Furthermore, we would like to thank Editage for English language editing.

Funding:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

- Banerjee A (2002) The Uses of Economic Theory: Against a Purely Positive Interpretation of Theoretical Results. *Massachusetts Institute of Technology Department of Economics Working Paper Series* 2(24).
- Beckenbach F, Daskalakis M and Hofmann D (2016) *Zur Pluralität der volkswirtschaftlichen Lehre in Deutschland. Eine empirische Untersuchung des Lehrangebotes in den Grundlagenfächern und der Einstellung der Lehrenden*. Marburg: Metropolis Verlag.
- Buchanan M (2008) This Economy Does Not Compute. Available at: <https://www.nytimes.com/2008/10/01/opinion/01buchanan.html> (accessed 15 May 2020).
- Chick V, Dow CS (2001) Formalism, Logic and Reality: A Keynesian Analysis. *Cambridge Journal of Economics* 25(6): 705–721.
- Colander D (1992) Retrospectives: The lost art of economics. *Journal of Economic Perspectives* 6(3): 191–198.
- Colander D (1993) Correspondence. Response from David Colander. *Journal of Economic Perspectives* 7(3): 213–215.
- Colander D (1994) Vision, judgment, and disagreement among economists. *Journal of Economic Methodology* 1(1): 43–56.
- Colander D (2001) *The Lost Art of Economics: Economics and the Economics Profession*. Cheltenham: Edward Elgar.
- Colander D (2005) What Economists Teach and What Economists Do. *The Journal of Economic Education* 36(3): 249–260.
- Colander D, Föllmer H, Haas, A, Goldberg M, Juselius K, Kirman A, Lux T and Sloth B (2009) The Financial Crisis and the Systemic Failure of Academic Economics. *University of Copenhagen Department of Economics Discussion Paper* 9(3). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1355882 (accessed 20 May 2020).
- Colander D (2012) Creating the right blend of economists. *Turkish economic association, Discussion Paper* 2004(115). Available at: http://www.tek.org.tr/dosyalar/creating_the_right_blend_of_economists.pdf (accessed 12 May 2020).
- Colander D and Su HC (2015) Making sense of economists' positive-normative distinction. *Journal of Economic Methodology* 22(2): 157–170.
- Colander D and Su HC (2018) *How Economics Should Be Done: Essays on the Art and Craft of Economics*. Cheltenham: Edward Elgar.
- (Sir) Denham-Steuart J (1767) *An Inquiry into the Principles of Political Oeconomy, Being an Essay on the Science of Domestic Policy in Free Nations: in which are Particulaly Considered Population, Agriculture, Trade, Industry, Money, Coin, Interest, Circulation, Banks, Exchange, Public Credit, and Taxes*. Available at: <https://play.google.com/books/reader?id=Q11eAAAACAAJ&printsec=frontcover&output=reader&hl=de&pg=GBS.PR3> (accessed 17 May 2020).
- Descartes R (2008[1642]) *Meditationes de prima philosophia. Meditationen über die Grundlagen der Philosophie*. Translated by Wohlers C. Hamburg: Felix Meiner Verlag.
- Dorobăț CE (2017) What Economists Are Not—And Shouldn't Try to Be. Available at: <https://mises.org/wire/what-economists-are-not%E2%80%94and-shouldn%E2%80%99t-try-be> (accessed 02.02.2020).

