Chapter 5

Causation and Agency

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Abstract ‘Causation’ covers a variety of dependent relationships between and among objects and events. The axiom concerning the unicity of reality has been thought to warrant the assumption that causal relationships of social phenomena, including economics, share common properties with corporeal objects, that, in short, agency is a form of causation. This paper defends the opposite view, to wit, that causation based on the properties and powers of corporeal objects (be they natural or man-made) is unlike causation based on agency. Whereas causation among the former is a function of the properties and powers of the objects at play, agency ‘causation’ is the product of human intentionality. Any theory of agency must account for free will even where, as in the case of rule based roles, the instantiation of free will is qualified. An agent’s action may, of course, set in motion a causal law by instantiating the properties of the *object(s)* producing the intended effect (eg. pulling the trigger of a loaded gun), and the agent will be responsible for the consequences, but the discharge of the bullet is the result of the properties and powers of the gun and the bullet and not of the agent. The profound ontological difference between causation and agency cannot be overcome with resort to epistemological, logical or linguistic considerations.

In economic and social life the agent relies not on the causal properties of corporeal objects, but on her action authorised by *social rules*. The causal properties and powers of objects are fundamentally different from the causal powers of rules, because, unlike the former, the latter are designed for the achievement of an intended result and cannot operate without intentional application. The proper study of economics is not the study of the properties of objects contrived by economic theory, but the nature of purposeful human action.

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5.1 Introduction

Modern social science is built on the belief that social reality, much like nature, has its own objective, mind-independent laws. If these can be discovered, social life can be predicted and explained much as law-like generalisations can explain and predict natural phenomena. But just as a greater knowledge of nature has brought about nature's accelerating destruction, the formulation of law-like generalisations about social and economic processes has compromised the moral autonomy of human beings, transforming in profound ways who we are and what we do. Prediction and explanation, – the core objective of both the natural and the social sciences, rests on how dependent relations - conventionally grouped under the concepts of causation and agency - are understood.

The idea that every single fact of reality is determined by a law is as old as recorded philosophy, having been first proposed by Democritus and elaborated with insistence by the Stoics. Its opposite, first formulated by Epicurus and developed by Aristotle,¹ recognised the operations of spontaneous chance, a modern version of which is the theory of emergence. The corollary of Democritus' material determinism, –that facts for which no identifiable law-like cause can be shown are not facts - is reasserted in some versions of XXth century logical positivism. A third approach first set out by Hume² and restated by Russell,³ denies that there is such a thing as a cause, and, instead sees regular patterns, the 'constant conjunction' between cause and effect as a mental operation. A much refined version but still broadly in the Humean tradition is Mackie's INUS condition theory where INUS stands for an Insufficient, but Non-redundant part of an Unnecessary but Sufficient condition. In addition to his well-known example of singular causal statements of a short circuit causing a fire, – where the spark causing the fire was insufficient because other conditions were also necessary, but non-redundant, because in fact the spark was caused by the short circuit – Mackie illustrates the INUS conditions in a general causal statement with an example from economics. When an economist speaks of credit restrictions causing unemployment, the causal relationship will obtain only in the context of a series of other conditions and makes the important admission that all of these other conditions cannot be specified, but he does not draw the conclusion from this admission, namely, that without a specification of the conditions the generalisation has, at best, only approximate truth value⁴ A fourth approach, set out among others, by Davidson sees cause as having to do with the logical form of action sentences.⁵

¹ Aristotle, *Physics*, Book II, Chapters iv, v, and vi.

² Hume, D. ((1740) *A Treatise of Human Nature* (Analytical Index by L. A. Selby Bigge; Second edition with text revised and notes by P. H. Nidditch) (1978) Oxford University Press, Book I, Part III.

³ Russell, B. (1912–13) "On the Notion of Cause" *Proceedings of the Aristotelian Society*.

⁴ Mackie, J. L. "Causes and Conditions" *American Philosophical Quarterly*, 2/4 (October 1965) 244–55.

⁵ Davidson, D. "Causal Relations" *Journal of Philosophy*, 64 (1967), 691–703.

There is, therefore, the distinction between the view that sees all dependent relations as caused/necessitated⁶ and, accordingly, assumes that in the case of singular causal statements there is always a universal statement from which the singular statement can be derived and those who, following Anscombe do not see the need for the support of universal statements for the validity of singular statements. But all of these approaches, including Hume's, revolve around the logical ordering of sense experience. Another distinction is made between mind-dependent and mind-independent events on the basis that these two categories of events are ontologically different in a way that the dependent relations of mind-dependent events are quite unlike those that characterise mind-independent events. On this view causal relationships are between and among mind-independent events and agency is the product of mind-dependent ones. This paper is principally concerned with the exploration and defence of this last claim.

Science, understood as the knowledge of nature, is concerned with natural reality as it exists. Economics, understood as the knowledge of how material well-being is or might be generated and distributed, is concerned with how individual and social objectives may be achieved. Whereas the natural sciences are concerned with what is, economics simultaneously addresses what is and what should be; it is inherently a teleological and normative discipline. Its putative regularities are not derived from actual phenomena, but, rather, are adduced from synthesised mind-dependent objects intended to resemble as much as possible experienced events. These objects are what is needed to obtain the proposition of the model, such as equilibrium, marginal utility or Pareto efficiency. Inflation, for example, is the mind-dependent object of increased prices/decreased purchasing power. The relationships and interactions between and among these synthetic objects are meant to reveal generalisations not about what is, but what should be. Economic action, being by its nature purposeful, requires a degree of clarity about the nature and scope of its purpose. Economics is expected to provide recipes for the achievement of societal purposes, and it can satisfy this expectation only if it can illuminate or generate causal relationships that will bring about the desired end. Causal relationships, therefore, are at the heart of economics. But are those causal relationships to be discovered - because they are there in the law-like mechanisms of economic phenomena - or are they to be crafted through purposeful action to achieve desired ends? Do these mechanisms operate without the aid of conventions and legal sanctions? Should we follow Democritus and look for universal laws derived entirely from the operation of physical nature in our search for an understanding of economic processes, or should we, instead, base our notions on an understanding of the *nature* of the object of our attention, should we seek an understanding of economic phenomena through an understanding of the purposeful action of the economic agent, or should we abandon the search for causes altogether and base ourselves on probabilistic correlations? Should economics concern itself with the unravelling of some existing reality or should it formulate hypotheses of optimality and the means with which to

⁶The extensively studied distinction between causation and necessitation is not relevant to the claim defended in this paper.

achieve them? Are there invariables at the service of economists, waiting to be discovered much as the constants of nature provide the foundation for natural science, or is economic reality made? Can models reveal causal relationships in ways that mirror recurrent relationships in economic life?

