



Erasmus Student Journal of Philosophy

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Editorial

The fifth issue of the ESJP marks an important moment for the journal, for several distinct reasons. With regard to the content, I am delighted that we have started to receive submissions from subfields of philosophy that were underrepresented in previous issues: the history of philosophy and theoretical philosophy. It is important that the ESJP will continue to represent the best written work produced by students of the faculty of philosophy, Erasmus University Rotterdam. This issue is a case in point with respect to the versatility of that faculty. It features contributions from an MA-student, a student engaged in the Research Master program in Early Modern and Intellectual History (which includes courses in philosophy) and, last but not least, two papers written by Research Master students of the Erasmus Institute for Philosophy and Economics. The inclusion of material from very diverse branches of the philosophical tree has only been possible thanks to the faculty staff. The editorial board is particularly grateful to them for nominating excellent papers written for their own courses and for reviewing papers written for other courses.

With regard to the staffing of the editorial board itself, many things have changed and many others are presently in the process of changing. The fourth edition was the last to have benefited from the efforts of Myrthe van Nus, who worked as an editor and then as a secretary with great distinction. It was always a pleasure to work with her and she has set a high bar for what can be expected of a secretary. Asking Jasper van den Herik to join the editorial board was one of the first things I did when I was named as editor-in-chief. He has been an important part of the journal ever since and has contributed in many ways to its continued success. This has been his final issue. I would like to thank both Myrthe and Jasper for their superb work and express the hope that being part of the ESJP has been as satisfying an experience for them as it has been for me, personally. For this is also my last issue. Being part of the editorial board has been nothing but a pleasure

and I would like to issue a sincere and resounding ‘thank you’ to everyone involved: the faculty of philosophy, the many people with whom I have had the pleasure of working as editor and editor-in-chief, and all of those who have read the pages of the ESJP with interest. The time has come for new generations of students to benefit from the experience of being part of the academic environment offered by the ESJP and working with the most talented of their peers. This issue has seen the addition of Tim van Dijk, Dirk-Jan Laan and Vivian Visser as guest editors. I am confident in their abilities and look toward the future of the ESJP with much confidence. Dennis Prooi will be the editor-in-chief of the next issue. His enthusiasm, dedication and ability have impressed me ever since he was added to the editorial board as a guest editor. He has also done well as secretary and as part of the team responsible for the layout. In their capacity as members of that team, I would like to thank Dennis, Jasper and Vivian once more.

Finally, I would like to thank prof. dr. J.J. Vromen, dr. P.J.J. Delaere and (soon to be) prof. dr. F.A. Muller for being on our supervisory board. I would also like to thank dr. Menno Liefers of Universiteit Utrecht for some much-needed specialist help, and all of the editors for their hard work: I have not yet mentioned Patrick Feddes, Lydia Baan Hofman and Thijs Heijmeskamp. Thijs will be the only one of the original line-up of the ESJP to make it to the sixth edition. With the permission of founder Daan Gijbertse, Thijs was the one who approached me to be a part of this journal – for which I continue to be very grateful, as I remain grateful to Daan for founding it to begin with. Finally, I extend my thanks to dr. A.W. Prins for his continued support of the journal and his many words of advice over the years more generally.

Julien Kloeg
Editor-in-Chief

About the Erasmus Student Journal of Philosophy

The Erasmus Student Journal of Philosophy (ESJP) is a double-blind peer-reviewed student journal that publishes the best philosophical papers written by students from the Faculty of Philosophy, Erasmus University Rotterdam. Its aims are to further enrich the philosophical environment in which Rotterdam's philosophy students develop their thinking and to bring their best work to the attention of a wider intellectual audience. A new issue of the ESJP will appear on our website (see below) every July and December.

To offer the highest possible quality for a student journal, the ESJP only accepts papers that (a) have been written for a course that is part of the Faculty of Philosophy's curriculum and (b) nominated for publication in the ESJP by the teacher of that course. In addition, each paper that is published in the ESJP is first subjected to a double-blind peer review process in which at least one other teacher and two student editors act as referees.

The ESJP highly encourages students to write their papers for courses at our faculty with the goals of publishing in our journal and appealing to a wider intellectual audience in mind.

More information about the ESJP can be found on our website:

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Although the editors of the Erasmus Student Journal of Philosophy have taken the utmost care in reviewing the papers in this issue, we cannot exclude the possibility that they contain inaccuracies or violate the proper use of academic referencing or copyright in general. The responsibility for these matters therefore remains with the authors of these papers and third parties that choose to make use of them entirely. In no event can the editorial board of the Erasmus Student Journal of Philosophy or the Faculty of Philosophy of the Erasmus University Rotterdam be held accountable for the contents of these papers.

In this issue

The fifth issue of the ESJP features critical reconsiderations of relations that were previously thought (not) to obtain.

In 'Philosophy & The Discourse of Economics', James Grayot argues that neoclassical economic science is characterized by a 'blackboard' mentality that has made it the captive of its own methods. Its disavowal of the important relation between (scientific) discourse and social institutions means that economics fails to do justice to its object of study.

In 'Is Information Out There?', Jasper van den Herik tackles the conceptual confusion surrounding one of the most crucial concepts of this day and age. He submits that the failure to distinguish between information and data has led to a conflation of what is truly 'out there' with what is the result of a relation between agent and information.

In 'Getting the Description Right', Darian Heim argues that re-description of a situation can be warranted when assessing the rationality of preferences. Decision theorist Paul Anand, who argues against this possibility, presupposes that observable choice is the sole criterion for describing preferences and makes an overly strict distinction between the descriptive and normative objectives of his field.

In 'Philosophy and Religion in service of the *Philosophia Christi*', Nicole Linkels investigates the way Desiderius Erasmus made use of ancient sources. Augustine and Epicurus are treated very differently by Erasmus. A careful reading shows that this difference reflects an intrinsic bias of the *philosophia Christi*, caused by a dogmatic assumption of truth.

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Philosophy & The Discourse of Economics

Why Modernism is no longer Emancipatory for Economics

James Grayot

It is as if economics has never really transcended the experiences of its childhood, when Newtonian physics was the only science worth imitating and celestial mechanics its most notable achievement

Nelson and Winter, 1985

Introduction

While many of the practices of economists remain an easy target for criticism by philosophers and postmodern social scientists, it is not certain whether economists are entirely to blame for their austere ways. In fact, if we look carefully at the history of economics, much of the stringency that plagues the neoclassical approach can be traced back to logical positivism and the scientism of early Anglo-American, 'analytic' philosophy. Having attended the 2013 INEM conference (*International Network for Economic Method*) hosted by the Erasmus Institute for Philosophy & Economics, I can safely say that I am not alone in wondering what the future holds for the discipline. To paraphrase Don Ross, Dean of the Faculty of Commerce at the University of Cape Town and the now chairman of the INEM organization, the mere fact that economists within the debate are unaware of *what* the actual problems in their methodology are conveys that the discipline itself is in trouble¹.

My goal is to examine the development of what has become known as 'Samuelsonian economics'. Samuelsonianism (coined by Deirdre McCloskey (2002)) can be used to refer to what is commonly called the 'neoclassical' or 'mainstream' approach to economic theorizing. In this paper I will argue that it is this attitude toward economics that is hindered by a rather contracted methodology, one which overprivileges quantitative analysis and likewise

eschews alternative heterodox approaches. However, I will show that (to the benefit of economists) the contemporary economic discourse – the rhetoric of quantification – is itself resultant of a broader intellectual movement, what can be called *modernism*. By considering the ways that other 'modern' disciplines have developed, I argue that this method of discourse, with which economists came to preeminence, is reminiscent of an obsolete paradigm².

Methodology and Discourse

How are we to understand economics? Prior to the outbreak of logical positivism, one could not discern where philosophy began and economics ended³. In reading Smith, Hume, or Marx, the notion of political economy was qualitative; it was continuous with moral theory and metaphysical belief. This contrasts with the discipline as it is conceived today, as orthogonal to morality and many of the quirks of human nature. Yet it is no less difficult now to classify economics among the canon of the sciences. Although the theoretical issues are many and varied, the scope of interest for philosophers of economics is bifurcated among two general lines: one branch of inquiry asks whether economics can (and should be) treated as a 'positive' science, similar to the natural sciences like physics and chemistry – 'positive' meaning that science is strictly concerned with fact-gathering and measurement and not with evaluating values or beliefs. In this regard Paul Samuelson (1947/1983: 219) notably stated that 'the scientist does not consider it any part of his task to deduce or verify (except on the anthropological level) the value judgments whose implications he grinds out'. Accordingly, positive sciences adhere to immutable laws which are unfalsifiable and (more importantly) are immune to the emotional disturbances of human judgment⁴.

Another branch of inquiry asks whether economists ought to take into consideration the moral and ethical implications of their assumptions and concomitant theories. For instance, what is the effect that markets have upon individuals' personal autonomy and perception of freedom? Can some markets be noxious? What about the kind of metrics that economists employ – do indices such as Gross Domestic Product/Gross National Product obscure our conception of national improvement and by extension human development? How do we reconcile high national production with low standards of living? Though such inquiries far from exhaust the many issues that are demanding of attention here; the punchline is that, until very recently, such questions were not taken into consideration by economists – or at least not given the due consideration that the majority of non-economists believed they required. Within the discipline, these inquiries were left to the marginalized heterodox cousins of mainstream economists.

It is somewhat ironic then that economists have the intellectual monopoly over the economy that they do. Despite the sophistication of their mathematics and dogged use of regression analyses, economists cannot say much about the economy that is not itself implicit in the parameters and assumptions which they impose. That is to say, when *speaking* about the economy, economists employ a system of rhetoric that is self-referential: it does not explain phenomena the way that physics or chemistry explain phenomena. That is not to say that supply and demand curves, national accounting identities or decision axioms are not demonstrative of extant phenomena; but we must realize that these methods are explanatorily ideal: while these tools are useful insofar as the framework which employs them actually maps the topography of that thing we call the 'economy' – and hence has some use in real markets and real institutions – economists tend to forget that such heuristics are idealizations, not *a priori* truths⁵. If economists conceive of the economy by the very set of concepts that they presume it to be constitutive of, then this seems question-begging. As Deirdre McCloskey (1999: 426) quips, 'It ain't science. It's just logic. It connects assumption A with conclusions C'.

Even within the economics community there is little consensus as to how the economy should be managed (or even how it ought to be conceived!). Consider Paul Krugman's recent controversial New York Times article (2009, September 2nd): the exegesis of the housing market crash

is presented as a subtly scathing critique of Chicago-style, or what he calls 'Freshwater', economic methods⁶. He states that 'the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth. . . Economics, as a field, got in trouble because economists were seduced by the vision of a perfect, frictionless market system.' However, not even Krugman, an insider and conspicuously influential economist, had *carte blanche* to make these criticisms. David Colander (2011) has since censured Krugman's account of the crisis and his caricature of the American economic scene. Granted, Colander's main contention with the editorial is one of biased scholarship, and not of school loyalties (both men are products of coastal, non-Chicago schools: Columbia and MIT). Yet, it is telling of a greater problem for the discipline when similarly schooled economists do not agree as to how the same historical facts add up. Or worse, what they entail for the future of the economy. The misreckoning this debate embodies anticipates the worries that I will discuss in this essay.

Modernism as Emancipation

Historians use heuristic labels to identify trends in the social and scientific milieu. Whether we call these handles *epochs*, *paradigms*, *eras*, *periods*, et cetera, the aim is to characterize the unique mentality or *Zeitgeist* that unites a common conception in the form of novelty and new ideas. With the advent of each new epoch we see dramatic shifts in attitudes and beliefs – iconoclastic transformations that affect the ways in which individuals perceive the world. Such paradigms do not merely characterize the way scholars speak to one another, but reveal deep structural shifts in the values and genesis of scientific theories.

According to Hans Robert Jauss the term 'modern' – as a distinguishing mark of historical awareness – was first used in the fifth century. Appearing as the Latin *modernus*, it depicted the present as officially Christian and distinct from the Roman and pagan past (Habermas & Ben-Habib, 1981). Though some historians are careful to restrict 'modernism' to refer only to the seventeenth century Enlightenment, the phrase has appeared throughout history:

With varying content, the term “modern” again and again expresses the consciousness of an epoch that relates itself to the past of antiquity, in order to view itself as the result of a transition from the old to the new. [...] the term “modern” appeared and reappeared exactly during those periods in Europe when the consciousness of a new epoch formed itself through a renewed relationship to the ancients – whenever, moreover, antiquity was considered a model to be recovered through some kind of imitation. (Habermas & Ben-Habib, 1981: 3)

According to Habermas and Ben-Habib, if we reflect on the structures of intellectual development, we see that in most fields – at critical periods in history – there arises a state of self-awareness by which the discipline (as experienced by the collective of its affiliates) becomes vexed: when the restrictive powers of tradition give rise to discontents, individuals inevitably challenge the doctrines and presuppositions which underlie their environment. The evolution of innovative ideas, then, occurs through a reactive and directed response against that milieu. Often the dominant views of the preceding epoch are subverted through deliberate and mutual exchange with adjoining fields (for example, if we consider the historical developments in natural sciences, say, in physics, there appears to be an almost isometric relationship to the historical development of mathematics. It is no surprise then that Euclid, Archimedes, Galileo, and Newton – each of whom made ingenious contributions to physics – were foremost mathematicians).

It follows that if the historical role of modern innovation results from a renunciation and substitution of the doctrines of the distant past, then we can express *modernism* as the reaction to classical antiquity: what has been previously termed ‘classicism’ can be identified by grandeur, self-importance, and by bombastic religiousness and mythology: consider that the very root of classicism is *class*, i.e. ‘first class’, ‘social class’, ‘high class’. Thus, the grandioseness by which classical art, music, and education were celebrated is in fact dependent upon, or rather, set against a background of social and political stratification.

By distinction, modern disciplines as we know them are interpreted as more functional, logical, and secular. In physics, mathematics, and natural philosophy, this has been characterized as a slimming down of explanatory foundations in favor of simple and parsimonious theories. The sciences in

general have been motivated to discover (and/or engineer) proofs whose applications are wide-reaching and would lead to more accurate predictions. Similarly in art and architecture, modernism has replaced baroque and ostentatious designs with purposeful, simplified edifices. This largely emphasized the importance of *concept* as a mechanism guiding creation⁷. In modern art, explorations into the fundamentals of form, color and light abjure the traditional focus upon craftsmanship and realism which were traditionally measured by their ability to recreate and mimic the world, not challenge it.