- Duflo E (2017) The Economist as Plumber. *American Economic Review: Papers & Proceedings* 106(5): 1–26.
- Elsner W (2017) Complexity Economics as Heterodoxy: Theory and Policy. *Journal of Economic Issues* 54(4): 939–978.
- Felber C (2019) *This is not Economy. Aufruf zur Revolution der Wirtschaftswissenschaften*. Wien: Deuticke in der Paul Zsolnay Verlag.
- Fine B (2017) Die untote Welt der Mainstream-Ökonomik. *Zeitschrift für Kulturwissenschaften* 11(2): 85–100.
- Fontana M (2010) Can Neoclassical Economics Handle Complexity? The Fallacy of the Oil Spot Dynamic. *Journal of Behaviour & Organization* 76(3): 584–596.
- Frey BS (2000) Was bewirkt die Volkswirtschaftslehre? *Perspektiven der Wirtschaftspolitik* 1: 5–33.
- Frankena WK (1963²) *Ethics*. Englewood Cliffs: Prentice-Hall.
- Friedman M (1953) *Essays in Positive Economics*. Chicago & London: University of Chicago Press.
- Fullbrook E (2002) The post-autistic economics movement: a brief history. *Journal of Australian Political Economy* 50(3): 14–23.
- Fullbrook E (2012) To Observe or not to Observe—Complementary Pluralism in Physics and Economics. *Real World Economics Review* 12(2012): 20–28.
- Hayek, FA (2007) *Wirtschaftstheorie und Wissen. Aufsätze zur Erkenntnis- und Wissenschaftslehre*. In: Vanberg V (ed) *Band 1, Abt. A Gesammelte Schriften in deutscher Sprache F. A. Hayek*. Tübingen: Mohr Siebeck.
- Heise A (2016) Pluralismus in den Wirtschaftswissenschaften: Klärung eines umstrittenen Konzepts. *IMK Study* 47.
- Heise A, Sander H and Thieme S (2017) *Das Ende der Heterodoxie? Die Entwicklung der Wirtschaftswissenschaften in Deutschland*. Wiesbaden: Springer.
- Hodgson GM (2015) *Conceptualising Capitalism: Institutions, Evolution, Future*. London & Chicago: The University of Chicago Press.
- Kant I (1965[1793]) *Politische Schriften*. Köln & Opladen: Westdeutscher Verlag.
- Kant I (1995[1790]) *Kritik der Urteilskraft*. Köln: Könnemann.
- Keynes JM (2010³[1930]) Economic Possibilities for our Grandchildren. In: For the Royal Economic Society (ed) *Essays in Persuasion*. New York: Palgrave Macmillan, pp. 321–332.
- Keynes JM (1936) *The general theory of employment, interest, and money*. New York: MacMillan.
- Keynes JN (1890³) *The scope and method of political economy*. London: MacMillan.
- Klein PG (2017) Economists Are Not Plumbers. Available at: <https://mises.org/wire/economists-are-not-plumbers> (accessed 07 Feb 020).
- Krugman P (2009) How Did Economists Get It So Wrong? Available at: <https://www.nytimes.com/2009/09/06/magazine/06Economic-t.html> (accessed 15 May 2020).
- Heer B and Maussner A (2009²) *Dynamic General Equilibrium Modelling*. Berlin: Springer-Verlag.
- Meier A and Mettler D (1988) *Wirtschaftspolitik—Kampf um Einfluss und Sinngebung: Grundzüge einer neuen Theorie der Wirtschaftspolitik*. Bern & Stuttgart: Verlag Paul Haupt.
- Menger C (1883) *Untersuchungen über die Methode der Socialwissenschaften, und der politischen Oekonomie insbesondere*. Leipzig: Verlag von Duncker & Humblot.
- Menger C (1884) *Die Irrthümer des Historizismus in der Deutschen Nationalökonomie*. Wien: Alfred Hölder.