Understandably, the social sciences turned to the startling achievements of the natural sciences for the means with which to organise and define the domain of their discipline after the Galilean-Newtonian revolution. The triumph of the Enlightenment, the consolidated confidence in the unicity of all reality, and, in the phrase of Eugene Wigner, the “unreasonable efficiency”⁷ of mathematics in the natural sciences persuaded social scientists - or moral philosophers, as they were then called - to follow the paradigm being developed by the natural scientists in their search for understanding social phenomena. As Condorcet said in his speech at the French Academy on 12 February 1792:

As mathematics and physics perfect the arts of supplying our simple needs, is it not part of the same order of nature that progress in the moral and political sciences should exercise the same effect on the motives which rule our actions and feelings?

More than a century later Edgeworth puts the same point in the following terms: “The invisible world of electricity is grasped by the marvellous methods of Lagrange; the invisible world of pleasure may admit of similar handling”,⁸ and William Stanley Jevons draws a causal relationship between the trade cycle and the sunspot cycle. All that this requires, Edgeworth exuberantly explains, is “the conception of Man as a pleasure machine (that) may justify and facilitate the employment of mechanical terms and Mathematical reasoning in social science”.⁹ With these words the great project of modern social science – the reformulation of individual and collective social behaviour to accord with that of matter - is announced.

Modern economics, said to be the queen of the social sciences, is built on the assumption that the reality it addresses is, in all material respects, much like the subject matter of physics. The operation of the second law of thermodynamics and the interaction of supply and demand in the formation of prices are thought to have sufficiently numerous and important commonalities to warrant the search for a conception of a ‘law’ of similar form. Bernoulli’s or Toricelli’s theorem about the inverse relationship between pressure and the speed of a fluid’s movement at a point instantiates, it is thought, the same sort of causation as the inverse relationship between inflation and unemployment represented by the Phillips Curve.

The foundation for ambitions of this sort is a belief in the unicity of reality and the unity of knowledge. Accordingly, economics portrays “human acts (as) clearly part of the order of nature causing and being caused by events outside of ourselves.”¹⁰

⁷Wigner, E. (1960) “The unreasonable efficiency of mathematics in the natural sciences” *Communications in Pure and Applied Mathematics*, 13, pp.1–14.

⁸Newman, P. (2003) *F.Y. Edgeworth’s Mathematical Psychics and Further Papers on Political Economy*, Oxford University Press, p. 13

⁹Ibid. p. 15. Compared to Edgeworth’s, Jevons’ and Walras’ brutal materialism. Marx was a starry-eyed idealist who thought that if reality did not accord with theory, we should change reality.

¹⁰Donaldson, D. “Psychology as Philosophy” in: Brown, S. C. (Ed.) *Philosophy of Psychology* (1974) The Macmillan Press and Barnes, Noble; reprinted in Donaldson, D. (2013) *Essays on Actions and Events*, Oxford University Press.

This paper denies the unicity of reality and also denies the possibility of unity of knowledge, except at a level of abstraction that does more harm than good. At the simplest level, there is no unity between analytic and synthetic knowledge. Accordingly, it rejects the presumed need in the social sciences to formulate generalised theories about causation that can be linked to the causation theories of the natural sciences.

As its point of departure, this paper takes the Aristotelian position that objects and events - 'substances' in Aristotelian terms - have their essential natures, and these essential natures are marked by powers and properties proper to them. All objects and events have properties and powers in relation to other objects and events, but these properties and powers cannot be subsumed under a generalised notion of causation. A further complication arises with respect to the causal powers, if any, of concepts. The valence of an element is not the same sort of property or power as inflation, unemployment or marginal utility. The former conceptualises the physically identifiable number, charge and movement of electrons, that is to say, of corporeal objects. The latter are statistically based generalisations where the components of the statistical information are themselves conceptual constructions.

Interest in agency and its relation to causation increased during the middle third of the XXth century with important contributions from Collingwood,¹¹ Gasking¹² and von Wright.¹³ Notwithstanding the important differences among these three authors, the intuition that causation in nature differs in some basic sense pervades all three, but the ontological as opposed to the epistemological aspects of this difference remained unexplored. As von Wright put it:

Independently of our stand on the metaphysical questions, it will be readily admitted, I think, that the idea of experimentalist or manipulative causation has important application in the natural sciences - and also that its applicability becomes debateable when we move to the human (including the social) sciences. If we wish to identify causation as such with manipulative causation, we could then say that the category of causation is primarily at home in the (experimental) natural sciences and basically alien to the human sciences.¹⁴

The paper follows¹⁵ the Davidsonian distinction between the constitutive elements of belief, desire, intention and action on the one hand and the constitutive elements of physical objects on the other, but unlike Davidson, claims that they do not have any causal properties in common. It follows Searle¹⁶ when he notes that:

In the philosophy of mind there is an uneasy relation between intentionality and causality. Causality is generally regarded as a natural relation between events in the world;

¹¹ Collingwood, R. G. (1938) "On the so-called idea of causation", *Proceedings of the Aristotelian Society* (New Series), 38; (1940) *An Essay in Metaphysics*. Oxford University Press.

¹² Gasking, D. (1955) "Causation and recipes", *Mind*, 64.

¹³ von Wright, G. (1975) *Causality and Determinism*. Columbia University Press.

¹⁴ Quoted in Illari, P. and Russo, F. (2014) *Causality*. Oxford University Press.

¹⁵ Davidson, D. (1970) "Mental Events", reprinted in Davidson, D. (2013) *Essays on Actions and Events*, Oxford University Press.