As Carl E. Schorske has eloquently portrayed it, the modernizing shift in Vienna (1860-1900) began as a prosocial retaliation against the upper crust of Viennese society. What germinated from citizen rebellion resulted in some of Europe’s chief cultural achievements in architecture, psychology (notably psychoanalysis), fine art and music. In *Fin-de-Siècle* Vienna, he describes it as follows:

As early as the eighteenth century, the word “modern” acquired something of the ring of a war cry, but then only as an antithesis of “ancient” – implying contrast with classical antiquity. In the last one hundred years, however, “modern” has come to distinguish our perception of our lives and times from all that has gone before, from history as a whole, as such. Modern architecture, modern music, modern philosophy, modern science – all these define themselves not out of the past, indeed scarcely against the past, but in independence of the past. The modern mind has been growing indifferent to history because history, conceived as a continuous nourishing tradition, has become useless to it. (Schorske, 1981: xvii)

Although we could discuss *ad nauseam* what modernism consists of relative to each of the aforementioned disciplines, this would be to miss the point. I am not concerned with the myriad ways in which the word ‘modern’ has been invoked. Instead, what is common to each discipline we call modern is the deliberate (at times programmatic) self-extrication from the past. In this sense, modernization is emancipatory. Let it suffice then to characterize modernism as the cultural process of self-awareness; it is the procedure by which a common ideology comes to reevaluate and redefine its own essence by reflecting upon the very foundations from which it derives meaning. It is an act of intellectual liberation.

Early Modernism to Logical Positivism: Philosophy's Impact on Economics

Early modern philosophy has had a palpable role in the development of twentieth century 'analytic' and positivist philosophy. Although this much is evident from a cursory study of the history of philosophy, the impact of early modernism on later Samuelsonian economics is not altogether obvious. An investigation into Descartes' philosophical rationalism reveals how the epistemic foundations of natural science shifted from the empirical-qualitative structures of the former Aristotelian physics to that of mathematical reason. As Kurt Smith (2012) states:

The only properties of bodies with which the physicist can concern him or herself are size, shape, motion, position, and so on – those modifications that conceptually (or *logically*) entail extension in length, breadth, and depth. In contrast to Aristotle's 'qualities', the properties (or modes) of bodies dealt with in Cartesian physics are measurable specifically on ratio scales (as opposed to intensive scales), and hence are subject in all the right ways to mathematics [...] This conception of matter, conjoined with the sort of mathematics found in the Geometry, allies itself with the work of such Italian natural philosophers as Tartaglia, Ubaldo, and Galileo, and helps further the movement of early thinkers in their attempts to establish a mathematical physics. (my italics)

In his *Meditations* (1641/1996), Descartes engages in extreme skepticism over the nature and reliability of knowledge gleaned from sense experience. This methodological doubt involved performing an *epoché* upon the phenomenal world in order to establish clear and distinct ideas – that is, judgments which were presuppositionless and indubitable. The suspension of all judgments rooted in sense experience thus refuted the Aristotelian idea that natural 'qualities' were necessarily veridical, and furthermore refuted a very specific conception of God which was presupposed by Medieval theologians. Instead, the concept of God is rebuilt in his theory based on the indispensable and eternal (ontological) truths which, upon reflection, necessitate God's existence (and furthermore satisfy to prove its benevolence). This justifies that sense experience can be reliable – for we can trust that our sensations, as bestowed by a benevolent

God, do not deceive us – and furthermore, that natural sciences can be preserved. However, what is crucial to this method of *a priori* reconstruction is the radicalization of the self – i.e. the *cogito* – as the epistemic basis of philosophical truth (1986).

As a prolegomenon, Descartes' *Discourse on Method* and *Meditations on First Philosophy* served the intellectual community by providing a method of ahistorical/atemporal scientific analysis. And within the rationalist tradition, Spinoza and Leibniz continued to develop philosophical axioms based on reflective, logico-deductive theories. However, modernism is not limited solely to the reflective *a priori* method. Empiricists, including John Locke and David Hume, employed similar reductive methods to suggest an epistemology based on sense experience. And these developments further influenced Kant and the German Idealists, as well as the contemporary 'analytic' philosophers.

However, in the early twentieth century modern philosophy culminated in the development of logical positivism, known metonymically as the *Vienna Circle*. Logical positivism required that philosophy be an extension of science and hence aim at eliminating any dubious metaphysical assumptions (and by consequence exalted the supposed transparency and tractability of mathematics). This emphasis on transparency required that philosophy impose linguistic frameworks whose axioms and statements correspond directly to the observable world: any claim that was not grounded in sense-experience (i.e. could be empirically verified), or equally, was not conceived via *a priori analytic* statements, was determined to be meaningless. Yet, positivism was not exhausted by philosophy alone; the procedure of the scientific method (supplemented by a Lakatosian reduction of theory falsification⁹) was adopted by many disciplines as way of achieving "balance of continuity and progress" in scientific discovery (Balak 2006: 13-5). However, it is this ostensible¹⁰ notion of mathematical transparency which is most notably associated with Samuelsonianism. Marcel Boumans (2004: 14) states that:

It is often assumed that mathematics is an efficient and transparent language. One of the most well-known supporters of this view was Paul Samuelson (1952). He considers mathematics to be a transparent mode of communication and that it is this transparency that will stop people [from] making the wrong deductive inferences.

In this regard, the positivists rejected Kant's *synthetic a priori* judgment for its metaphysical baggage: Kant's metaphysical realism/transcendental idealism was incongruent with the requirements of strict (empirical) verification (1787/1998). For this reason, it was Hume, not Kant, who was vindicated as an exemplary scientist whose skepticism and unyielding emphasis on scientific induction buttressed the positivist project. Thus, the scientism of the logical positivists had its greatest influence upon economists who were not satisfied with the traditionalist (classical) economics (as espoused by Smith, Ricardo, and later Veblen and Marshall). But this already couches neoclassical economics in later stages of modernism. We must see how, prior to Samuelson, economics developed out of the Scottish Enlightenment – predominantly due to Adam Smith, David Hume, and later John Stuart Mill.

Political economy, as a subdiscipline of social and political philosophy, embraced the presupposition that individuals are occupied solely with acquiring and consuming wealth and the subsequent activities that derive from this primary motive, such as production and distribution (Mill 1884). In this regard, early economics was depicted as a hybrid inductive-deductive method of inquiry which induced and then abstracted from all other human goals and motives (Keynes, 1904/1984). Herein, the aim of science was to investigate the laws that govern these operations, based on the supposition that man is a being who is determined, by the necessity of his nature, to prefer a greater portion of wealth rather than a smaller. In this way, Mill, among others, had conceived of political economy primarily as a science of human behavior; one which assents to the general or universal principle that man is a wealth-maximizing creature. The subsequent forms of this general purpose (production and consumption) are ancillary to this fact. In this regard, political economy was developed as a science of abstracted generalizations about human behavior, much in the same way that geometry is a science of abstracted mathematical figures and their concomitant relationships. Though we may conceive of man as having motives other than consumption of wealth, or conversely, conceive of man as acting in a way that violates these principles, this no less invalidates the necessity of starting from *a priori* assumptions for their convenience and simplicity – or so political economists assumed. However, classical economics still maintained that

careful induction ought to aid these generalized foundations, and in this regard, Keynes, Marshall, and the likes were still influenced greatly by the traditionalist approach to economic methodology.

It was not until the development of modern economics (following the conception of the macro-economy) that economists shifted toward the implementation of arcane, highly technical tools. With the introduction of business-cycle modelling and early econometrics (via Ragnar Frisch, Paul Samuelson, and Jan Tinbergen) the methodology of economics turned away from that of early political economy, thus embodying a more systematic approach toward the quantifying of production and consumption. 'These econometricians,' write Marcel Boumans and John Davis (2010: 31), 'shared the scientific ideals of the logical positivists, having a deeply held belief in mathematical rigor and the empirical testing of theories.'

Though many of the general principles of modern economics were predicated upon the assumptions set forth by classical political economists, the modern era can be defined by its stern scientism – that is, the application of abstract models and impenetrable mathematics. As an intellectual discipline, contemporary economics represents the most formal and dogmatic endeavor of modernity, which reached its apex during the dominance of logical positivism. Paul Samuelson and his successors including Lawrence Klein and Robert Solow were notably influenced by the positivist movement, and this explains the shift from political economy – as a science concerned with qualitative judgments – to neo-classical or mainstream economics as it appears today. But we cannot place all the blame on Samuelson himself – for Frisch and Tinbergen also have a lasting effect on the introduction of statistical inference in econometrics.

Yet, it is not merely positivism pure and simple that has caused such confusion for the discipline. The 'methodological schizophrenia' (to borrow Dan Hausman's useful epithet) of Samuelsonianism is its precarious yet unrelenting commitment to instrumentalism – or, the 'as-if' principle. Generally the instrumental view is regarded as the methodological position that a theory, or rather, assumptions put forth by a theory, are justified *just in case* they are predictive. Thus, a theory need not explain why some cause produced an effect so long as the theory's assumptions about the

concurrency of cause and effect are consistent enough to make useful predictions. And since economics has chiefly been interested in how humans behave, the focus on prediction (rather than true explanation) has had major appeal.

The invocation of the ‘as-if’ principle is most pronounced in the foundations of behavioral economics, game theory and decision theory, where human motivation can be represented by a set of modest assumptions. For instance, von Neumann-Morgenstern rationality supposes that persons are rational if and only if they seek to maximize the expected utility of each possible choice; in turn, all choices can be ranked according to their ordinal utility. This internal ranking is revealed when the agent chooses, thus displaying their preference. The means by which these models represent ‘reality’ is not necessarily based upon *genuine* preference formation which could be hindered by conflicting desires, imperfect information, or (irrational) expectations. Instead, the theory of expected utility merely assumes that persons act ‘as-if’ they are calculating the relative values of all utility functions and then choose accordingly. As branches of micro-economics have developed, the precision with which such models have sought to capture the decision-making process have evolved by the manipulating parameters of whatever game or decision set agents are confronted with, or by introducing various caveat-terms for features like uncertainty, risk, and altruism. But, these models suppose that humans act ‘as-if’ they are rational, informed, and cognitively equipped to make complex calculations, and this has created a rather strange version of the starkly positive science postclassical economics purported (or at least pretended) to be. Consider the following remark made by Gary Becker (1976: 7):

The economic approach does not assume that decision units are necessarily conscious of their own efforts to maximize or can verbalize or otherwise describe in an informative way reasons for the systematic patterns in their behavior. Thus it is consistent with the emphasis on the subconscious in modern psychology.

While it is taken to be the case that persons are not actually the calculating machines that economists make them out to be, this quote

nonetheless reveals what economists like Becker conceive economic agents to be: decision units – agents preprogrammed to satisfy rational-choice assumptions. But, there is little consolation to be found in the ‘as-if’ methodology if the Samuelsonian takes it as fact that the ‘economic approach’, the agent’s tendency toward maximization, is akin to a Freudian drive.

Post-Positivist Philosophy: On the Importance of Language and Social Ontology

What we have learned from the last half-century in post-positivist (not to be confused with postmodern) philosophy was that the Vienna Circle and its scientism were hopelessly inflexible; their inexorable methods were too limited to capture the intricacies and nuances of human life (including the many social institutions which further influence how individuals conceive of the economy and hence their economic decisions). I use the term ‘post-positivist’ to refer to multiple schools of thought, each of which privilege a unique methodology and set of motivating principles. While these schools may differ on their respective approaches toward a new method of philosophizing, the characteristic commonality is the rejection of logical empiricism and the underlying assumption that an analytic-synthetic distinction is sufficient to carve the epistemic joints of science. Quine (1953) famously exposed the problems inherent to this distinction, arguing that the very foundations of epistemic and metaphysical modality depend on extricating this dogma. A paradigm case of the post-positivist insurrection is Ludwig Wittgenstein. Wittgenstein was extolled by positivists for his publication of the *Tractatus Logico Philosophicus* which sought to expound the limits of the world through thought and language. However, despite its many merits, he subsequently revoked the conclusions he drew from the *Tractatus*, and moreover rejected the entire method espoused by the positivists. Wittgenstein re-evaluated the role that language played in common parlance, advancing (among other theories) that a word’s meaning is its use; that family resemblances – not essences – help to explain conceptual similarities; and *most importantly*, that the future of

philosophical investigation must abandon its fondness for rule-following. Wittgenstein's retraction of his earlier "dogmatic" sentiments and his austere criticism of rule-governed philosophical inquiry was definitive of a new intellectual culture.

Like Wittgenstein, philosophers ranging from Martin Heidegger to John Searle have investigated the very structures of reality which previously had been taken to be fundamental and obvious as the starting point in many social and scientific endeavors. This has been undertaken through a variety of philosophical methods, the majority of which have taken language and linguistic analysis to be of central importance. The hermeneutic approach of Hans-Georg Gadamer (1975), devised in the spirit of Heidegger's meta-ontology and further developed by Jürgen Habermas (1984, 1988), provided a conceptual scaffolding for conceiving of a linguistic based social-science, one which eschews the *a priori* assumptions of early modern philosophy as well as the strict empiricism of later positivists for an interpretive theory of communicative action. Though Habermas' motivation to remain true to the spirit of the Enlightenment diverged from Gadamer's more critical project, their joint influence within the field of philosophical hermeneutics conveyed an important insight: *that a science of social beings needs to critically examine language and the linguistic commonalities of those beings.*

Albeit, while the hermeneutic approach of the later German philosophers offered some reassurance that social sciences could be conceived of as more than an extension of the humanities (Habermas took care to distinguish his theory of communicative action from traditional conceptions of hermeneutic interpretation couched in the *Geisteswissenschaften* – or 'human sciences'), there has, unfortunately, been little development in 'harder' social sciences that has taken the linguistic turn seriously. This notwithstanding, if we consider Descartes' *epoché* and the subsequent movements in early-modern philosophy to be indicative of a transcendental unrest – that is, a markedly new consideration for the conditions necessary for any empirical judgment – then many of the forthcoming post-positivist philosophies can be understood by their collective distrust of *certainty*.

The tragedy of modernism is that it takes itself too seriously – the demand for indubitable truth always presupposes some foundation or ideological backdrop upon which clear and distinct ideas can be deter-

mined. As later philosophers have pointed out, the Cartesian *epoché* wrongly presumed that the cogito – *the self-knowing subject* – was capable of performing cognitive and linguistic acts within a self-imposed, conceptual vacuum. Descartes' skepticism about the external world failed to doubt those very constructs that are necessary for a rich philosophical analysis – namely, a concept of language (or some kind of prelinguistic cognitive grammar), social and cultural affiliations, etc. If we grant that the later positivists were as steadfast in upholding the analytic-synthetic distinction as was Descartes concerning the epistemic validity of clear and distinct ideas, then it is easy to see how positivism fell out of fashion. Echoing this point, McCloskey (1983: 483) explains that 'the program [of positivism] failed, and in the meantime probable argument languished. In Richard Rorty's words, following Dewey, the search for the foundations of knowledge by Descartes, Locke, Hume, Kant, Russell, and Carnap was "the triumph of the quest for certainty over the quest for wisdom."' As a model for sound scientific practices, the program of positivism was misled by the pursuit of truth and epistemic certainty.