- Mill JS (1992[1844]) *Essays on some unsettled questions of political economy*. London: Reprint, Key Texts - Classic Studies in the History of Ideas. Bristol: Thoemmes Press.
- Nassau WS (1965[1836]) *An outline of the science of political economy*. London: Reprints of Economic Classics. New York: Sentry Press.
- Netzwerk Plurale Ökonomie (ed) (2012) Offener Brief. Available at: <https://www.plurale-oekonomik.de/projekte/offener-brief/> (accessed 24 June 2020).
- Nozick R (1974) *Anarchy, State, and Utopia*. New York: Basic Books.
- Okruch S (2002) Das Elend der theoretischen Wirtschaftspolitik – gibt es einen „evolutionistischen“ Ausweg? In: Ötsch, W and Panther, S (eds) *Ökonomik und Sozialwissenschaft: Ansichten eines in Bewegung geratenen Verhältnisses*. Marburg: Metroplis, pp. 301–325.
- Okruch S (2003) Knowledge and economic policy: a plea for political experimentalism. In: Pelikan P and Wegner G (eds) *Evolutionary Analysis of Economic Policy*. Cheltenham & Northampton: Edward Elgar, pp. 67–95.
- Okruch S (2010) The Open Method of Coordination and its Effects: Policy Learning or Harmonisation? In: Frenco H (ed) *The European Mind: Narrative and Identity*. Msida: Malta University Press, pp. 303–309.
- Otte M (2009) Die Finanzkrise und das Versagen der modernen Ökonomie. Available at: <http://www.bpb.de/apuz/31506/die-finanzkrise-und-das-versagen-der-modernen-oekonomie?p=all> (accessed 18.06.2020).
- Pahl H and Sparsam J (2017) DSGE-Makroökonomik und die Krise Soziologische Inspektion einer modellgetriebenen Wissensformation. In: Maeße, J, Pahl, H and Sparsam, J (eds) *Die Innenwelt der Ökonomie. Wissen, Macht und Performativität in der Wirtschaftswissenschaft*. Wiesbaden: Springer, pp. 135–158.
- Pahl H (2018) *Genese, Konsolidierung und Transformation der neoklassischen Wissenschaftskultur. Zur Konturierung einer Soziologie der Wirtschaftswissenschaften*. Wiesbaden: Springer.
- Pantaleoni M (1889) *Pure economics*. London: Macmillan.
- Peukert H (2013) Real World Economics. *WISU - Das wirtschatsstudium* 42(2): 233–237.
- Polanyi M (1958) *Personal Knowledge. Towards a post-critical philosophy*. Chicago: The University of Chicago Press.
- Polanyi M (1985) *Implizites Wissen*. Frankfurt am Main: Suhrkamp Verlag.
- Rawls J (1971) *A Theory of Justice*. Cambridge & Massachusetts: The Belknap Press of Harvard University Press.
- Rodrik D (2015) *Economics Rules: The Rights and Wrongs of the Dismal Science*. New York & London: W&W Norton & Company Incorporated.
- Romer PM (2015) Mathiness in the Theory of Economic Growth. *American Economic Review: Papers & Proceedings* 105(5): 89–93.
- Roth AE (2002) The Economist as Engineer: Game Theory, Experimentation, and Computation as Tools for Design Economics. *Econometrica* 70(4): 1341–1378.
- Rüstow A (2004²) *Die Religion der Marktwirtschaft*. Münster: Lit Verlag.
- Scherf H (2016²) *Marx und Keynes*. Frankfurt am Main: Suhrkamp Verlag.
- (von) Schmoller G (1883) Zur Methodologie der Staats- und Sozialwissenschaften. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich* 7, 975–994.
- Sen, AK (2013³) *Die Idee der Gerechtigkeit*. München: Dt. Taschenbuch-Verlag.

- Smith A (1994[1759]) *Theorie der ethischen Gefühle*. Hamburg: Felix Meiner Verlag.
- Su HC (2012) Beyond the positive–normative dichotomy: some remarks on Colander’s Lost Art of Economics. *Journal of Economic Methodology* 19(4): 375–390.
- Tirole J (2017) *Economics for the Common Good*. Princeton: Princeton University Press.
- The Telegraph (ed) (2009), Queen told how economists missed financial crisis. Available at: <https://www.telegraph.co.uk/news/uknews/theroyalfamily/5912697/Queen-told-how-economists-missed-financial-crisis.html> (accessed 06 Feb 2020).
- Van den Berg H (2018) Mainstream Economics’ Flight from Complexity. *Forum for Social Economics* 47(1): 8–31.
- Vanberg V and Buchanan JM (1994) Constitutional choice, rational ignorance and the limits of reason. In: Vanberg V (ed) *Rules and Choice in Economics*. London & New York: Routledge, pp. 178–194.
- Velupillai V (2007) The Impossibility of an Effective Theory of Policy in a Complex Economy. In: Salzano M and Colander, D (eds) *Complexity Hints for Economic Policy*. Milan, Berlin, Heidelberg, New York: Springer, pp. 273–290.
- Walras L (1954[1874]) *Elements of pure economics or the theory of social wealth*. Translated by Jaffé W. London: Georg Allen and Unwin LTD.
- Wegner G (2004) Political Learning: The Neglected Precondition of Constitutional Reform. *Constitutional Political Economy* 15: 339–358.
- Witt U (2003) Economic Policy-Making in Evolutionary Perspective. *Journal of Economics* 13(1): 77–94.