¹⁶ Searle, J. R. (1983) *Intentionality*. Cambridge University Press.

Intentionality is regarded in a variety of ways but not generally as a natural phenomenon...

but does not follow him when Searle proceeds to

take a step towards Intentionalizing causality and therefore, toward naturalising Intentionality.¹⁷

Instead, it defends the view that causation and agency do not share common properties and sees the effort to bring them together as a part of the general drift of XXth century philosophy away from ontological issues, away from the Aristotelian nature of events and substances, a drift with serious adverse consequences for the moral autonomy of the individual. This trend purports to coin a commonality among ontological incommensurables on the basis of epistemological, logical or linguistic harmony. But (*pace* Searle) intentionality brings about effects where those events would not occur without it; natural causation takes effect without the introduction of properties alien to the properties of cause and effect, and agency produces events that nature does not produce. Although it is readily agreed that the more causation is stuffed into agency the closer the social sciences get to Newtonian methodology, the scope and significance of intentionality should not be compromised by fudging that autonomy with the importation of natural causal relations into its domain. The claim here is that resemblance to Newtonian physics and a deceptive precision coupled with the illusion of predictive capability is achieved at the cost of serious violence to the ontology of social reality.

Most authors on the subject of causation in economics and in the social sciences in general build their theories of causation and agency on the basis of an assumed analogy with causation in nature, and particularly Newtonian physics. John Hicks, for example, in his seminal *Causality in Economics*¹⁸ raids astronomy, physics and mathematics from Copernicus to Newton for a suitable scientific paradigm and poses the question: “How does it all apply to economics?”¹⁹ without any showing - other than some sort of an urge to resemble the natural sciences - as to why any of it should apply at all. But, as Ludwig von Mises put it: “The study of economics has been again and again led astray by the vain idea that economics must proceed according to the pattern of other sciences.”²⁰

A great deal turns on this question. If causation in economics is analogous to causation in the natural sciences, as Hicks, Samuelson or Mankiw among others would have it, moral responsibility for individual economic action is diminished and the case for the regulation of group action and macroeconomic phenomena is undermined. If markets are given nature-like powers and properties it would be foolish to resist or regulate economic life. Economics may be seen as part of nature just like the components of Mendeleyev’s table, and, because nature knows best,

¹⁷ Ibid. p. 112

¹⁸ Hicks, J. (1979) *Causality in Economics*, Basil Blackwell, Oxford.

¹⁹ Ibid. p. 37.

²⁰ von Mises, L. (2006) *The Ultimate Foundation of Economic Science; an Essay on Method*, Liberty Fund, Indianapolis.

man must comply with the natural laws of economics. If the optimal use and distribution of economic resources can be determined on the basis of causal laws, fairness, justice, human dignity and the protection of the environment all require unnatural action, or, in the alternative, only those instances of fairness, justice and human dignity can be legitimate that conform to or can be derived from natural laws. Conversely, if the natural sciences do not provide a relevant source for an understanding of dependent relationships in economic life, modern economics must be seen not as a project for an understanding of reality, but as the construction of a surrogate reality for the regulation of human behaviour in aid of achieving postulated ends.

5.2 Causation(s)

Apart from being plainly wrong,²¹ there is something odd about Hume's billiard balls. The point of the example - that causation is not a *thing* but a mental construct - leads Hume to see the question the wrong way around. He first constructs a sequence of events that starts with pure intentionality. The billiard balls strike one another because somebody wants to strike the first ball so as to bring about the desired hit of the second. But instead of looking for intentionality in why and how the first ball was set in motion, he looks instead for something with autonomous existence that could be called a causation, that somehow brought about the collision on its own whereas it is perfectly clear that the collision of the two balls is the consequence of the intentionality of the player. Having suppressed the premise upon which his example is built, he looks instead for a thing, and not finding it, he stops and announces that causation is in the mind of the beholder, instead of looking for the properties of the two balls that produce the result once the first one is set in motion.²² The two billiard balls strike each other because the player wants them to. They strike each other in a certain way because that is the result their properties bring about. There is nothing metaphysical, mysterious or enigmatic about the sequence of events. It starts with an intention and proceeds in accordance with the known properties of the objects set in motion by the intention. Obscurity arises because Hume discards both of the possible two sources of causal relations - intentions on the one hand and properties and powers on the other - and looks instead for something that neither exists nor is necessary to explain causal relations. But causality resides in the effect being derived from the cause. Cause and effect then are both properties of objects

²¹ For a thorough and compelling refutation of Humean causation theory, see Harre, R. and Madden, E. H. (1975) *Causal Powers*, Basil Blackwell, Oxford.

²² Anscombe puts the point about Hume's causation in *Causality and Determination* (Reference in footnote 18) as follows: "it is argued that 'all we find' is such-and-such, and it turns out that the arguer has excluded from his idea of 'finding' the sort of thing he says we don't find".

and causation takes place when these properties meet under conditions for the operation of the properties.²³

Science, however, marched on and did what Hume thought could not be done. It found causation not in observation, but in the measurable properties of substances, and established the method with which natural causation could be determined. The social sciences then surrendered to the primacy of natural causation as the universal law for all phenomena, and, although there was a rebellion principally lead by Elisabeth Anscombe, the dominance of the natural causation paradigm in the social sciences prevailed.

The cultivation of law-like generalisations reached its apogee with the short-lived triumph of logical positivism, but, despite the collapse of this school of thought, economics has neither sought nor found a new foundation for its theories and doctrines apart from making some use of the refinements of analytic philosophy. At the same time, the natural sciences and mathematics have been moving away from this structure, built as it is, on Newtonian reductive materialism.