The 'Post-Autistic' Movement and the Critique of Samuelsonian Discourse

Along with McCloskey, Arjo Klamer and Steven Ziliak are two notable economists who have both expressed a great deal of criticism of the Samuelsonian tradition. Their joint effort within the post-autistic movement reflects many of the same worries that post-positivist philosophers had regarding their self-assured predecessors. What has made mainstream economics metaphorically autistic is its introverted and egotistical approach toward scientific inquiry; economists have become indoctrinated to conceive of the economy through the rhetoric of quantification: regression coefficients, point elasticities, multiple correlation analyses, Phillips curves, equilibrium prices. The autistic model consumer is not a human being, but *Max U* – a 'sociopathic' agent who seeks only to maximize expected utility (Klamer *et al.*, 2007). *Max U*'s psychology can be determined by his set of utility functions and algorithmic decision models.

This conception of ‘the economy’ lacks the qualitative features that traditional political economists sought to preserve. We are then led to ask: is the ultra-formality of mainstream economics as scientific as it proclaims to be? If so, then this is hostile to the conception of science that many other scientists claim as their *modus operandi*. McCloskey (1999: 425) states that ‘[economics], for all its promise, is in very bad shape because it has fallen into a cargo-cult version of science in which qualitative theorem-making runs the “theory” and statistical significance without a loss function runs the “empirical work”¹¹.’ She continues:

Economics in its most prestigious and academically published versions engages in two activities, qualitative theorems without entries for the world’s data and statistical significance without loss functions. These two look like theorizing and observing, and have the same tough math and tough statistics that actual theorizing and actual observing would have. But neither of them is what it claims to be. Qualitative theorems are not theorizing in a sense that would have to do with a double-virtued inquiry into the world. In the same sense, statistical significance without a loss function is not observing. (1999: 426)

To put it in less abstract terms, the means by which economists perceive the actual economy is through a hyperquantified lens of computation and simulation. All aspects of the phenomenal economy – the literal market places populated with real flesh and blood agents – are codified into convenient representations. For all its rigor, it is not science (at least, not in the same sense that chemistry and physics are science). It is some kind of logic of economic theorizing based on a considerably small number of assumptions, but it is not the study of the economy in itself. In no way does the Samuelsonian conception of the economy resemble that with which the lay-person involves him/herself. This is especially perplexing if we consider that the economy depends for its existence upon the actions and engagements of individuals.

While I do not disparage the richness and sophistication of the various tools economists use, I am adamant that the discipline is beset by a rather indulgent self-image, which privileges its own rhetorical position. The economy can be conceived of as more than a set of models

and simulations; its composition depends just as much on the actions of non-economists as it does on its scientific analyses performed by properly trained statisticians. But the discourse is asymmetrical: there are the academics, who favor a certain set of periphrastic devices and *topoi* (e.g. equilibria, utility-maximization); and there are the lay-people, whose behavior, either knowingly or unknowingly, are constitutive of the economy. For the lay-person, the economy is not something that exists on a blackboard, but is a confluence of modes of being. These modes *are* the meanings that the word ‘economy’ evokes for them. These meanings range from ‘a digit on a paycheck’, or ‘an extra kilo of rice’, to ‘percentage-point of interest’. When I say that discourse is asymmetrical, I mean that the language of economics does not consider these peripheral meanings with which the economy presents itself to non-academics. That is not to say that words like ‘digit’, ‘kilo’ or ‘percentage’ do not presume a modicum of mathematical understanding by non-economists; but instead, that the pervasiveness of the language of mathematics is no justification for reducing the discourse of economics to the limited rhetoric of quantification.

Ontologically speaking, the discourse of non-economists is as integral to understanding the economy as is the academic economists’, whether this is via metaphor, institution, or equation. I am not making the bold statement that the ontological status of the economy is exhausted by language and linguistic acts alone. But economists’ blatant disregard for the significance of language and social idioms – in a word: the communicative actions that bestow meaning for individuals – is parasitic upon the broader conception of what economics is the study of. The cardinal sin that economists of the Samuelsonian tradition have committed is the confusion of mathematical discourse with ontological reality – while mathematics explains the economy, *it is not constitutive of it*. Consider the following passage from Klammer *et al.* (2007: 2):

Economics is a plurality of conversations, but with a few honorable exceptions today’s textbooks don’t deign to mention the fact. The actual economic conversation is heterogeneous. Yet the textbooks are startlingly homogeneous. The actual economic conversation is conducted by feminists and libertarians, empirical Marxists and postmodern

Keynesians, historical institutionalists and mathematical Samuelsonians. But most of today's textbooks teach Samuelsonianism pure and simple, period. They are dogmatic, one voiced, unethical.

But what does Klamer mean by 'Economics is a plurality of conversations'? 'Postmodern Keynesians' and 'historical institutionalists' hardly sounds like the manner of speaking that non-academics use to describe themselves, let alone how economics impacts their daily lives. So, what benefit is it to the study of the economy to consider these other academic conversations? The reason, I argue, is because it is precisely the scope and aim of alternative, heterodox schools to privilege diverse methods of discourse. While "empirical Marxists" and laissez-faire libertarians hold antithetical views toward one another, they satisfy to cover a broader range of possible modes of being, both of which lack proper representation in the neoclassical, Samuelsonian paradigm. While the conversation may sound equally as abstract between a mathematical Samuelsonian and empirical Marxist to the uninitiated, we must remember that it is not what the conversation 'sounds like' that is important for non-academics, but what the conversation is *about*. For this reason, neoclassical rhetoric is dangerous if it fails to consider that 'decision units' are more than ink on a page, or curves on a supply/demand graph. This is why academics who represent feminists, Marxists, libertarians, institutionalists, etc. must also have their place in the economics conversation.

Other Considerations: Applied Philosophy of Science & Economics Imperialism

My interest here has been to show that economics is not immune to the fluctuations of history, and that its methods can be traced to an era of overly confident scientism. However, some readers may be critical of the claims that I have made thus far either because they accuse me of portraying a strawman of neoclassical economics by criticizing Samuelsonianism; or it may be asserted that I have not properly considered alternative developments in the field which do seek to supplement blackboard-theorizing with sociological and behavioral experiments. I would like address these issues:

First, it must be stated that many of the problems that philosophers of economics are concerned with have as their origin the complications and paradoxes found in the canon of philosophy of science. These challenges include, among other theoretical issues, the general problem of measurement¹², fact-value entanglement¹³, theories of sound evidence¹⁴, and a host of inquiries that invoke the use of higher-order linguistic frameworks and logical analyses. In the study of economics these armchair issues become palpable because they can be readily applied to concrete practices, where subjects can be surveyed (unlike the subjects of many biological sciences) and moreover consequences may be directly observable (unlike quantum physics and some branches of mathematics).

We can examine, then, as demonstrative of the above challenges, the problem of *quality change*¹⁵ as it relates to the analysis of the standard costs of living. As has been previously investigated by Julian Reiss (2008), economists mistakenly validate the qualitative aspects of cost-of-living indices (COLI) by consulting and overdetermining consumer price indices (CPI). This is problematic given that CPI and COLI are categorically distinct metrics; the former describes the consumption of the average household and the latter refers to the price of a bundle of goods that an individual household is willing to pay for subsistence living. While there might be a conditionally dependent relationship between the two, it is unclear whether or to what degree one can be indicative of the other without *presupposing* that the two are coextensive. While making use of a consumer price index for a cost-of-living analysis does not violate any laws of logic or natural science, it does require that economists presuppose much about the statistical relevance of the average costs of living, faithful census and data collection, and (most controversially) the robustness of utility and subjective well-being as suggestive of persons' actual welfare. Not only is quality change plagued by the general problem of measurement, but it also implicates how macro-level phenomena can be precariously dependent on tenuous microfoundations. But how does an issue like quality change relate to the possibly committed strawman?

Throughout this presentation I have (admittedly) not been clear in delineating wherein blackboard economics is most pervasive. That is, I have not made it explicit whether the matters of contemporary discourse

refer to microeconomic or macroeconomic theorizing. I respond to this charge by claiming that the sins of Samuelsonianism can be found in both camps. And it is much easier to see this by considering how (à la Hausman) the methodology is schizophrenic in the ways it draws inferences.

As stated above, quality change refers to a potential shift in living standards by imposing an interface between quantity measurement (CPI) and quality analysis (COLI). Though COLI is a quantitative measurement, i.e. it refers to the cost of a particular size of a bundle of goods, the experience of that bundle and the subsequent interpretation of that experience is *qualitative*. But, economists do not like to work with subjective properties and thus COLI serves as a tractable marker for explaining what persons prefer. The difficulty arises when individual preferences over consumption bundles are extrapolated (based on the deductive assumptions about the rational behavior of individuals) and this representative household is then aggregated over a large number of supposedly similar households. The indexation of costs-of-living is thus an inductive appraisal of the average consumption amount based on an essentially deductive preference model.

So, what is at stake here? On the one hand, COLI is predicated on utility – as a de facto measurement of subjective well-being – to justify household consumption levels. Under the umbrella of neoclassical microeconomics, expected utility theory is regarded as highly athletic: ‘as-if’ maximization is justified on the pragmatic assumption that given the correct parameters and modest set of behavioral assumptions, any agent can be shown to maximize some form of utility, whether evinced as wealth, social preference, happiness, etc. On the other hand, when economists inductively derive the expenditure of an average household on consumptive bundles, this is a macro-level assessment. Thus, if CPI tracks changes in the price of a specific bundle of goods over time, then the fluctuations of price indices are assumed to be determined by the willingness of persons to spend X amount on the bundle of goods at that time. Note, I am not claiming that quality change is an instance of methodological individualism (however, this remains a hot-button issue in the methodology of economics). But, it is the case that quality change exposes precisely how economists indoctrinated by blackboard tactics will employ both inductive and deductive methods of analysis as it suits their needs: and this

shows how the discourse at both levels continues to implement idealistic assumptions about the veracity of revealed preferences (as deductive choice methods) and accuracy of statistical analyses (based on simulations and inductive inferences from sample sets).

The other consideration I anticipate is that perhaps Samuelsonianism is not representative of the most cutting edge, experimental branches of economics. It would thus be unfair to level this criticism against behavioral studies that deal directly with cognitive and neurological studies, ones which could have unparalleled influence on the trajectory of future economics. In response to this claim, I present two cases from the burgeoning field of neuroeconomics.

Recent work in the field of neuroeconomics has generated some controversy regarding the role that certain economic concepts play in actual decision-making processes. This has caused many to re-evaluate whether economics can learn from cognitive and neurological studies of the brain; or conversely whether it is neuroscience which ought to adopt the explanatory mechanisms of economic theory to make sense of the data. The first interpretation is referred to as the ‘neuroeconomics critique’; the latter has been dubbed ‘economics imperialism’. Both of the following cases I present are guilty of the latter.

In the first case, Faruk Gul and Wolfgang Pesendorfer (2005) rebuke recent evidence¹⁶ whereby neuroscientists sought to map brain states in order to ‘track’ the presence of utility in subjects. In response to the rather novel findings – that utility is a plurality of brain states which are contingent on the type of satisfaction an agent experiences – Gul and Pesendorfer argue against the commitment that facts and concepts about human behavior (such as utility maximization or risk aversion) hold unequivocally across disciplines. This means that, against the evidence that utility is not a single, ‘one-size-fits-all’ metric of satisfaction, economics need *not* reconsider that there are multiple ways of realizing expected utility. They maintain that, though psychologists have certain intuitions about human behavior and specialized methods for mapping these intuitions, it does not follow that these intuitions supervene on the principles of economic theory. More likely is the case that psychological explanations of brain activity are built upon very different notions of ‘preference satisfaction’

or ‘risk aversion’ – that is to say, that their concepts of utility or risk may be fundamentally different from that of economics. Thus, rather than to admit that utility is a much more nuanced and complex thing, Gul and Pesendorfer are adamant that cognitive scientists and psychologists have a different understanding and hence *use* for the scientific data that supports a multitude of uses for the term ‘utility’. In short, Gul and Pesendorfer maintain that the neuroeconomics critique (that economics can learn from neuroscience) is false.

The second neuroeconomics case comes from the decision-theoretic experiments of Paul Glimcher *et al.* (2005). Specifically, their experiments sought to map encoded neurons to determine the preference-profiles of subjects. Glimcher *et al.* concluded that the brain in fact operationalizes an expected utility calculation analogous to that of rational choice theory – they refer to this as *physiological expected utility*. The upshot of their discovery is that actual decisions should be tractable in the neural architecture of subjects making both descriptive and prescriptive aims of expected utility theory realizable. Glimcher’s avowed motivation was to capture the *subjective* expectations that agents have when faced with decisions – this motivation is attributed principally to Bernoulli (1738/1954) and Savage (1954). The importance of Bernoulli’s model (for physiological expected utility to have potential merit) expressed that two variables from the external world were modified by processes *internal* to the decision maker and that the product of these computations was then represented and used to make choices. Yet, they concede that despite the ‘significant uncertainty’ about the precise form of Bernoulli’s stated internal computation, current neurobiological evidence seems to strongly support this early claim, namely that expected utility *is* computed through an internal mechanism. For this reason, economic theory is better suited to explain the neural firings in the brains of subjects faced with decision problems. Again, this is an instance of economics imposing theory on external disciplines, not *vice versa*.

Both of the cases above constitute what has been called economics imperialism. While the very term is a debated one, I regard the examples as telling of a mentality that stems from the same history which birthed Samuelsonianism. While Glimcher’s experiments are less volatile to the

mutual exchange of ideas among disparate fields, Gul & Pesendorfer represent a commitment to the purity of economic theory – that economics is equipped with the tools it needs to explain human behavior. What is gathered from neurological studies is ancillary, and at best, supplementary to the assumptions held by neoclassical economists. It thus represents a part of the discipline which is unyielding to the spirit of scientific enquiry.

Concluding Remarks

It has been my goal to show that the ‘blackboard’ mentality of neoclassical economics is excessively quantitative and thus too rigid to investigate fully the structures of the economy. However, we must realize that the intransigent personality of neoclassicism has its roots in pre-Samuelsonian positivist philosophy. Logical positivism and early-twentieth century ‘analytic’ philosophy had by Samuelson’s heyday already evolved from an early-modern, post-Enlightenment Cartesianism, which pursued certainty to the exclusion of practical wisdom. Descartes’ concept of clear and distinct ideas underscores what is meant to be emancipatory about modernism: that a logical and secularly-reasoned approach toward science should liberate truth from pernicious and unwarranted dogma. It is for this reason that mathematics, as a tractable and transparent language, has been the primary mode of economic theorizing over the last century. The irony, however, is that these very methods have held economics captive and prevented it from developing further. While natural sciences such as physics and chemistry can afford to be, and by virtue of their content *ought to be* positive, economics is an entirely different kind of science. ‘Blackboard’ economics functions as if mathematical entities are the sole contents of the discipline, and for this reason invoke positivist methods. But this is mistaken. If Popper is correct, and mathematical objects are merely ‘quasi-matter’, then these objects are only a *means* by which the actual subject of economics is expressed. In the spirit of traditional political economy, then, it is fundamentally a discipline of human action. And as humans – not Beckerian decision units – we are imbedded in an amalgam of social institutions that include language and linguistic commonalities, social dispositions, imperfect knowledge and

idiosyncratic behavior. For these reasons, the analytic tools handed down from modernism have not been emancipatory for economics; instead, they have imposed an exceedingly restrictive scientific regime which undervalues these institutions.