An obvious requirement for reaching scientific status on par with the natural sciences is the formulation of a causation theory capable of both predicting and explaining the behaviour of its chosen object(s). But a causation theory requires the demarcation of a domain within which the theory is expected to operate, and the identification of the domain of economics has been elusive. As Keynes noted, economics

deals with motives, expectations, psychological uncertainties. One has to be constantly on guard against treating the material as constant and homogeneous. It is as though the fall of the apple to the ground depended on the apple's motives, or whether it is worthwhile to fall to the ground, or whether the ground wanted the apple to fall, and on mistaken calculations on the part of the apple as to how far it was from the centre of the earth.²⁴

The subject matter of the natural sciences - whether already given or only intuited - is invariably corporeal with one or more verified or intuited properties. Science deals in natural kinds. They are proper 'objects', not, in the words of Thomas Hobbes, things "made with words". The objects of the natural sciences are impervious to words. It may be that their corporeality is undetectable with the means available at a given moment in history, but, invariably, the claim is that 'it is an *it*' and with the right tools and procedures it will be found, as indeed, historic experience has often justified this expectation.

There is no easy or obvious answer to the question: what is the subject matter, what are the objects of economics? The conventional definition of chemistry - "the investigation of the substances of which matter is composed and of the phenomena of combination and change which they display"²⁵ - finds no parallel in any of the definitions of economics offered by the dictionary or the subject's leading scholars:

²³ Anscombe, G. E. M. (1971) *Causality and Determination*. Cambridge University Press.

²⁴ Letter to Roy Harrod, 10th of July, 1938 (misdated 26th July) in *Collected Writings of John Maynard Keynes*. Macmillan/Cambridge University Press, for the Royal Economic Society, Vol. XIV, p. 292.

²⁵ The New Oxford Shorter Dictionary of English.

- “economics is the branch of knowledge that deals with the production and distribution of wealth” (Oxford Shorter Dictionary of English);
- “The science which studies human behaviour as a relationship between ends and scarce means which have alternative uses” (Lord Robbins)²⁶;
- “the study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being” (Alfred Marshall);
- “Economics is the study of how men and society choose, with or without the use of money, to employ scarce productive resources which could have alternative uses, to produce various commodities over time and distribute them for consumption now and in the future among various persons and groups of society” (Paul Samuelson); or
- “Economics is a science of thinking in terms of models... relevant to the contemporary world.” (John Maynard Keynes).

If we reflect on how hypotheses of causation might be formulated in chemistry and in economics respectively so as to advance the understanding of the subject under study, it seems immediately obvious that the objects of economics and the objects of chemistry are unlike. The objects of chemistry exist independently of the theories chemistry builds about them. The objects of economics are contrived by economic theory itself. While there is no doubt that there is, in some general sense, ‘supply and demand’ Alfred Marshall’s two curves have yet to gain empirical confirmation. The sample field within which causation is to be found can be defined for chemistry but cannot be defined for economics. Economics does not have a subject it can call its own in the sense that the initial conditions of the domain can be specified. The determination of what causes what can only be made with the help of artificial assumptions and the *ceteris paribus* clause because, as John Stuart Mill had already noted the ‘disturbing causes’ have to be separated from the object of study. But neither he nor his successors have found a way to distinguish the former, also called ‘exogeneous’ from the latter, also designated as ‘endogeneous’. This separation of the exogeneous from the endogeneous is accomplished, first with the selection of the cause and then with the aid of assumptions and *ceteris paribus* clauses that may or may not have a basis in reality. For example, the Arrow-Debreu competitive equilibrium model, a cornerstone of modern economics modelling - for which its authors have received the Nobel Prize in economics - the causal relationships that secure equilibrium, require 14 assumptions nine of which cannot exist in the world as we know it. But the selection of the cause is an ideological choice, one made on the basis of the sort of economy the economist favours or wishes to test. There is no objective, value free basis for making this choice. Chemistry by contrast, does not need assumptions for the delineation of its subject matter because it is given in nature. Instead of assumptions, it posits conditions that obtain in the real world. It only studies the transformations of substances under conditions that do in

²⁶ Robbins’ tortuous phrasing reveals the problem: how can behaviour be “a relationship between ends and scarce means”?

fact exist or that can, in fact, be generated. Economics studies wealth, choices about the alternative uses of scarce resources, individual and social action connected with the attainment of material well-being, etc., subjects that cannot be given durable content. What amounts to wealth, material well-being, what are scarce resources, what are relevant individual and social actions are all matters that change over time and that require reference to markets, prices, notions of saving and consumption, etc. that, in turn, require supporting assumptions about the conditions of private property, the legal system, customs, and so on. These notions are, as the quote from Walras below shows, contrived with the help of various techniques, such as abstraction, isolation and idealisation and supported by reliance on a *ceteris paribus* clause. But the *ceteris paribus* clause is suspect not only because, as usually noted, things do not stay the same, but, more importantly, because the isolated subject itself is unstable. There are no invariables in economics. These devices may help produce the appearance of causal relations, but their conceptual success is purchased at the expense of descriptive adequacy.

The reason for this failure is that whatever economics may be about, it should be clear from the above that, in contrast with the natural sciences, its subject matter is not a natural kind.

In one of the great essays of XXth century philosophy Nelson Goodman showed that the confirmation of an inductive argument, such as a scientific generalisation, is not a matter of logic, that its validity must come from the subject matter itself.²⁷ It is logically possible to use data for one theory and to use the same data for another theory. There is, for example, no *logically unique way*, to connect data points on a graph in comparison with any other way. But the different curves²⁸ will lead to different conclusions and predictions where predictions are made on the basis of the shape of the curves.

With the abandonment of ontology as a proper subject for philosophy and the eventual arrival of analytic philosophy in its place, economics increasingly saw models as its proper subject as opposed to any reality those models purport to represent. Economics became a discipline concerned with a surrogate reality the discipline itself constructed, based on axioms rather than any sort of reality existing independently of its theories. As Alexander Rosenberg noted:

Much of the mystery surrounding the actual development of economic theory – its shifts in formalism, its insulation from empirical assessment, its interest in proving purely formal, abstract possibilities, its unchanged character over a period of centuries, the controversies of its cognitive status – can be comprehended and properly appreciated if we give up on the notion that economics any longer has the aims or makes the claims of an empirical science of human behaviour. Rather, we should view it as a branch of mathematics, one devoted to examining the formal properties of a set of assumptions about the transitivity of abstract relations: axioms that implicitly define a technical notion of ‘rationality’, just as geometry examines the formal properties of abstract points and lines.²⁹

²⁷ Goodman, N. (1983) *Fact, Fiction and Forecast* (fourth edition), Harvard University Press.

²⁸ This is known as Goodman’s „curve-fitting problem”.

²⁹ Rosenberg, A. (1992) *Economics – Mathematical Politics or Science of Diminishing Returns*, Chicago University Press, p. 247. Quoted in Backhouse, R. E. (1997) *Truth and Progress in Economic Knowledge*, Edward Elgar, p. 107–8.

As Keynes had already noted, the subject matter of modern economics is thinking about models. Accordingly, causation is posited or attributed to the objects contrived for the model. Causation and agency in this surrogate context – where the model represents a non-existent reality – are validated by nomological deductive means without empirical verification. The procedure was clearly set out by Leon Walras in 1874, and has not undergone any significant change since.³⁰ Walras writes:

...this pure theory of economics is a science which resembles the physico-mathematical sciences in every respect... The mathematical method is not an *experimental method*; it is a *rational method*... From real-type concepts, these sciences abstract ideal-type concepts which they define, and then on the basis of these definitions they construct *a priori* the whole framework of their theorems and proofs.... Following this same procedure, the pure theory of economics ought to take over from experience certain type concepts, like those of exchange, supply, demand, market, capital, income, productive services and products. From these real-type concepts the pure science of economics should then abstract and define ideal-type concepts in terms of which it carries on its reasoning. The return to reality should not take place until the science is completed and then only with a view to practical applications.³¹ (emphasis in the original).

Walras notes that “Reality confirms these definitions and demonstrations only approximately”, but goes on to claim that “and yet reality admits of a very wide and fruitful application of these propositions.” But the parallel he draws between the “physico-mathematical” sciences and economics breaks down (i) when we consider that social phenomena in general and economic phenomena in particular is ceaselessly reflexive, and (ii) the ‘real-type concepts’ of the physico-mathematical sciences are derived from real, corporeal objects as opposed to the incorporeal notions of ‘exchange’, ‘supply’, ‘demand’, ‘market’, etc.

The marked growth in model building since the middle of the XXth century is nevertheless built on these Walrasian premises. As Jakko Kuorikoski and Caterina Marchionni note:

Although economists talk a lot about economic *theory*, models are really the working units driving the acquisition of knowledge. Economics is first and foremost a modelling science. ... Theoretical models are constituted by a set of assumptions, a set of conclusions and rules for deriving conclusions from the assumptions.³²

Scientific status is achieved, according to the authors, if no errors occur in the derivation and if the assumptions are empirically supported. But how is empirical support obtained? Economic data, unlike scientific data, cannot be replicated, and, as Walras noted, economics is a rational as opposed to an empirical discipline.

³⁰ For a detailed summary and analysis of current methodology in economics see Morgan, M. S. (2012) *The World in the Model; How economists Work and Think*, Cambridge University Press; Morgan, M. S. and Morrison, M. (ed.), (1999) *Models as Mediators*, Cambridge University Press.

³¹ Walras, L. (1874) *Éléments d'Économie Pure*, Corbaz 9292Cie, Lausanne; translated as *Elements of Pure Economics*, of the 1926 definitive edition by William Jaffé, (1954), George Allen and Unwin Ltd. London.

³² Kuorikoski, J. and Marchionni, C. “Philosophy of Economics” in French, S. and Saatsi, J. (2014) *The Bloomsbury Companion to the Philosophy of Science*, Bloomsbury.

According to Mäki, assumptions in economics are similar to laboratory controls in experiments, but he fails to observe, in addition to the replication problem, that laboratory controls have to do with the removal or enhancement of some aspect of physical reality; what is removed as well as what is kept is real and not assumed in contrast with the assumptions of economists that are, as Walras notes, *a priori*. Mäki, however, sees assumptions as serving the theoretical isolation of causal factors from disturbing causes.³³

Two examples will show that, in fact, there is no reliable way to secure empirical support for the assumptions of economic models. A standard trope of neoliberal economics is the claim that labour-market rigidities constrain output and employment. This claim assumes that employers are more willing to invest and employ if there are few if any laws specifying the terms and conditions of employment. One man's rigidity is another's security permitting him to have confidence in his employer, a confidence that may have a dependent relationship to his productivity. Greater "flexibility" may increase output in a context of high unemployment but will not do much in an economy struggling with labour shortages. Whereas the removal of Mill's 'disturbing causes' has an empirically demonstrable basis, economics does not have any scientific foundation for deciding what causes should be deemed to be disturbing – and therefore eliminated from the model – when labour market flexibility is decided upon. Another one, advanced by Stephen Moore and Arthur Laffer, claims that tax cuts will bring down government deficits and generate greater private investment. These claims, first made some 30 years ago, still await empirical confirmation. In each case the factors affecting the outcome are numerous and constantly undergoing change. Lower taxes may have the propensity to increase investment as long as there are opportunities for profitable investment. But profitable investment requires, among other things, an educated and healthy labour force that cannot be had without the resources provided by taxes. .

Yet another view of the truth value of assumptions was famously expressed by Milton Friedman, who thought that the assumptions of models need not have any truth value at all so long as the model makes accurate predictions. The learned Nobel laureate, however, did not explain how such outcome might be possible, and the decades that have since passed have not favoured us with persuasive examples.³⁴

An example of conflating the properties of the objects with intentionality was described by Karl Popper in a much overlooked essay³⁵ in which he replaces causal relations with propensities. Whereas causality is an inherent property in an object, a propensity, according to Popper, is inherent in a situation, that is to say, in the

³³ Mäki, U. (1992) "On the method of isolation in economics" in Dilworth, C. (Ed.) *Intelligibility in Science*, Rodopi, Atalanta and Amsterdam pp. 319–54.

³⁴ Friedman, M. (1953) "The methodology of positive economics" in *Essays in Positive Economics*, University of Chicago Press, pp. 3–43.