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Notes

1. This remark was made 'off the cuff' during a plenary discussion for the INEM panel members.
2. I use the term 'paradigm' very loosely here. I am fully aware of its significance in the history and philosophy of science. In this paper I refrain from directly referencing Kuhn (1970) to avoid any confusion that may ensue from his specific use of paradigm shift in scientific revolution.
3. This is not meant to diminish or ignore the integral role that early economists had on the development of a separate, more quantified science of the economy. This list includes, among many others, the work of Alfred Marshall, William Stanley Jevons, Thorstein Veblen, Carl Menger, Vilfredo Pareto, to name a few. However, my aim in this paper is not to offer a historical analysis as such; it is to look at specific parts of the history of economics, parts which have caused the discipline to propel itself in an unambiguous direction.
4. Whether we conceive of (the aim) of science from the perspective of Kuhn, Popper, Lakatos, or other, the generalized argument that positive science ought to be value-free is of significant importance concerning the normative implications of economics. Friedman (1966) famously discusses the possibility of positive economics, which has since incurred numerous publications in response. Recently, the case for positive economics has spurred debates related scientific realism (Mäki, 2009; Reiss, 2012) and fact-theory-value entanglement (Dasgupta 2005, 2007; Putnam & Walsh 2007, 2009). Though, the literature on realism vs. instrumentalism is a vast and decades old debate.

5. While a priori truths are ideal, not all idealizations are a priori true.
6. In the article, 'freshwater' is used to denote Chicago-style economics whereas 'saltwater' refers to more coastal programs. This geographical metaphor is not a strict or even commonly regarded distinction – rather it is a convenient explanatory heuristic for Krugman's presentation of the rift among styles of economic training.
7. See Carl E. Schorske (1981) for further discussion regarding the effects of modernization.
8. Although the epoché is principally associated with Edmund Husserl regarding his method of phenomenological reduction (i.e. the 'bracketing' of biases which affect one's experience of the phenomenal world), the term in fact has a historical basis in ancient Greek philosophy, as employed by the Skeptics (Brittain, 2008). Although I do not attribute to Descartes Husserl's specific method of phenomenological reduction, the epoché satisfies to capture the institution of hyperbolic doubt with regard to sense-experience.
9. However, as Imre Lakatos' mentor, Karl Popper (1959) was an adamant critic of positivism – namely of the principle of verification – due to what he saw as the unanswerable problem of induction (Okasha 2002).
10. Boumans also notes that Popper regarded mathematical objects as 'quasi-matter' and therefore not always transparent. He states, 'This is shown by the fact that formalisms can be interpreted in different ways' (Boumans 2004: 14).
11. McCloskey makes reference to the 'loss-function' as it relates to statistical significance. For the non-economist, a loss-function can be understood most simply as an 'estimator' applied to a statistical model which is intended to map, that is anticipate, the actual loss experienced in the context of a particular applied problem. In *The Loss Function Has Been Mislaid: The Rhetoric of the Significance Tests*, McCloskey argues that misuse of statistical significance in a majority of economics publications can be attributed to this missing element. She quotes Abraham Wald, stating: 'The question as to how the form of the [loss function] should be determined, is not a mathematical or statistical one. The statistician who wants to test certain hypotheses must first determine the relative importance of all possible errors, which would entirely depend on the special purpose of his investigation' (as cited in McCloskey, 1985: 203).
12. In principle, this is an epistemic issue: On the one horn, economists seek to define a veridical instrument of measurement; on the other horn, without preconceived instrumentation, they cannot study the variables in question. This would imply that certain preconditions – i.e. conceptual frameworks, axiomatic truths – must be met in order to embark on scientific inquiry at all. Thus, the general problem of measurement is one of circularity.
13. Aforementioned in the introductory section. For further information, see Hilary Putnam (1989).

14. For classic discussions on the nature of scientific evidence, see Carl Hempel (1945, 1958, 1962), Nelson Goodman (1983), and Wesley Salmon (1984).

15. The problem of quality-change refers to the variation in quantity or price of a bundle of goods which causes a disproportionate change in the subjective experience of that bundle. Because CPI measures price changes in relation to their effect on the cost-of-living index, they are conflated with qualitative judgments, namely utility measurement. This means that price changes incur a curious evaluation, or rather translation, into functional utility. See Reiss (2008).

16. This issue concerns the use of neuroeconomic evidence in favor of supporting changes to normative economic methodology. The issue, as it is presented in *The Case for Mindless Economics*, involves an analysis of and rejection to what is called the 'neuroeconomics critique', which states that data from neuroscience can be insightful for understanding economic behavior. The neuroeconomics critique supposes that brain sciences are in a privileged position to experiment with individuals in artificially constructed economic situations, and this evidence may change the way that economists interpret game- and decision-theoretic models. See Camerer, Loewenstein, and Prelec (2004, 2005) for more discussion.

References

- Balak, B. (2006). *McCloskey's Rhetoric: Discourse Ethics in Economics*. London: Routledge.
- Becker, G.S. (1976) *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.
- Bernoulli D. (1738/1954) 'Exposition of a new theory on the measurement of risk'. In: *Econometrica*, 22, 23–36.
- Boumans, M. (2004). *How economists model the world into numbers*. London: Routledge.
- Boumans, M. & Davis, J.B. (2010) *Economic methodology: Understanding economics as a science*. Palgrave Macmillan.
- Brittain, C. (2008), "Arcesilaus", The Stanford Encyclopedia of Philosophy (Fall 2008 Edition), Edward N. Zalta (ed.), Retrieved from: = <http://plato.stanford.edu/archives/fall2008/entries/arcesilaus/>.
- Camerer, C.F., Loewenstein G. & Prelec, D. (2005) 'Neuroeconomics: How neuroscience can inform economics.' In: *Journal of Economic Literature*, 34 (1).
- Camerer, C.F., Loewenstein G. & Prelec, D. (2004) 'Neuroeconomics: Why economics needs brains.' In: *Scandinavian Journal of Economics*, 2004, 106 (3), 555-79.
- Colander, D. (2011) 'How economists got it wrong: a nuanced account.' In: *Critical Review*, 23 (1-2), 1-27.
- Dasgupta, P. (2005) 'What do economists analyze and why: values or facts?' In: *Economics and Philosophy*, 21 (2), 221.
- Dasgupta, P. (2007) 'Reply to Putnam and Walsh.' In: *Economics and Philosophy*, 23 (3), 365.
- Descartes, R. (1637/1986). *Discourse on method and meditations on first philosophy*. Indianapolis: Hackett Publishing.
- Descartes, R. (1641/1996) *Meditations on First Philosophy*. In: Cottingham J., (ed. & trans.) *Meditations on First Philosophy with Selections from the Objections and Replies* (revised ed.), Cambridge: Cambridge University Press.
- Friedman, M. (1966) 'Essay in Positive Economics.' *Essays in Positive economics*, Chicago, Univ. of Chicago Press, 3-16.
- Gadamer, H.G. (1960/1975) *Truth and Method*. trans. W. Glen-Doepel, London: Sheed & Ward.
- Glimcher, P.W., Dorris, M.C., & Bayer, H.M. (2005). 'Physiological utility theory and the neuroeconomics of choice.' In: *Games and economic behavior*, 52(2), 213-256.
- Goodman, N. (1983). *Fact, fiction, and forecast*. Cambridge, MA: Harvard University Press.
- Gul, F. and Pesendorfer, W. (2005) *The Case for Mindless Economics*. Levine's Working Paper Archive.
- Habermas, J. (1984). *The theory of communicative action*, Vol. I. Boston: Beacon.
- Habermas, J. (1988) *On the logic of the social sciences*. Cambridge, MA: MIT Press.
- Habermas, J and Ben-Habib, S. (1981) 'Modernity versus Postmodernity.' In: *New German Critique*, No. 22, Special Issue on Modernism, 3-14.
- Hempel, C. G. (1945). 'Studies in the Logic of Confirmation (I.)' In: *Mind*, 54 (213), 1-26.

- Hempel, C. G. (1958). 'The theoretician's dilemma.' *Minnesota studies in the philosophy of science*, 2, 37-98.
- Hempel, C. G. (1962) 'Explanation in Science and in History.' In: *Frontiers of science and philosophy*, Colodny, R.G. (ed.), University of Pittsburgh press, 9-33.
- Kant, I., Eds. Guyer, P., & Wood, A. W. (1787/1998) *Critique of Pure Reason*. Cambridge: Cambridge University Press.
- Keynes, J. N. (1904/1984) 'On the Scope and Method of Political Economy.' In: *The Philosophy of Economics: An Anthology*. Hausman, D. (ed.), Cambridge: Cambridge University Press, 70-98.
- Klamer, A., McCloskey, D., and Ziliak S., (2007) 'Is There Life after Samuelson's Economics? Changing the Textbooks.' In: *Post-Autistic Economics Review*, issue no. 42.
- Krugman, P.R. (2009) 'How did economists get it so wrong?' In: *The New York Times*, September 2nd.
- Kuhn, T.S. (1970) *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Mäki, U. (2009) 'Unrealistic assumptions and unnecessary confusions: Rereading and rewriting F53 as a realist statement.' In: *The methodology of positive economics: Reflections on Milton Friedman's legacy*, 90-116.
- McCloskey, D.N. (1985) 'The Logic function has been misled: The rhetoric of significance tests.' In: *The American Economic Review*, 75 (2).
- McCloskey, D.N. (2002) 'Other Things Equal: Samuelsonian Economics', In: *Eastern Economic Journal*. EER 28 (3), 425-30.
- McCloskey, D.N. (1983) 'The Rhetoric of Economics.' In: *Journal of Economic Literature*, 21 (2), 481-517.
- Mill, J.S., (1844), 'On the Definition of Political Economy; and on the Method of Investigation Proper To It.' In: *Essays on Some Unsettled Questions in Political Economy*. London: Longmans, Green, Reader, and Dyer.
- Nelson, R. & Winter, S. (1985) *An Evolutionary Theory of Economic Change*. Harvard, MA: Harvard University Press.
- Okasha, S. (2002) *The Philosophy of Science: A Very Short Introduction*. New York: Oxford University Press.
- Popper, K.R. (1959) *The logic of scientific discovery*. London: Hutchinson, 1.
- Putnam, H. (1989) *Objectivity and the science/ethics distinction*. Helsinki: World Institute for Development Economics Research.
- Putnam, H. and Walsh, V. (2007) 'Facts, theories, values and destitution in the works of Sir Partha Dasgupta.' In: *Review of Political Economy*, 19 (2), 181-202.
- Quine, W.V. (1953/1963) 'Two Dogmas of Empiricism.' *From a logical point of view*. Cambridge, MA: Harvard University Press, 2-46.
- Reiss, J. (2008) *Error in Economics: Towards a More Evidence-Based Methodology*. London: Routledge, INEM Advances in Economic Methodology.
- Reiss, J. (2012) 'Idealization and the aims of economics: Three cheers for instrumentalism.' In: *Economics and Philosophy*, 28 (03), 363-383.
- Salmon, W.C. (1984) *Scientific explanation and causal structure of the world*. Princeton, NJ: Princeton University Press.
- Samuelson, P.A. (1947/1983) *Foundations of Economic Analysis*. Cambridge, MA: Harvard University Press.
- Savage, L.J., (1954) *The Foundations of Statistics*. New York: Wiley.
- Schorske, C. E. (1981) *Fin-de-siècle Vienna*. New York: Vintage, 1st Vintage Book edition.
- Smith, K., 'Descartes' Life and Works', The Stanford Encyclopedia of Philosophy (Fall 2012 Edition), Edward N. Zalta (ed.), Retrieved from: <http://plato.stanford.edu/archives/fall2012/entries/descartes-works/>.



Is Information Out There?

Jasper van den Herik

The concept of information is becoming a central category in the sciences and in society at large. Apart from the rise of information technology, information is used to shed light on all sorts of phenomena, ranging from physics, biology, cognition and perception, epistemology, ontology, ethics to aesthetics: some even argue that the universe itself is an information-processing device. The concept of information is thus changing the way we perceive and evaluate the world and ourselves. De Mul (1999) states that this results in an *informatisation of the worldview*, comparable to the mechanisation of the worldview in the seventeenth century. Yet, the sheer number of applications of the concept of information makes it a ‘polysemantic concept’ (Floridi, 2013) and a ‘notoriously promiscuous term with a marked capacity for dulling critical capacities’ (Timpson, 2006: 221).

In this paper, I argue that the failure to distinguish between *information* and *data* lies at the root of much confusion that surrounds the concept of information. Although data are ‘out there’, i.e. concrete, informational content is abstract and always co-constituted by *information agents* – a set which includes at least linguistically capable human beings. Information is thus not an intrinsic property of concrete data, but rather a relational property, which relies on the existence of information agents.

In part one, I take our ordinary, semantic, conception of language – as something that can inform us – as the explanandum of this paper. I therefore first delineate this concept from the technical notion of information as developed by Shannon. Thereafter, I introduce Floridi’s (2013) *General Definition of Information*, wherein information is construed as well-formed meaningful data. Elaborating on this distinction between information and data, I argue, *pace* Floridi, that human-generated information can only be meaningful relative to an information agent who knows how to inter-

pret the data, since the semantic value of the human-generated data is dependent on the horizon of experience of the information agent. The meaningfulness of data is therefore a relational property.

In part two, I broaden the scope and argue that besides human-generated information, environmental information also depends on information agents. Using Hutto and Myin’s (2013) *Covariance Doesn’t Constitute Content Principle*, I argue that it is not possible to speak of informational content ‘out there’ as existing independent of information agents. I argue that such a concept of *informational content ‘out there’*, could not be causally efficacious, thereby making a description in terms of content superfluous.

In part three, I consider and reject two proposals that do take information to be an objective commodity. The first is Dretske’s (1981), which I argue does not succeed in providing an information agent-independent concept of informational content. The second concerns foundational views of information, which make the ontological claim that information is the fundamental ingredient of reality (one can think for instance of Wheeler’s ‘it from bit’, or certain positions in theoretical physics, such as Susskind’s idea of the holographic universe). I argue that these accounts trivialise the concept of information by conflating the notions of data and information.

1. What is ‘Information’?

As noted in the introduction, ‘information’ as a concept is notoriously polysemantic, pertaining to very different applications. In this section I introduce Floridi’s (2005; 2013) data/information distinction, which allows us to get a grip on the slippery concept of information. Thereafter, I argue

that human-generated data do not have a semantics independent of an information agent. But first of all, I explicate the difference between our ordinary conception of information and Shannon's technical notion of information.