³⁵ Popper, K. (1990) *A World of Propensities*, Thoemmes Antiquarian Books Ltd. Bristol. The essay was first delivered by Popper on August 24, 1988 before the World Congress of Philosophy in Bristol, UK.

interaction of known and unknown objects. While properties cause determined results, propensities are indeterminate and give rise to new propensities. Popper writes:

Just like a newly synthesised chemical compound, whose creation in turn creates new possibilities for new compounds to synthesise, so all new propensities create new possibilities. And new possibilities tend to realise themselves in order to create again new possibilities.

But *pace* Popper, whereas compounds do not synthesise ‘in order to create’ new compounds since compounds, like Keynes’ apple, do not form intentions. Intentional human action is undertaken by the agent in order to create a new situation. That, physical property innocent of intentionality, versus purposeful action, in a nutshell, is the difference between causation and agency.

The contrary view, advanced by John Hyman³⁶ dissolves intention under the more general concept of any “active causal power” where no distinction is made between the causal powers of substances and the intentionality of human agents:

Action in general is simply the exercise of an active causal power – i.e. the power or ability to cause some kind of change – the agent being the one that causes the change and the patient being the one that undergoes it. Far from applying exclusively to human beings, the concept of action applies to every substance able to cause change.

This very broad notion of action is unhelpful in the social sciences and particularly unhelpful in relation to the explanation of economic action where the subject matter under study is the *purposeful*, that is to say, intentional action of human beings. Hyman explicitly rejects any theory in which “will or intention.. play an essential role in *human agency*” (emphasis in the original) on the ground that intentionality does not distinguish between activity and passivity in human life. But the intentionality of agents rests not on this distinction but on the difference between *properties* and *purposefulness*.

5.3 Intention(s) and the Will

The causal theories built on Walras’ method cannot account for economic events because neither his real-type nor his ideal-type concepts have causal powers. Rather than taking place between and among objects with empirically demonstrable and fixed causal properties, economic causality is not object based; it runs through the agent of economic action. The agent disrupts or generates the purported causal mechanism because she reflects on the meaning of what is happening and acts not according to some causal property of the event, but in accordance with her assessment and interpretation of the meaning of the event in question. Agency is purposeful action *designed* to change what is into what the agent desires. Unlike causation, which takes place without a purpose, agency is all about the achievement of a *telos*, about the disruption of the existing state of affairs. The ontology of agency consists

³⁶ Hyman, J. (2015) *Action, Knowledge and Will*, Oxford University Press.

of Keynes' 'motives, expectations, psychological uncertainties' triggering the agent's action rather than Walras' neo-Kantian *a priori* concepts.

Therefore, as Jaegwon Kim notes "any discussion of causation must presuppose an ontological framework",³⁷ and, although the author of this observation adds that there needs be "an accompanying logical and semantical framework", it is unclear how either logical or semantical considerations would throw light on the processes that take place in economic life. Indeed, the search for the ontological framework is quickly abandoned in favour of a debate with Mackie about necessary and sufficient conditions. Without it economics, following Walras, replaces the ontology of action with 'real-type concepts' in order to „construct *a priori* the whole framework of their theorems and proofs".

The use of the 'ontological framework' leads to rather different results from those found in some of the most influential essays on causation. Consider, for example, Davidson's analysis of Mackie's "this short-circuit caused this fire" in terms of the presence or absence of a non-truth-functional causal connective where the cause is seen - incorrectly according to Davidson - as a condition, all in order for Davidson to reject the notion that causes are fully expressed only by sentences. From an ontological and scientific view all of this is meaningless. Causation in the natural sciences is not a matter of either logic, language or the completeness of sentences. Science is not interested in either „necessary" or „sufficient" causes, and least of all in Mackie's INUS conditions. What matters is that short-circuits produce sparks of a certain, measurable intensity that *has the property of setting to fire* combustible material of a certain kind. The properties of the sparks meet the properties of the combustible material. These properties can be stated in the form of universal laws from which the events can be calculated but need not be. The short circuit caused the fire if the requisite conditions were met, to wit, there were sparks of a certain intensity in the proximity of some flammable material, there was the requisite amount of oxygen, etc. If the universal laws cannot be formulated because the available evidence is insufficient, the deficiency cannot be made up by constructing causal hypotheses either on the basis of language or on the basis of logic and the evident causal connection between the sparks and the flammable material cannot be denied on the ground that there is no known universal law of which the event is an instance. Arguments about necessitation cannot overrule the physical properties at play in the causal relationship.

Davidson compounds the confusion when he conflates intentionality with causation. He writes:

If I poison someone's morning grapefruit with the intention of killing him, and I succeed, then I cause his death by putting poison in his food, and that is why I am the agent of his murder.³⁸

But death was caused not by the intention of the agent, but by the lethal properties of the poison. Death by poisoning would have occurred if the poison would have

³⁷ Jaegwon Kim "Causes and Events: Mackie on Causation" in Sosa, E. and Tooley, M. (1993) *Causation*, Oxford University Press.

³⁸ Davidson, D. (2001) *Essays on Actions and Events* Oxford University Press, p. 48.

ended up in the grapefruit without anyone's intention. The chemical process causing death is separate from the intention that sets in motion that chemical process. Conversely, the intent to kill would not have 'caused' death without the lethal properties of the poison. Causation in Davidson's account is a legal as opposed to a scientific concept. In a trial for murder the prosecution would have to prove that (i) the poison placed in the grapefruit killed the deceased (excluding, for example, the possibility that the deceased suffered a heart attack before the poison took effect), (ii) the accused placed the poison in the grapefruit, and (iii) the accused placed the poison in the grapefruit with the intent to kill the deceased.³⁹ Criminal law, beginning with the Romans, made the distinction between the first two and called it the *actus reus* while the third one was named *mens rea* in order to distinguish causation from agency.

Causation then is a matter of proving the operation of one or more mind independent properties, of experimentally provable evidence rather than of some sort of an epistemological theory. It is not the mental operation of the beholder, but the physical behaviour of the object(s) in question. It is the operation of natural kinds.