1.1 Two Concepts of Information

When we talk about information, there are different kinds of phenomena we might be interested in. In our everyday use, information has both a *passive* and an *active* connotation. First, we can think of it as something that is 'out there', a commodity or stuff that can be stored and transmitted. For instance, there is information contained on the hard disk of my computer, but this information cannot do anything by itself – it patiently awaits processing. In this sense, information is used as an abstract mass noun (Adriaans, 2012), i.e. it is uncountable and not individuated, like the concrete mass noun 'water'. On the other hand, we also view information as having an informing relation to an information agent¹. An agent thereby learns, or gets to know, something about the world through this information (De Mul, 1999). Moreover, this implies that information is always about something else, it describes a state of affairs and is hence intentional. In our everyday use of the concept of information, three features therefore seem crucial: '*agents* which represent and use the information, *dynamic events* of information change, and '*aboutness*': the information is always about some relevant described situation or world' (Adriaans & Van Benthem, 2008: 13). Viewed in this way, information has semantic or meaningful content, and allows us to come to know things about the world. Furthermore, it is a *qualitative* concept: it is about what we can come to know about the world, not how much.

Apart from this everyday use, there are rigorous mathematical definitions of information that *do* quantify information. Although these employ the word 'information', this concept of information is distinct from our everyday use of it. The most prominent of these mathematical definitions² is the one formulated in the Mathematical Theory of Communication (MTC) (Shannon, 1948). Using this theory, we can calculate the amount of information contained in a message that is transmitted from a sender to a receiver over a communication channel, based on the probabilities that

are associated with the different messages that could have been sent. The underlying idea is that messages which are less likely to be sent contain more information. Consider a *unary information source*, which is a source capable of sending only one message. Receiving *this* message is not informative as nothing can be learnt from it³. As the possibilities increase, the informativeness of the message also increases. This process can be thought of as a reduction of uncertainty: if I tell you the outcome of a coin toss, supposing the coin is fair, the two possibilities (heads or tails) are reduced to one, namely the one I tell you. But if I tell you about the random placement of a marker on a chessboard, there is a much greater reduction of uncertainty: sixty-four possibilities get reduced to one⁴.

It is important to realise that MTC does not specify what the *content* of a message is. It can only tell us about the quantity of information that is transmitted. As long as two possible outcomes are equally likely, just one bit of information is transmitted when we are told about the actual outcome, no matter what the content of this message is. MTC therefore deals with a technical meaning of information that is distinct from the ordinary meaning of the word (Floridi, 2013: 33). One counter-intuitive result of this is that – given the probabilities of the occurrence of letter combinations in English – a page of random letters contains more information than a page of well-formed English sentences, as the probability of the former is lower than that of the latter. Hence, whereas in colloquial speech information is explicitly linked to epistemic notions based on informational content, this is not the case in the more technical notions of information. For the rest of this paper I use information in the broader, everyday sense of the word, as having semantic properties.

Although there is no standard view on how these two notions of information relate, there is widespread agreement that 'MTC provides a rigorous constraint to any further theorising on all the semantic and pragmatic aspects of information' (Ibid.: 48). The *strength* of the constraint, however, is currently a matter of debate. Interpretations of this constraining relation differ from very strong, as for instance mechanical engineering is constrained by Newtonian physics, to very weak, somewhat as playing tennis is constrained by the same Newtonian physics (Ibid.). In the conclusion I briefly return to this constraining relation.

1.2 Information and Data

As we have seen, the ordinary notion of information is epistemically related to information agents, who can use information to learn about their world. Information therefore has semantic content: it is about something. But this tells us nothing about what information is and how it is manifested in the world around us. In this paper I follow the *General Definition of Information* (GDI) as expounded by Floridi (2005; 2013), according to which there cannot be information without data. In this section, I briefly introduce this GDI, and the accompanying definition of data.

The general idea behind the distinction between data and information is the formula $data + meaning = information$. Although this distinction is not universally accepted, ‘a conceptual analysis must start somewhere’ (Floridi, 2013: 3). The GDI is as follows (Ibid.: 7):

σ is an instance of information, understood as semantic content, iff

1. σ consists of one or more *data*;
2. the data in σ are *well-formed*;
3. the well-formed data in σ are *meaningful*.⁵

The last condition implies that the data under consideration must comply with the semantics of a chosen system, code or language. This meaning, however, does not have to be linguistic, i.e. symbolical, as the referencing relation can also be determined causally or iconically (De Mul, 1999). The condition of well-formedness is syntactical of nature. This syntax also does not have to be linguistic, but must be understood in a broader sense, as what determines the form or structure of something. One can for instance think of the correct ordering of pixels when the informational content is a picture.

The first condition states that information consists of at least one datum. To explain what a datum is, Floridi (2013: 9) gives a *Diaphoric* (from the Greek *diaphora*, ‘difference’) *Definition of Data* (DDD): ‘A datum is a putative fact regarding some difference or lack of uniformity within some context’. This definition, which is very general in nature, can be applied at three levels:

1. Data as *diaphora de re*: as lacks of uniformity in the world out there. As ‘fractures in the fabric of being’ (Floridi, 2013: 9) they cannot be directly known or experienced, but they can be empirically inferred from experience. They thus serve as an ontological requirement not unlike Kant’s *noumena*.
2. Data as *diaphora de signo*: as lacks of uniformity between (the perception of) at least two physical states.
3. Data as *diaphora de dicto*: as lacks of uniformity between two symbols.

Based on different assumptions, *diaphora de re* may be either identical with, or a precondition for *diaphora de signo*, which in turn form a prerequisite for *diaphora de dicto*. For instance, the text you are reading now is based on the *diaphora de dicto* between the letters of the alphabet (they have different shapes), which in turn is made possible by the perceivably different light-reflecting properties of the paper and the ink, which are *diaphora de signo*.

From these two definitions (GDI and DDD) it is evident that information must always be embodied as data, i.e. as lacks of (perceived) uniformity in some medium. Moreover, the DDD allows for a great diversity of classifications, logical types, and realizations of these differences. This means that Floridi’s framework is very general in nature, which makes it compatible with different frameworks. This generality is apparent because, according to Floridi (2013: 10), the DDD underdetermines:

- the classification of data (*taxonomic neutrality*);
- the logical type to which the data belong (*typological neutrality*);
- the physical implementation of data (*ontological neutrality*), and
- the dependence of the data’s semantics on a producer (*genetic neutrality*).

The fact that Floridi’s DDD is neutral with regard to these respects means that the analysis given in this paper does not hinge on any particular view of what could constitute data. In the next section, I briefly introduce the taxonomic and typological neutrality, in which I concur with Floridi.

A more elaborate discussion is needed for the ontological neutrality, as I have to introduce the type/token distinction between data and information – which Floridi does not – in order to discuss the causal efficaciousness of information in the next part. In the last section of this part, I depart from Floridi's framework, when I argue against his idea that data can have a semantics *independently* of any informee (*genetic neutrality*).

1.3 The Taxonomic and Typological Neutrality of Data

First of all, the DDD is *taxonomically neutral*. This is because the difference which constitutes the datum is an extrinsic, or relational, property. An example can demonstrate this: take a short burst of sound in a silent context. This sound is only a datum in relation to the silence, which is not only a necessary condition for the burst of sound to be discernible as a datum, but is also constitutive for the [burst-of-sound-in-silence] datum. It is thus the difference between sound and silence that constitutes the datum, not merely the burst of sound itself. This implies that the silence could also be classified as a datum, for this is the other relatum in the [burst-of-sound-in-silence] datum. In other words, nothing is a datum per se. This point is captured in the slogan 'data are relata' (Floridi, 2013: 11). A further example might clarify. In Morse code, long and short beeps constitute the data which allow telegraph operators to send messages. However, it would be possible to have a continuous tone with long and short interruptions to transmit messages in Morse code. In the latter case, it would be the silences that are the data. Similarly, there could be data that are not classified as such, as would be the case if the beeps that are used to transmit Morse code differ in volume. Although there would be additional data in the message (differences in volume of the beeps), we need not classify these as data.

Secondly, the *typological neutrality* states that information can consist of different types of data as relata (Floridi, 2013: 11). Most of the time, when we talk about data we mean *primary data*. These are the data that an artefact is designed to convey. We could for example think of the position of the hands of a clock informing us about the time. But the absence of data may also be informative, for instance when you ask a person if she is sleeping, and she does not answer. The fact that you do not get a response

could still answer your question. Floridi coins these *secondary data*. Furthermore, we can often infer a lot more from primary data than just what they are meant to convey. If I ask a person whether he knows the way to the park and he gives me an answer, I do not only learn the route to the park, but I also come to know that he speaks English. This is a form of *derivative data*, which are created accidentally when we try to convey primary data. Lastly, there is information that concerns other data. *Meta-data* are data about other data, informing us for instance of the type of data. *Operational data* are data regarding the operations of a data system. For example, when your computer tells you there is an error, this prevents you from taking the primary data it produces at face value.

1.4 Ontological Neutrality: Information as an Abstract Type

As we have seen, information relies on the existence of data. The ontological neutrality states that the DDD is neutral with respect to the ontological realization of the data. This confirms our common-sense intuition that the same sentence, whether written on paper or encoded in binary and stored on a computer, contains the *same* information. Therefore, the medium, format and language do not influence the information contained in a message. The differing realisations could of course convey different secondary or derivative data, but from the perspective of the primary data, the realisation does not matter.

The ontological neutrality thus further implies that there is a type/token distinction between the information and the data it is realised in (Timpson, 2006). To explain how this works, we consider sending a message in the vocabulary of MTC. In order to send a message, the sender has to select elements from a fixed alphabet, say $\{a_1, a_2, \dots, a_n\}$, and transmit them over a communication channel. Now suppose we want to send the number '42' to a receiver. We can do this using many different media: we could send him a piece of paper, an electronic message, or simply tell him the numbers directly. Now it is easy to see that the tokens would be very different in each case, ranging from scribbly lines ('42'), to bits transmitted as voltage differences along a copper wire, to complex vibrations in the air.

For those of us who speak English and are accustomed to using Arabic numerals to denote numbers, the three messages would convey the same type, i.e. the same informational content. The information that is represented by the type is therefore abstract. This implies that, being an abstract entity, the information itself has no spatio-temporal location, nor is it part of the material contents of the world. The tokens which realise these types, on the other hand, *do* have a spatiotemporal location. *Prima facie*, this seems like a denial of the objective existence of information, especially if you do not like abstracta in your ontology. But any talk of abstracta can easily be ‘paraphrased away as talk of obtaining facts about whether or not concrete types would or wouldn’t be instances of types’ (Timpson, 2006: 228). This does not entail that information has no objective existence, or cannot be an objective commodity. But it does suggest that any talk of information, rather than of data, causing anything, has to be worded carefully. For different tokens (data), although they might realise the exact same type (information), might have very different effects in the world around us. Dretske (1989) gives us a clear example of this: consider a soprano, who sings a high note, thereby shattering a glass. If the token would be altered only slightly, for instance by singing a semitone lower, the glass would not have broken, whereas the informational content (the meaning of the words that the soprano is singing) would be identical. It is therefore, from the viewpoint of information, a contingent property of the token that causes the glass to break. However, when we are asking what the soprano is singing *about*, we are not interested in these contingent properties, but in the semantic content of the sounds she is producing. In this case, what we are asking for is the type, not the token. When I ask someone the question: ‘What number is written on this piece of paper?’, I want to be informed about the type, that is the number, that is realised by this particular token. We can think of this kind of ostensive acts as *deferred ostension* (Quine, 1969).

Prima facie, this implies that in order for the informational content to be causally efficacious, there has to be an information agent that, in one way or another, recognises the type, rather than the token. Before I analyse how this view on informational content relates to information ‘out there’ in the following part, I first argue that the type/token distinction between informational content and the data by which this content

is realised implies that the informational content cannot be thought to exist *independently* of an information agent who co-constitutes this content.

1.5 Against Genetic Neutrality: the Meaninglessness of Data in the Absence of Information Agents

Genetic neutrality is the idea that ‘data (as *relata*) can have a semantics *independently* of any *informee*’ (Floridi, 2013: 17). This is not meant to be a thesis about how data can acquire a meaning in a semiotic system, but rather about how data can be thought of as meaningful independent of an *informee*. The example that Floridi (2013: 18) gives are Egyptian hieroglyphs, that, before the discovery of the Rosetta Stone, were incomprehensible. Even though there was a time when we did not know what their meaning was, there was a meaning hidden in these symbols – if we are to take Floridi’s thesis at face value. This example deserves further analysis, especially considering the important role that information agents play, as we have seen in the last section.

The first observation that is relevant here is that when we study ancient texts, ‘we do not “see” the meaning as a faint [*sic*] aura around the characters’ (Hansen, 1985: 492). It is not the case that Egyptian hieroglyphs contain an objective meaning hidden within them, which can be made visible by acquiring the ability to interpret hieroglyphs. For ‘the semantic value of information is dependent on the horizon of experience – or speaking hermeneutically – the *world* of the user’ (De Mul, 1999: 81). In trying to understand the meaning of the hieroglyphs, we are not engaged in a theoretical reconstruction, for this is an illusion which can only be a regulative idea or a methodological idealisation (De Mul, 1993: 13). This implies that meaning cannot be an objective property of data as *relata*. Although the information contained in the data might *prima facie* seem to be well-formed and meaningful, this does not imply that they are actually meaningful. An example might illustrate this point.

The Voynich Manuscript, a book carbon dated to the early fifteenth century, is written entirely in an as of yet undeciphered script. Although the script shares many informational characteristics with European languages

(it has for instance about 20-30 characters and a word entropy⁶ of 10 bits (Landini, 2001)), its resistance against deciphering makes the *attribution* of a semantics speculative. It remains unclear whether a ‘Rosetta Stone’ will, or even *could*, ever be found for this manuscript. So we are now in the same position with regard to the Voynich Manuscript that we were in with regard to Egyptian hieroglyphs before the discovery of the Rosetta Stone. Both texts surely seemed to be meaningful to us, but whether they actually *do* possess a semantics was unknown – and remains unknown for the Voynich Manuscript. We can thus only say that the script carries meaning, when we are able to decipher it. In other words, if the Rosetta Stone did not exist (assuming for now that there would be no other way of deciphering hieroglyphs), the meaning of the hieroglyphs would have been lost forever.

But examples of this can also be found closer to home. Think for instance of the data that are on your hard disk. These data are encoded in a very particular way, based on convention. For instance, text can be encoded in ASCII (American Standard Code for Information Interchange) format. In this format, the letter ‘A’ is represented by the binary code ‘1000001’, whereas the ‘a’ is encoded as ‘1100001’. It should be clear that in the absence of the ASCII decoding manual, the strings of ones and zeros would be unintelligible to most English speakers. So if there were no way of decoding them, the strings of ones and zeros would contain no information. Consider for instance that a person comes up with his own version of ASCII code, randomly switching around the encodings for the different letters. If he were to leave us a short message which we only found after his death, the data would be meaningless to us. And since they were only meaningful to one person, who no longer exists, it seems unclear what it would mean to claim that the information is still in there. The information is lost forever, independent of the fact whether the message was intended to carry information or not.

These examples, however, do not show that certain data cannot seem to be meaningful to us before we can attribute meaning to it. The reason why a lot of people try to decipher the Voynich Manuscript, and before that, hieroglyphs, is that they *seem* to be meaningful. However, a distinction has to be made between merely seeming to be meaningful and

actually being meaningful. A wonderful example of this can be found in the *Codex Seraphinianus* (Serafini, 1981), an illustrated encyclopedia of an imaginary, surreal world. Like the Voynich Manuscript, it is written in a strange script, and similarly, attracted a lot of attention from people, who tried to decipher it. However, in 2009 Serafini announced that the script was asemantic (Stanley, 2010), so we can know for sure that the script does not carry meaning. Although it seems unlikely, the same could have been true for the Egyptian hieroglyphs. The hieroglyphs could have turned out to be *asemic*, i.e. have no semantic content – they could have been merely decorative, carrying no information. From this we can conclude that *seeming to be meaningful* does not imply *meaningfulness*, although of course it could warrant us to try to decipher a text.

The idea expressed in the two examples given is that having-a-semantics, just as being-a-datum, is a relational property. It is therefore unclear what the genetic neutrality is meant to express, as we would be unable to verify its correctness: either we can interpret the text, in which case the semantics is not independent of an informee but depends equally on the interpreted and (the horizon of experience of) the interpreter, or we cannot interpret the text, in which case we cannot know *whether* the data under consideration could have a semantics. Moreover, in the former case the actual semantics that is attributed to the data in question is constitutively dependent on the information agent. An illuminating example of this is given by De Mul (1999: 81): ‘A symptom that provides the doctor with valuable information for the determination of a diagnosis can be meaningless, or have a very different meaning, to the patient’. De Mul concludes from this remark that ‘the same information [better: data] can give rise to different forms of knowledge and action’ (Ibid.). Here the distinction between informational content and data can help us make sense of this: although both the doctor and the patient have access to the same data (the symptom), the informational content it provides them with is surely different. It is true that the data provide the doctor with valuable information, but his medical background knowledge in this case is constitutive for the information. If we give up on the intrinsic meaningfulness of data as *relata*, we can see that the data are not meaningful for the patient, whereas they are meaningful for the doctor. As meaningfulness is the third condition for information in the GDI, the symptom thus has

informational content *for* the doctor, that it does not have *for* the patient. This is consistent with saying that although the doctor is informed by the symptom about the patient's particular ailment, the very same symptom *does not* inform the patient about his ailment. I would therefore like to modify the definition of genetic neutrality in order to incorporate this necessary relation: data (as *relata*) can *seem* to have a semantics independently of any informee; but the informational content is always constituted in the relation between the data and an information agent.

2. The Agent-Dependency of Information Content Out There

In the first part I have considered human-generated information, and argued that informational content in those cases is dependent on information agents. In this part, I argue that the same applies to environmental data. Although cognition is often thought of as essentially information-processing, this view has recently come under attack by a new paradigm in the cognitive sciences. *Enactivism*, as introduced in by Varela, Rosch and Thompson (1991), is opposed to the cognitivist idea of the information-processing brain as being sufficient for cognition. In the introduction to the edited volume called *Enaction – Toward a New Paradigm for Cognitive Science*, which aims to collect these new lines of thought and show how they deal with numerous aspects of cognition, John Stewart (2010: vii) states that '[t]his program makes a radical break with the formalisms of information-processing and symbolic representations prevalent in cognitive science.'

In their *Radicalizing Enactivism* Hutto and Myin (2013) claim that this enactivist paradigm should be radicalised by denying that informational content can be an explanatory concept in studying basic cognition, which includes, *inter alia*, perceptual processes and their intentionality and phenomenality, and emotional responding. Starting from the idea that 'the vast sea of what humans do and experience is best understood by appealing to dynamically unfolding, situated embodied interactions and engagements with worldly offerings' (Hutto & Myin, 2013:ix), they develop an account of basic cognition which has no need for mental content, where they define content as truth-bearing properties or specified conditions of

satisfaction. Moreover, they claim that any theorist who does claim that cognition necessarily involves content must face up to the *Hard Problem of Content*, which is to explain the existence of content in a naturalistically respectable way. For if there is no informational content in nature, then 'cognitive systems don't literally traffic in informational content'⁷ (Ibid.: xv). If anything, cognition can be thought of as content-*creating* rather than content-*consuming* (Ibid.: 76).

2.1 Covariance and Content

Hutto and Myin (2013) start from the assumption that information as *covariance* is the only scientifically respectable notion of information. Floridi (2013) seems to agree when he talks about environmental information, although he already relates the information to an information agent. He states that environmental information can be defined as follows: '[t]wo systems *a* and *b* are coupled in such a way that *a*'s being (of type, or in state) *F* is correlated to *b* being (of type, or in state) *G*, thus carrying *for the information agent* the information that *b* is *G*' (Floridi, 2013: 19, emphasis added). But if we want to have an account of informational content that can get basic cognition up and running, the content has to exist independently of anyone using the content. The informational content has to be able to be 'retrieved, picked up, fused, bounded up, integrated, brought together, stored, used for later processing, and so on and so forth' (Hutto & Myin, 2013). This problem of defining content naturalistically is what Hutto and Myin call the Hard Problem of Content.

For content has to have special properties to be properly called *content*. It has to have truth-bearing properties. In order to have these properties, content has to 'say' or 'convey' something about something else. Take a simple example: the number of tree rings can covary with the age of the tree, but by themselves the tree rings do not say or convey anything about the age of the tree, i.e., we can not meaningfully say that the tree rings are 'false', if for one reason or another they do not covary with the age of the tree. This is the *Covariance Doesn't Constitute Content Principle*, which implies the Hard Problem of Content: if covariance does not constitute content, we need a more elaborate story that explains how cognition can

come to be contentful. Hutto and Myin use a slightly different terminology to separate (informational) content from the processes underlying it than I have used so far⁸. Instead of making a distinction between data and information, they make a distinction between a vehicle and its content. They argue that, if we accept the Covariance Doesn't Constitute Content Principle, the vehicle/content distinction falls apart at this level, which means we would be left with just the vehicle (Hutto & Myin, 2013: 68). Or, if we use the data/information distinction, we would be left with just the data, as there would be no informational content. In the next Section, I argue that, even if we did allow covariance to constitute content, a description in terms of information would not further our explanation of causal processes in the absence of information agents.

2.2 The Causal Efficaciousness of Informational Content in the Absence of Information Agents

A first stab at thinking about the *causality* of informational content – and its relation to covariance – thus conceived can be formulated by using a very simple example: a thermostat. For simplicity, let us assume that there are only two possible states in the environment, either too cold (E_c), or warm enough (E_w). The bimetal in the thermostat can then be either in a bent state (B_b) when it is too cold, or in a straight state (B_s) when it is warm enough. If the bimetal is bent, it will close a circuit, thereby turning on the heater (H_{on}), whereas if the bimetal is not bent, the circuit will be open, thereby turning off the heater (H_{off}). Suppose we further allow – for now – that because of the lawful covariance between the bending of the bimetal and the ambient temperature, the bimetal contains information about the temperature, and thus that covariance *does* constitute content. Whether or not the bimetal is bent will serve here as the datum *de signo*, realizing the information. Call this information either $I_B(c)$ or $I_B(w)$, where the subscript serves to designate the datum (either B_b or B_s) under consideration, and the value between brackets specifies the ambient temperature. The status of the heater can be said to covary in the same manner with the temperature in the room, realizing the information $I_H(c)$ and $I_H(w)$.

For reasons of simplicity, we have limited the number of states the total system can be in to two discrete states⁹. Now the two states of the system can be schematically visualised, with the horizontal arrows indicating causal relations, and the vertical arrows indicating the realising relation:

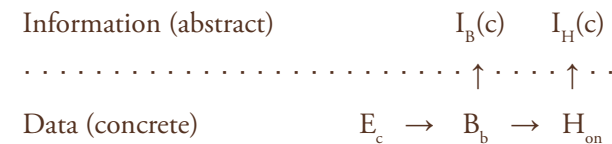


Diagram 1: too cold

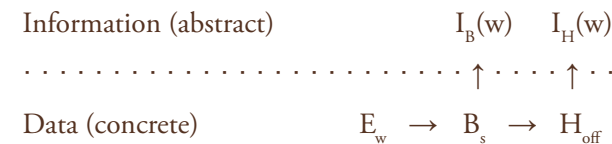


Diagram 2: warm enough

From these diagrams, we can easily see that once the causal story has been told, the informational states that are assumed to be realised by the bimetal and the status of the heater – based on the covariance relation that obtains between them and the environment – are superfluous¹⁰. In other words, once the causal story at the level of the concrete data has been told, there is nothing left to explain¹¹. The concept of information is simply not needed to explain the workings of the thermostat.

This analysis is further corroborated when we analyse a possible way in which the workings of the thermostat might be interrupted: suppose that some properties of the metals of which the bimetal is composed changed, thereby transforming its bending behaviour. This might lead to a situation in which the bimetal does not close the circuit when the ambient temperature is too cold, whilst it might – based on the idea that covariance

does constitute informational content – still contain information about the temperature because the bending of the bimetal still covaries with the ambient temperature. It is therefore not the information-carrying role that allows the intended working of the thermostat, but the – from the viewpoint of the information – contingent physical properties of the token that realises that information. This implies that even if we were to allow that covariance does constitute content, the alleged content would be causally superfluous. In other words, covariance by itself suffices to explain the workings of the thermostat.

We can thus conclude that the assumption of causal efficaciousness of information in inanimate systems is problematic because of the abstract nature of information. In the absence of information agents, it seems not to be the information, i.e. the abstract type, but rather the data, or concrete tokens which realise the information, that are causally active. It is only in the case when an information agent *recognises* a particular token to be a token of a particular type, that the informational content comes into existence and can become causally active. As we have seen, when a human being would point to a piece of bent bimetal, given enough background knowledge, she would point at the type through an act of deferred ostension ('look how warm it is'). The crucial phrase in the last sentence is 'given enough background knowledge'. The bimetal-as-datum only contains the information that it is either too cold or warm enough in relation to an information agent that already knows about the covariance relation that obtains between the bimetal and the ambient temperature.

3. Possible Defences of Agent-Independent Informational Content

The above analysis leaves the defenders of content with three possible responses to the Hard Problem of Content. First, they might posit informational content as an extra element of reality, not unlike how Chalmers (e.g. 1995) tries to solve the problem of phenomenal experience in a functionalist philosophy of mind by positing the existence of qualia. This, however, changes the way we look at information radically, leaving naturalistic accounts the task of finding fundamental bridging

laws between covariance relations in the world and informational content (Hutto & Myin, 2013: 69). Moreover, this move leaves defenders of informational content with additional problems to solve. If the informational content is indeed an extra element of reality this introduces (1) epistemic problems: how do we get to know these informational contents if they are ontologically distinct from the causal processes which affect us; and (2) overdetermination problems: if we were to think of the informational contents as extra elements of reality, we would have secured their objective existence, but then we would still need to explain how they can be causally efficacious, as we have seen in the last section. Although this manoeuvre might be the only way to solve the Hard Problem of Content (Ibid.), it is most certainly not a panacea, and the metaphysical costs will be too high.

Second, the notion of informational content might be thought of as meatier than covariance, whilst retaining naturalistic respectability. The most prominent proposal along these lines is given by Dretske (1981), who thinks of informational content as having an *indicating relation* to some state of affairs, thereby realizing truth-bearing properties – that is, content – in an objective world. In the next section I take a closer look at Dretske's account, arguing that it does not succeed in defending this objective, information-agent independent, existence of informational content.

Third, the distinction between information and data (or vehicles and content) might be denied, thereby reducing the concept of information to the concept of data. In the last section of this part, I argue that this trivialises the concept of information, thereby adding to the confusion that surrounds the concept of information.

3.1 Dretske on Information as an Objective Commodity

'In the beginning there was information. The word came later.' (Dretske, 1981: vii). These opening lines of Dretske's book on information clearly show his ambition. Information is to be thought of as an objective commodity, whose existence pre-dates, and is independent of, the existence of information agents. This ambition is further developed in the second paragraph of the book, where Dretske explicitly opposes the view that 'something only *becomes* information when it is assigned some significance,

interpreted as a sign, by some cognitive agent' (Ibid.), a variant of which I am defending in this paper. But *prima facie*, this ambition is not visible in his definition of information, as the background knowledge of the information agent (denoted by the variable k) is explicitly mentioned in it: '*Informational content*: A signal r carries the information that s is F = [sic] The conditional probability of s 's being F , given r (and k), is 1 (but, given k alone, less than 1)' (Dretske, 1981: 65). That this background knowledge is constitutive of the informational content that a signal carries is further underlined in one of the examples that Dretske uses.

Dretske asks us to suppose that there are four shells, with a peanut located under one of them (Dretske, 1981: 78). Suppose further that person a knows that the peanut is not under either shell 1 or 2, whilst person b has no knowledge of the location of the peanut at all. If both person a and b now get the information that the peanut is not under shell 3, this observation of course allows person a to work out that the peanut is under shell 4, whereas person b is still unaware of the location of the peanut. After considering both the option that for person a the observation only carries the information that the peanut is not under shell 3, and the option that this observation additionally also carries the information for person a that the peanut is under shell 4, Dretske decides on the latter: 'the third observation supplies [person a] with the information that shell 3 is empty and the information that the peanut is under shell 4. The latter piece of information is (for [person a]) nested in the former piece of information. For [person b] it is not' (Dretske, 1981: 79). So the informational content contained in the same signal differs depending on the background knowledge of the person who receives that signal.

This seems to be in direct opposition to the idea that information is out there. Dretske's solution, which allows him to hold both that information is out there and that the informational content of a signal is dependent on the background knowledge of the information agent, is the recursive character of his definition. The background knowledge can be explained itself in terms of information received earlier, until 'eventually we reach the point where the information received does not depend on any prior knowledge' (Dretske, 1981: 87). At first sight, however, it is not obvious that all knowledge can be recursively based on these foundational

cases (Alston, 1983). Moreover, Dretske does not provide a way in which the probability of these foundational cases of information extraction from the environment could be one, as is required by his own definition (Levi, 1983). So unless Dretske's account is supplemented with a valid description of how we, as *tabulae rasae*, might – based solely on a signal r – know that the conditional probability of s being F is 1, the informational content Dretske is talking about is always relative to the background knowledge of an information agent. In other words, an information agent has to know the probabilities attached to the possible signals that a source could send before she can know the informational content that a particular signal carries (Moor, 1982: 238). Moreover, even if this problem were to be solved, this would only prove the objective existence of these foundational cases of information. The majority of the informational content 'picked up' from the environment would still be co-constituted by the background knowledge. Barwise (1983: 65) acknowledges this point when he states that although 'information is out there, it *informs* only those attuned to the relations that allow its flow'. In the terminology of Dretske, we could translate this by saying that although the signals are out there, the informational content they carry is always relative to an information agent. And this just amounts to saying that *data* are out there, but *information* is always relative to an information agent.