Placing ontology ahead of epistemology amounts to the insistence on the priority of the 'what' over the 'why' and the 'how'. The problem facing economics is that the facts with which it has to deal are unlike the facts of the natural sciences. They are incorporeal and unstable. Economics by-passed the admittedly very difficult question of the 'what' – the ontological question – in the hope and expectation that concentration on the why and the how – the epistemological, logical and linguistic issues – would render the 'what' question otiose. In doing so, it domesticated tools, that had been developed for the study of subjects where the subject matter of the inquiry was reasonably settled and the collection of facts could proceed. But in economics there are few if any facts to be faced directly, since the facts are not found, but made by the purposeful actions of individual and collective agents.⁴⁰ Aristotle was right: it is the nature of the object that determines all else rather than our sensory perceptions or inferences determining its nature. "For Aristotle, the perceiver is the means for the fullest activation of the perceptible properties of objects in the world – which are activated as properties of objects rather than experiences of perceivers."⁴¹ Generalisations based on perception, logic or language will not supervene the radical ontological difference between objects and actions. A discipline such as economics, that is theory laden and given to creating its own reality is particularly vulnerable to the misapplication of "idealisation", "abstraction" and "isolation" of the object practiced in the natural sciences and, instead, it easily succumbs to the contrivance of the objects of its study at the expense of hard evidence, believing, as it does, that it is practicing science when mimicking idealisation,

³⁹ Hart, H.L. A. and A. M. Honoré (1959) *Causation in the Law*, Oxford at the Clarendon Press.

⁴⁰ The special problems of corporate action were explored in Róna, P. "Ethics, Economics and the Corporation" in Róna, P. and Zsolnai, L. (2017) *Economics as a Moral Science*, Springer.

⁴¹ Marmodoro, A. (2014) *Aristotle on Perceiving Objects*, Oxford University Press, p.1.

abstraction and isolation. Mary Morgan,⁴² for example, does not even consider how these techniques of the natural sciences could apply to actions as opposed to objects, as indeed John Stuart Mill similarly assumed, that the actions of agents were objects of economics permitting the identification and elimination of ‘disturbing causes’.

As the quote above from Leon Walras shows, economics, lacking empirically verifiable objects, contrives its own with the help of a variety of techniques.⁴³ Its objects are not empirically verifiable things or events, but axioms, purportedly embodying some sort of a generalisation. As Keynes indicates in the quote above, its subject is “the models... relevant to the world” it creates. Models, not Aristotelian substances, relevant to, but not of the world. The immense complexity, the ceaseless change and turbulence, the fundamentally provisional and contingent nature of the material forces the economist to abstract, isolate or idealise not some fact or facts with a verifiably independent existence bearing verifiably independent properties and powers, but rather, to inductively contrive facts with the help of concepts of the economist’s devising, such as supply and demand, equilibrium, GDP, etc. that outside the contrivance do not exist. These concepts, embedded in the relevant axiom, operate as surrogates for the objects of the natural sciences in the hope and expectation that they can be shown to manifest constant properties and powers. They are rather like Platonic Forms standing in the place of the Heraclitan flux.

SOCRATES: But if it is always passing away, can we correctly say of it first that it is *this*, and then that it is *such and such*?...

Then if it never stays the same, how can it *be* something?

.....

Indeed, it isn’t even reasonable to say that there is such a thing as knowledge, Cratylus, if all things are passing on and none remain. For if that thing itself, knowledge, did not pass on from being knowledge, then knowledge would always remain, and there would *be* such a thing as knowledge. On the other hand, if the very form of knowledge passed on from being knowledge, the instant it passed on into a different form than that of knowledge, there would be no knowledge.... But if there is always that which knows and that which is known, if there are such things as the beautiful, the good, and each one of the things that are, it doesn’t appear to me that these things can be at all like the flowings or motions... (Emphasis in the original) Plato *Cratylus*, 439 d, e, 440a, b.

But the idea that we can reduce the Heraclitan flux to some cognate of the Platonic Form without fundamentally altering the properties and powers of the former is an intellectual sleight of hand made possible by the premature burial of ontology.⁴⁴ Economics, from its very beginnings, has been and remains a search for divining the operations of the Invisible Hand. It has consistently believed in some sort of a hidden mechanism, directed by a sublime power concealed and compromised by ‘disturbing causes’. While some of its practitioners, as, for example Ricardo, Marx and Mill believed in the discoverable hidden unity of economic life, over time economic concepts increasingly became idealised distillations, devised

⁴² Cited below.

⁴³ Morgan, M. (2012) *The World in the Model*, Cambridge University Press.

⁴⁴ A “stinking corpse” according to Hilary Putnam. Putnam, H. (2004) *Ethics without Ontology*, Harvard University Press, p. 81.

not so much to unmask the empirically unknowable hidden nature of the Heraclitan flux, but rather, to contrive – under cover of the claim to scientific status buttressed by purported application of scientific techniques – a surrogate reality to which the flux should be adjusted by fiat, its movement guided with the help of appropriate institutions, laws and policies all in the name of a posited optimum. If the recommended or coerced human action in aid of achieving the posited optimum has secured an extraordinary level of material well-being for much if by no means all of humanity, as indeed it has – the result is not due to the discovery of natural causal properties, but to the guidance or coercion of human behaviour towards the posited end. Much like Socrates, not believing that the “flowings or motions” can be known, economic theory holds that the material of economics must “*be something*”. But it isn’t, it is what we contrive it to be.

If a detailed examination of the process with which economic theory displaces the ceaseless becoming of the Heraclitan flux of economic reality with its Platonic Forms is beyond the scope of this paper, it seems reasonable to conclude on the basis of the above, that the strategy of reification, the transformation of the flux into objects does not work. Just as stock and flow in accounting cannot be reconciled in the sense of deriving the one from the other, Flux and Form remain, despite Searle’s efforts, incommensurable. The movement of the flux is the product of the agent’s action. Transforming the flux into objects so that the agent’s action can be disregarded – so that we have the Form without knowing what Flux brought it about – as the strategy for the discovery of causal dependencies is, therefore, a dead-end. There is no economics in nature and no nature in economics. It is all about conscious, purposeful human action.