3.2 Foundational Accounts of Information

We can use Shannon's Mathematical Theory of Communication (MTC) to calculate the average amount of information that a system transmits¹². This measure is also called the entropy of the information source (Adriaans, 2012: 15). Entropy is a measure that, prior to the rise of MTC, was already widely used in thermodynamics, of which the second law states that the entropy of isolated systems can never decrease, because isolated systems evolve to a state of maximal entropy. Entropy is therefore often associated with *disorder*, although *randomness* would be a better term as it is a syntactical, not a semantic notion (Floridi, 2013: 37). The concept of entropy therefore connects thermodynamics to information theory. In the words of Adriaans and Van Benthem (2008: 8): 'information theory is the thermodynamics of code strings, while thermodynamics is the

information theory of particles in space'. Because in quantum mechanics, information turns out to be discrete instead of continuous, any physical system could in principle be described by a finite amount of information. This analogy can be taken to the extreme, in the claim that the universe is ultimately a computational system, with information being the most basic ingredient.

According to theoretical physicist Susskind, for instance, the idea that information never disappears is *the* most fundamental principle of physics (Susskind & Lindesay, 2005). The concept of information he is referring to here is that of fundamental distinctions between things: 'Information means distinctions between things. A hydrogen atom is not an oxygen atom, an oxygen atom is not a hydrogen atom' (World Science Festival, 2011[13:30]). Physicist and mathematician Brian Greene states: 'Every object in some sense contains information, because it contains a very specific arrangement of particles' (World Science Festival, 2011[9:20]). From this kind of observations, one might conclude that information is the most basic ingredient of reality, and that space and time, matter and energy, are merely derivative notions¹³. Wheeler (1990) coined this idea 'it from bit' (see also Schmidhuber (1997) and Lloyd & Ng (2004) for similar accounts). I shall refer to accounts like these as foundational accounts of information.

Prima facie, if we take these accounts seriously, it seems that information is out there after all. But on second thought, this view on information is more akin to Floridi's DDD. It just states that the world ultimately consists of lacks of uniformity 'out there', the *diaphora de re* mentioned earlier. Floridi (2013: 16) can therefore state that the GDI is neutral with regard to these foundational accounts of information. What is important to realise here, is that these accounts do not give us any hints on how one state of affairs could carry information about another state of affairs. Strictly speaking, things would only carry information about themselves. Taking information to be fundamental in this way thus reduces the concept of 'information' to that of 'data'. Foundational accounts of information thus trivialise the concept of information. Quite literally everything becomes information if we regard information as *diaphora de re*. It should hardly come as a surprise that the world is full of differences. Everything, from a

rock rolling down a hill, to a lone atom traversing the interstellar void, to the universe itself, becomes an information processing entity. Moreover, this conception of information actually negates the common-sense idea that information could be realised in different ways, for if two situations differ, so will their informational content. It would therefore no longer be possible to say that two different tokens of the same type would contain the same information.

Finally, on closer inspection, foundational accounts of information turn out to be irrelevant to the question asked in this paper, that is, what semantic information is. For the *diaphora de re* that these accounts take to be the fundamental ingredient of reality are not directly perceivable by information agents, whilst the data to which they *do* attribute semantic properties can only be the *diaphora de signo*, which are perceivable. And whether these *diaphora de signo* ultimately consist of diaphora de re, particles or fields of energy is simply irrelevant to the question of how we can attribute meaning to them. Even if we were to accept the view that information is foundational in this sense, we would need a new concept to differentiate our ability of information processing from any other physical process. It therefore seems better to take these foundational accounts of information to be talking about data as being fundamental, reserving the concept of information for the role specified in this paper.

4. Conclusion

In this paper, I argued that in the beginning there were data and information came later. This distinction between data and information can be helpful to differentiate between two concepts that are fundamentally different, but are now often conflated. Because the analysis of information given in this paper relies on Floridi's *General Definition of Information* and the accompanying *Diaphoric Definition of Data* – which is taxonomically, typologically and ontologically neutral – it is consistent with a large variety of theories about what these data could be. In relying on the formula *data + meaning = information*, the analysis in this paper therefore gives a general framework that could be adapted and worked out, for instance based on one's ontological views.

Much of the confusion that surrounds the concept of information can be traced, I think, to the fact that the use of the word ‘information’ carries connotations from our everyday, semantic use of the word to applications where these semantic properties do not exist. If the aim of a certain theory or field is not to talk about the semantic properties of data, the usage of ‘information’ can almost certainly be replaced with ‘data’. Because the concept of data does not carry these semantic connotations, this would clear some of the confusion. If we think back to Shannon’s Mathematical Theory of Communication, for instance, it seems that it would not lose any explanatory power if we take it to be about the communication of *data*, rather than of *information*. Rather than being about information per se, the MTC only weakly constrains theories about information because, as we have seen, information is always necessarily embodied as data.

Realizing that although data *are* out there, informational content is always co-constituted by information agents, therefore allows us to see that information cannot be the fundamental ingredient of reality, as it is a relational property that exists between the data (which might turn out to be foundational) and the informational agent. Only when data become meaningful for an agent – when they come to have informational content by acquiring conditions of satisfaction – can an explanation in terms of information add anything to a causal explanation. For only the abstract informational content can explain how an information agent might react similarly to different tokens which consist of concrete data, which could have very different physical properties.

If we were to reserve the word ‘information’ for informational content in this sense, and use the word ‘data’ when we mean differences that are ‘out there’, at least some of the confusion that surrounds the polysemantic concept of ‘information’ would dissolve.

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Notes

1. Because of the distinction between data and information, it is not the case that any *agent* is necessarily also an *information agent*. For instance, simple organisms can be sensitive to and act upon data from their environment, whilst not relying on informational content for their agency (as is apparent from Hutto & Myin’s (2013) Hard Problem of Content which is discussed in section 2). If we follow Hutto and Myin (2013) this label is only reserved for creatures who have an enculturated, scaffolded mind, i.e. who have linguistic capabilities. Others might attribute these content-generating capabilities to much lower forms of cognition, as in for instance the teleosemantics of Millikan (1984). For this paper I assume that at least linguistically capable human beings are information agents. The question whether other agents can also be information agents will have to be answered, but falls outside the scope of this paper.
2. Apart from Shannon-information, there are also other mathematical definitions that quantify information, like Kolmogorov complexity, Fisher information and Quantum information (Adriaans, 2012). As Shannon-information is the most widely used conception in philosophy, and it focusses on information transfer, I will only discuss this particular technical notion in this paper.
3. It has to be noted that MTC presupposes that the possible messages and the associated probabilities are known in advance.
4. Shannon gives the amount of information contained in a single message, for reasons that I will not go in here, as the negative \log_2 of the probability of that message occurring. This implies that a fair coin toss generates one bit of information, while the random placement of a marker on a chessboard generates six bits of information. The bits can be thought of as the amount of yes/no questions that have to be answered before the answer is reached. In the case of the coin this is one question (‘is it heads?’), whereas the position of the marker on the chessboard can be determined with six yes/no questions.
5. Floridi (2005) argues that a fourth condition has to be added, according to which the well-formed, meaningful data have to be truthful. In this paper I will try to steer clear of issues concerning truth(fulness), so I will not include it in the definition. The argument in this paper would, I think, not change depending on whether or not truthfulness is a necessary condition for information.

6. The word entropy specifies the amount of information given by the occurrence of that word, based on the probability of the word occurring.

7. Although I am sympathetic to their project, in this chapter I merely wish to argue that the existence of informational content is dependent on users of this content, that is, informational content only arises when cognitive processes are in play. The stronger claim, that basic cognition could be explained without any appeal to content, lies outside the scope of this paper. Some commentators think that Hutto and Myin are not radical enough, because they take linguistic cognition – or in their terms ‘enculturated, scaffolded minds’ (Hutto & Myin, 2013: vii) – to be contentful, without telling a convincing story of how this content arises from the basic cognitive processes that on which the linguistic mind is built atop. See for instance Roberts (2013) for this critique.

8. The distinction between data and information could however, I believe, strengthen the account of Hutto and Myin. After they have concluded that basic cognition is not contentful, they state that ‘[we] can still endorse the idea that organisms are informationally sensitive (i.e., that they exploit correspondences in their environments to adaptively guide their actions) while denying that it follows that they take in, store, or process informational content’ (Hutto & Myin, 2013: 82). If they were to accept the information/data distinction, we would see that organisms would not be *informationally* sensitive, but rather be sensitive to data. They would thereby be able to fend off attacks on their position, which could state that this still implies that this informational sensitivity implies information-processing in a weaker sense.

9. Extending the example to more or continuous states does not change the conclusion reached here, but would needlessly complicate matters.

10. This argument is inspired by the objection based on causal closure and overdetermination that Jaegwon-Kim (1998) gives against non-reductive physicalist accounts of the mental.

11. At this point, it might be protested that the bimetal only *carries* the information about the temperature in virtue of being bent. Dretske puts forward a proposal along these lines: ‘When, therefore, a signal carries the information that s is F in virtue of having property F [that the room is too cold in virtue of being bent], when it is the signal’s being F that carries the information, then (and only then) will we say that the information that s is F causes whatever the signal’s being F causes’ (Dretske, 1981: 87). However, this does not yet show that it is the information that is causally efficacious. In the words of Rundle (1983: 78): ‘rather, it amounts to a proposal to speak as if the information has this role when its carrier does. However, since the latter does give us a genuine cause. there is no way of pressing the objection that confronts the usual causal theories’.

12. The formula for calculating this for a system of possible messages A is $H(P) = - \sum_{(i \in A)} p_i \log_2 p_i$. This means that we take the average of the information contained in all messages that are a member of communication system A , i.e. the possible message that could be sent, by summing the amount of information contained in each message ($\log_2 p_i$), correcting for the chance of them occurring.

13. Timpson (2006) reminds us that the fact that a process in reality is accurately describable in terms of the information it contains, does not necessitate us to view this information as foundational. There might still be some material substrate that realises these fundamental differences. Both interpretations produce the same outcomes in experimental settings.

References

- Adriaans, P. (2012) ‘Information’. In: *The Stanford Encyclopedia of Philosophy (Winter 2012 Edition)*, Edward N. Zalta (ed.), <http://plato.stanford.edu/archives/win2012/entries/information/> [page numbers refer to the PDF version].
- Adriaans, P. and Benthem, J. van (2008) ‘Introduction: Information is what Information does’. In: P. Adriaans and J. van Benthem (Eds.) *Handbook of the Philosophy of Science. Volume 8: Philosophy of Information*. Elsevier Science Publishers, 5-28.
- Alston, W.P. (1983) ‘Dretske on knowledge’. In: *The Behavioral and Brain Sciences* 6, 63-64.
- Barwise, J. (1983) ‘Information and semantics’. In: *The Behavioral and Brain Sciences*, 6, 65.
- Chalmers, D. (1995) ‘Absent Qualia, Fading Qualia, Dancing Qualia’. In: T. Metzinger (Ed.) *Conscious Experience*. Exeter: Imprint Academic, 309-330.
- Dretske, F. (1981) *Knowledge and the Flow of Information*. Cambridge, MA: MIT Press.
- Dretske, F. (1989) ‘Reasons and Causes’. In: *Philosophical Perspectives* 3, 1–15.
- Floridi, L. (2005) ‘Is Information Meaningful Data?’. In: *Philosophical and Phenomenological Research* 70 (2), 351-70.
- Floridi, L. (2013) ‘Semantic Conceptions of Information’. In: *The Stanford Encyclopedia of Philosophy (Spring 2013 Edition)*, Edward N. Zalta (ed.), <http://plato.stanford.edu/archives/spr2013/entries/information-semantic/> [page numbers refer to the PDF version].
- Hansen, C. (1985) ‘Chinese Language, Chinese Philosophy, and “Truth”’. In: *Journal of Asian Studies* XLIV (3), 491-518.
- Hutto, D. D. & Myin, E. (2013) *Radicalizing Enactivism: Basic Minds without Content*. Cambridge, MA: The MIT Press.

- Kim, J. (1998) *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation*. Cambridge, MA.: MIT Press.
- Landini, G. (2001) 'Evidence of linguistic structure in the Voynich manuscript using spectral analysis'. In: *Cryptologia* 25 (4), 275–295.
- Levi, I. (1983) 'Information and error'. In: *The Behavioral and Brain Sciences* 6, 74-75.
- Lloyd, S. and Ng, J. (2004) 'Black Hole Computers'. In: *Scientific American* 291 (5), 30-9.
- Moor, J. (1982) 'Knowledge and the Flow of Information'. In: *Philosophical Books* 23 (4): 237-39.
- Millikan, R. (1984) *Language, Thought and Other Biological Categories*. Cambridge, MA.: MIT Press.
- Mul, J. de (1999) 'The Informatization of the Worldview'. In: *Information, Communication & Society* 2 (1), 69-94.
- Quine, W. V. (1968) 'Ontological relativity'. In: *Journal of Philosophy*, 65, 185-212.
- Stewart, J (2010) 'Introduction'. In: J. Stewart, O. Gapenne & E. Di Paolo (Eds.) *Enaction: Towards a New Paradigm for Cognitive Science*. Cambridge, Mass.: MIT Press, vii-xvii.
- Roberts, T. (2013) 'Radicalizing Enactivism: Basic Minds Without Content'. In: *Notre Dame Philosophical Reviews*. Retrieved from: <http://ndpr.nd.edu/news/40035-radicalizing-enactivism-basic-minds-without-content/> [5 July 2013]
- Rundle, B. (1983) 'The sufficiency of information-caused belief for knowledge'. In: *The Behavioral and Brain Sciences* 6, 78.
- Schmidhuber, J. (1997) 'A Computer Scientist's View of Life, the Universe, and Everything'. In: C. Freska, M. Jantzen and R. Valk (Eds.) *Lecture notes in computer science: Vol. 1337. Foundations of computer science: potential – theory – cognition*. Berlin: Springer, 201-8.
- Serafini, L. (1981) *Codex Seraphinianus*. Milan: Franco Maria Ricci.
- Shannon, C.E. (1948) 'A Mathematical Theory of Communication'. In: *Bell System Technical Journal* 27, 379–423; 623-56.
- Shannon, C.E. and Weaver, W. (1949) *The Mathematical Theory of Communication*. Urbana: University of Illinois Press.
- Stanley, J. (2010) *To Read Images Not Words: Computer-Aided Analysis of the Handwriting in the Codex Seraphinianus*, (unpublished MSc dissertation). North Carolina State University at Raleigh. Retrieved from <http://repository.lib.ncsu.edu/ir/bitstream/1840.16/6460/1/etd.pdf> [15 november 2013].
- Susskind, L. and Lindesay, J. (2005) *An introduction to Black Holes, Information and the String Theory Revolution. The Holographic Universe*. Singapore: World Scientific Publishing.
- Timpson, C.G. (2006) 'Philosophical Aspects of Quantum Information Theory'. In: D. Rickles (Ed.) *The Ashgate Companion to Contemporary Philosophy of Physics*. Aldershot, UK; Burlington, USA: Ashgate, 197-261.
- Varela, F.J., Thompson, E. & Rosch, E. (1991) *The Embodied Mind: Cognitive science and human experience*. Cambridge, MA: MIT Press.
- Wheeler, J.A. (1990) 'Information, physics, quantum: The search for links'. In W. Zurek (Ed.) *Complexity, Entropy, and the Physics of Information*. Redwood City, CA.: Addison-Wesley, 309-336.
- World Science Festival (2011). *A Thin Sheet of Reality: The Universe as a Hologram* [video file]. Retrieved from: http://worldsciencefestival.com/events/holographic_world [18 june 2013].