5.4 Rule-Based Roles

Although John Stuart Mill committed economics to the tragicomedy of the utility maximising *homo oeconomicus* with his maxim that a greater gain is preferred over a lesser one, his more basic intuition to the effect that the purpose of economic action is to secure material goods seems reasonable even if Adam Smith’s notion, that the basic human motivation is gaining the esteem of fellow humans appears more convincing. But securing material goods is no simple matter. Apart from the need to develop suitable technologies, know-how and skills, there is a need to avoid unbridled chaos in its pursuit. Economic behaviour must be regulated in order to keep social peace. This need results in the construction of *rule-based roles*. *Economic agency is conditioned upon compliance with these roles.*

Human action arises from the agent’s dissatisfaction with some existing circumstance. The whole point of action is to change what exists or what is thought to exist to something more in line with the agent’s hopes and expectations. But society does not give free reign to any and all dissatisfactions and therefore does not permit any and all action. All economic action requires social authorisation and the authorisation is granted through the often highly specific and elaborate content of these roles.

A ‘seller’ is a person with legal title to the goods he sells and is held responsible for the truthfulness of the explicit as well as the implicit or attributed representations made in connection with the sale. A ‘buyer’ is an agent with the capacity to satisfy the conditions of the seller. Employers and employees have specified roles and non-performance of the role has serious consequences. In sharp contrast with the view of Rom Harré quoted and explored elsewhere in this volume⁴⁵ to the effect that “institutions are not ontologically basic...(that) an institution is an appearance, an illusion...(that) there is and was no banking system”, individual, group and institutional roles are formed and held together by powerful written and unwritten rules specifying authorised action and behaviour and sanctioning deviations from it. ‘Causation’ in agency is generated by the purposeful performance of a rule-based role. Economic roles have a clear purpose; intentionality is built into the role. The agent, by assuming the role, adopts the built-in intentionality. But there is a subtle cleavage between the actions of the self and the performance of a role by the self. Not being able to bring about economic action without adopting the role prescribed for the achievement of the desired end, she takes on the legislated intentionality of the role, but the gap between individual responsibility and responsibility for the performance of a role is evident. Accordingly, responsibility based on the operations of the conscience is replaced by the legally defined responsibility associated with the role. The most extreme form of this problem is the corporation and the question of corporate agency where the identity of the acting agent between the agents of the corporation and the corporation itself is disrupted by the corporate veil. Medieval Catholic theology was acutely aware of the problem,⁴⁶ saw roles as *ficta*,⁴⁷ (best translated as ‘made things’, or contrivances) and the concern dominated English jurisprudence well into the eighteenth century. Chief Baron Manwood, for example, remarks in *Tipping and Pexhal’s Cafe*⁴⁸: “Corporations are invisible and immortal and have no Soul; None can create Souls but God; but the King can create Corporations, therefore they have no Souls”.⁴⁹ Souls have virtues and vices. Immortal objects have or lack usefulness. Mixing the two leads to the loss of the Soul.

The hallmark of modernity is the resolution of this tension between the soul as the source of conscience and moral autonomy and the rule-based role of the self in favour of the latter. With it the traditional notion of agent intentionality recedes, and

⁴⁵ See Archer, M. p.

⁴⁶ See for example Pope Innocent IV’s decretal of 1246 in which he contemptuously dismisses the corporation as *persona ficta*.

⁴⁷ ‘Persona ficta’ is routinely translated in legal and other textbooks and monographs as ‘fictitious person, but this translation is entirely mistaken. Far from being a fictitious person, the modern corporation is the most powerful person in the modern world. The correct translation is based upon the root of ‘cicta’, namely ‘fingere’, and accordingly the term should be translated as ‘made or contrived person’.

⁴⁸ 2 Bulstr. 233; also in *The Laws of Corporations: containing the Laws and Customs of All the corporations and Inferior Courts of Record in England* (1702) London.

⁴⁹ Róna, P. “Ethics, economics and the corporation” in Róna, P. and Zsolnai, L. (2017) *Economics as a Moral Science*, Springer.

agent action is constrained to the rule-based role. Intentionality is turning a choice from a legislated menu rather than being freely formulated by the self.

This trend is further exacerbated by the use of models, algorithms and artificial intelligence in economic decision making, production, logistics, marketing and distribution. In these cases, the agent executes the tasks or adopts the results specified by these means without the ability to deviate from them. The ‘loan officer’ of the typical bank of today operates a computerised program for the determination of the applicant’s eligibility for a loan that does not permit the officer to proceed to the next question without an answer to the open one deemed satisfactory by the program. Whose intentionality is at play here? No one’s. The program determines the specifications of the role of the eligible borrower, and the applicant either fulfils this role or fails to do so.

5.5 Conclusion

Causation in the sense in which the term has meaning in the natural sciences does not obtain in economics because economic phenomena do not have the sort of causal properties that obtain in natural objects; the subject matter of economics is not a natural kind. The study of dependent relations in economics, therefore, is entirely the study of agency, where any inductively obtained generalisation about a dependent relationship is a consequence not a of the properties of a natural kind, but of human action. This remains to be the case even if agency and the sort of intentionality traditionally associated with agency implying the autonomy of the agent is being replaced by the rule-based role, and the rule-based role is increasingly replaced by algorithms and artificial intelligence. Dependent relationships secured through algorithms depend neither on the properties of the objects involved nor the intentionality of the agent, but, rather, are *prescribed relationships* based on the rule posited in the algorithm. The algorithm is given the capacity and power to override both Causation and agency and brings about consequences that could not be obtained without it. This phenomenon requires analysis going beyond both causation and agency, and therefore beyond the scope of this paper.

The triumph and the tragedy of modern economics rests not in its failure to discover law-like regularities resembling those found in nature, but in its imposition on society of a surrogate reality, built with concepts borrowed from the determinist world of Newtonian physics. But the application of Newtonian causality to economic life is illegitimate. Instead of discovering something about an existing reality, economics generates its own - in Hobbes’ phrase a ‘made with words’ reality - that conforms to its agenda. Economic optimality is just as much a subjective *telos*, the choice of which just as much the product of value judgment as any of the other value judgments economics purports to exile. Something is optimal in relation to something else the choice of which is not a matter of either science or logic. With its materialist determinism economics has compromised the moral autonomy of the

agent, expelled moral responsibility for the morally loaded choices it compels us to make, and transformed for the worse the physical world around us.

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