Getting the Description Right

Saving Transitivity from Arbitrary Translation

Darian Heim

1. Introduction

Stories with a good pinch of irony often reveal how and where an ideal is caught up by reality. We begin this paper about decision theory with such an example: Jane, a scholar in this discipline, goes to her favorite teahouse to have her 4 o'clock tea and a piece of cake as always. The waiter offers her the choice of the day: 'Today we have on our menu: apple tart, blueberry muffin, and cheese cake.' Jane decides for the first, apple tart. However, after a couple of minutes, the waiter comes back to tell her that he had forgotten to mention that there is lemon pie, too. '*In that case,*' Jane answers after a moment, 'I'll take the cheese cake¹.'

Although the punchlines of well-told anecdotes are supposed to be self-evident, I hope the reader will excuse my insistence to elaborate. We can infer from Jane choosing apple tart (*a*) among the initial set of alternative choices, that is, apple tart (*a*), blueberry muffin (*b*), or cheese cake (*c*), that she prefers *a* over the other choices. The introduction of a new option in the set, the lemon cake in this case, should not overturn Jane's initial choice *a* unless the new option is preferred to *a* itself. However, this is not what happened: we would surely not expect Jane to choose *c* given the preference she revealed first (*a* over either *b* or *c*). This is the ideal of what is considered rational behavior, namely, respecting transitivity in choice behavior – and the punchline of the above mentioned anecdote suggests that decision theorists, who deal with this ideal professionally, have the least confidence in it.

And yet the cake anecdote (henceforth CA) is relevant beyond the definite boundaries of a specific academic discipline. In everyday life, it is not uncommon to change one's opinion within different timespans and as

a function of the information at one's disposal. For instance, Jane might – intuitively, perhaps – change her opinion on whether to take an umbrella with her on a cloudy day, what party or politician to vote for, or what partner to spend her life with (if this is a choice she is considering at all). In such contexts, it is not counter-intuitive that Jane attributes different utilities to the possible outcomes. That is, she she asks herself which situation, that would result from her action, she would prefer more that its alternatives given what she knows now about the weather, politics, or her partner. In doing so, she could eventually rank the different implications of her choices in a preference ordering. With regard to the second example, she might prefer to live in a quite egalitarian society rather than in a liberal welfare state which in turn she prefers to a libertarian meritocratic system. As a consequence, Jane would probably vote for parties on the left, rather than the right, end of the political spectrum. Moreover, we would expect Jane to stick to her voting behavior in similar conditions *given* her preference ordering. So, where does intransitivity enter the picture such that even non-adepts of decision theory might enjoy the punchline of our CA?

Imagine that Jane changes her political view and votes for a conservative party. The mere observation of Jane's changed voting behavior will appear inconsistent and thus intransitive to us. It would appear intransitive because her initial preference ordering concerning political systems is overthrown, and the initially least preferred option is suddenly chosen (and thus factually preferred). Obviously, one might say, context matters and her preferences are not unalterable. Jane's life circumstances might have changed. Imagine for instance that she has got tenure at a prestigious institution. She now feels for the first time the disincentivizing impact that progressive taxation has on labour and adapts her voting behavior

accordingly. However, the underlying question still stands: how are we to understand Jane's change of opinion, utility ranking, and preference from an outside perspective – while we are unfamiliar with her personal conditions? To illustrate this, suppose an old friend of Jane – who has not seen her in a while – gets to know what party she voted for. It is not too far-fetched that Jane's behavior (given her initial preferences) appears irrational from his perspective. The point here is that the decision theorist (or any other social scientist) is in a position similar to that of Jane's friend: certain givens and details about Jane are not available to him or simply not taken into account. The crux for both, old friends and scientists alike, is how to deal with preference changes during a period of interest for personal (the old friend) or scientific (the social scientist) purposes. More generally, how should we accommodate the fact that people (and their preferences) change over time? It is this difficulty that the initial CA illustrates and condenses into a preference change that happened within a couple of minutes. The underlying problem of both examples is the same.

Am I making too much fuss about an unavoidable fact of human existence? Jane, it seems, changed her opinions and preferences for the available options in view of new information or altered life circumstances. In fact, this is precisely what I want to argue for in this paper: Jane's changed behavior is not necessarily irrational and an effort should be made to interpret and consider seemingly intransitive changes in behavior in accordance with our theory of rational choice. Its rationality can be preserved by refining our – or the decision theorist's – assessment of Jane's specific choice and her underlying motivational considerations². The strategy that I suggest to 'repair' the irrationality of Jane's choice for c is to describe the choices more accurately, that is, according to their specific context. Basically, we need to acknowledge that various factors could explain Jane's seemingly intransitive choice, for instance that her new job changed her political preferences. With regard to the initial CA, she might have had reliable reasons to believe that this would be the last time that c was available – after years of patronage of this teahouse, she knows that always when a new dessert option is offered for the first time (now, the lemon cake) the option that has featured on the menu the longest (c in this case) won't be served anymore the next day. Obviously, these aspects change the preference-relevant nature of option c such that it can be re-described as c^* , where the

asterisk indicates the (new) knowledge of the cheese cake being offered for the last time. Although her preference ordering was a over b over c , we can now adopt an updated ordering in light of the new information without a violation of the principle of transitivity: c^* over a over b .

Thus, a refinement of the choice-description seems required in order to assess the rationality of an action properly. However, this strategy – as uncontroversial as it might seem – is not without problems. According to decision theorist and economist Paul Anand (1990), the re-description of a choice according to a specific context is arbitrary and leads to an insurmountable paradox. The issue is this: reasoning along the lines of re-description can warrant intransitive conclusions of *prima facie* transitive choice behavior too. For instance, if Jane abided with a instead of taking c , then the choice would be transitive according to our observation. However, if she was supposed to know about c becoming c^* at that point (and we, from the outside, knew about the underlying relevant information), then her ultimate choice for a would nevertheless be intransitive because it did not respect the eventual preference ordering c^* over a and a over b . Obviously, our conclusion depends on a clear definition (and thus description) of the specific choice options (including the type of information taken into account) and their preference ordering *before* we assess the rationality of her choice. However, we cannot define the set of variables that underlie and inform the choice description while also allowing for re-descriptions of choices according to an indefinite amount of additional factors. For Anand, the absence of a clear prior definition of these elements makes it impossible to give a conclusive assessment of the rationality of a choice – an initially irrational choice might become rational (and vice versa) in light of evidence we discover long after the choice was made. Re-descriptions are arbitrary: fundamentally, there are no clear boundaries or criteria to decide on what counts as a legitimate re-description.

In view of such arbitrariness, Anand (1990) rejects the possibility of re-descriptions to accommodate seemingly intransitive choices. In section 2, where his overall position is described in greater detail, we will see that his argument is based on a general critical attitude towards transitivity. In section 3, I shall indicate pathways for preserving transitivity while

contesting Anand's rejection of re-description based on two considerations. Firstly, his position depends on a division between descriptive and normative decision theory, which I deem unrealistic. Secondly, his position presupposes that observable choice and revealed preference are the only criteria on the basis of which options can be described. This, in turn, undermines the possibility of preserving transitivity by describing choice in terms of motivationally salient and potentially unobservable considerations of the agent. Therefore, I will argue that descriptions that include these terms are not necessarily arbitrary. In section 4, finally, the findings of this paper are briefly summarized.

2. Is there any normative appeal to transitivity?

2.1 The psychological justification

In his 1990 paper³, Anand mainly focuses on the normative importance and legitimacy of the axiomatic method in the social sciences. Axioms allow us to model and imitate the relevant factors of real world behavior. They define the nature of the objects of study as well as the relationships among them. Anand emphasizes two definitional elements of the axiomatic method. The first element is what he calls 'choice primitives' – the objects or outcomes which are compared and assessed according to the axioms. In our example these are the types of dessert choice, represented by a , b , c , or c^* . The second element of the axiomatic method consists of the nature of the preference relation among these choice primitives – determining, for instance, whether they have to be ordered in a transitive manner or not. What matters for our purposes is that Anand is rather critical of the way axioms are used and justified in concrete scientific practice: he claims that both elements of the axiomatic method are unfounded, at best '*only partially (or un-)interpreted*' (Anand, 1990: 91, italics in the original)⁴, and hence underdeveloped. According to him, in order for the model – which is ultimately defined by its axioms – to have normative appeal, the axioms need to be justified separately. The nature of the choice primitives, their characteristics and the stipulated relations among them need to be relevant and legitimate on their own. By what criterion can we determine whether

the information we consider in our choices is the best candidate? How can we test whether transitivity is the optimal manner to judge the rationality of preferences?

Anand himself is critical of the normative appeal of transitivity. His attitude and implicit motivation⁵ should be seen in the context of the advent of the experimental approach in the social sciences (predominantly in economics). Historically, Maurice Allais (1953) was one of the first social scientists to test axioms empirically. He provided empirical evidence that undermined some classical requirements of rational choice theory such as transitivity. What he observed was a 'certainty bias': if Jane – assuming that she was a representative participant in Allais' experiments – displayed a (slight) preference of a over b and if she was offered b for sure and a with a (high) probability she would choose b . However, in an analogous case, if b and a were both unsure outcomes and if the difference in probability between them was the same as in the first case, it would turn out that Jane would have chosen a ⁶. Such a result violates transitivity because the preference relation between a and b changes although the preference-relevant information, that is, the difference in probability of the outcomes, stays the same⁷. The upshot of this critical tendency towards transitivity is illustrated best with a quote by Peter C. Fisher (Fisher, 1991: 29): 'The sanctity of transitivity as a bulwark of rationality and order will gradually erode, but this will take time.'⁸

This is the wider context of the empirical challenge brought forward against transitivity. In light of such findings, one might consider whether axioms like transitivity could be maintained on normative grounds instead – asking whether agents *should* act according to the axioms. Addressing this question in his 1990 paper, Anand discusses the '*Psychological View of Normative Appeal* (PVNA)' of the axiomatic method. In his view,

[...] we should employ axioms because they describe propositions which we could easily accept. (Anand, 1991: 93, emphasis added)

Axioms like transitivity seem to reflect an intuition we have about rationality: it seems counterintuitive to consider a genuinely inconsistent (for our purposes this implies: intransitive) choice as rational. Behavior that

consistently violates any ordered and reconstructible pattern does not seem to warrant attributing rationality to it. Traceability and predictability go along with our common concept of rationality – we want to understand the underlying reasoning that motivated a choice before we call it rational⁹. However, whether a specific choice is transitive or not depends crucially on the specific way this choice is framed, expressed, and described. Ultimately, any difference in the description of choice behavior will have an impact on its normative content too, just like the distinction made between c and c^* in Jane's choice did. The more convincing the underlying 'story' about the construction and description of the primitives is, the more normative appeal the latter have.

Besides the arbitrariness of descriptions I alluded to in the introduction, there is a more fundamental problem, according to Anand. In the PVNA justification of axioms, the description of the primitives depends on its specific wording – its 'intensionality' (Anand, 1990: 93). However, it undermines the reason the axiomatic approach is used in the first place: we postulate and use simplifying axioms in order to *deductively* define rationality and thereby account for a multitude of concrete occurrences. Axioms like transitivity serve as the premises of the deductive argument. And from their truth follows the truth of the consequence, that is, the attribute of being rational for *all* situations where the axioms hold. Such an argument, however, is 'extensional' (Anand, 1990: 93) and independent of specific wording. To justify the use of axioms in terms of their PVNA, then, undermines this very deductive advantage. Every specific application of the axiom will have to be assessed separately in terms of accuracy of description. To use the words of Anand:

While PNVA gives weight to cognitive factors [...] it provides no grounds for the extensionality on which the use of axioms is based, and can only be regarded as ultimately self-defeating. (Anand, 1990: 93)

I wonder whether this is not too harsh and categorical a conclusion. Although the elaboration of my criticism with regard to his conclusion shall only begin at the very end of this section, we may already state that Anand's evaluative framework is clear-cut and strict: axioms have to apply independent of context or language. For this reason, it is necessary to

define the domain and primitives to which the axioms apply before we assess specific situations. This, however, excludes re-descriptions *after the fact*, that is, once the behavior or choice in question has already taken place.

2.2 The translation theorem

In the further development of Anand's argument, he presents a formal proof of the arbitrariness of (re-)descriptions on the basis of what he calls the 'translation theorem':

All intransitive behaviours can be redescribed in such a way the transitivity is not violated and all transitive behaviours can be redescribed in such a way that transitivity is violated. (Anand, 1990: 94)

The proof basically formalizes our initial example of arbitrary re-description. Whether Jane violates transitivity or not, whether she acts irrationally or not, depends on the description of the choice primitives one chooses. The theorem states that the (re-)description does not depend on the behavior itself: Jane's choice c might be 'translated' into any other primitive c^* , c^\wedge , etc. depending on the context, information, and hence description of the choice taken into account. But, Anand asks, is it legitimate to look for a 'better' description of Jane's choice after she has taken her decision already, that is, after the fact?

This is where the arbitrariness of re-description resides:

Without prior agreement on the linguistic conventions which will be used to say what counts as a particular choice primitive, we can choose, *ex post facto*, some convention (richness of language permitting) in such a way that an observation (set) can be counted, either as a violation of transitivity or any other axiom [footnote suppressed] which we are testing, or not, depending on choice. (Anand, 1990: 96)

According to Anand, this arbitrariness is problematic. If we do not possess a definition of the set of choice primitives before we apply it to a concrete case, contradictions or an ad hoc theory will result. This is intuitively

plausible: in assessing a choice situation normatively (asking ‘what is the rational thing to do for Jane?’), I must know beforehand what choices Jane might face and what information she has about them – adding or ‘inventing’ choices, or descriptions thereof, after the fact seems a patching ad hoc measure violating the requirement of completeness. Indeed, completeness is a precondition for transitivity¹⁰: without presuming that all possible choices are known, without a complete set of primitives, any discussion of transitivity is senseless as another choice may always ‘pop up’ and intervene with the established preference ordering.

Is there no way to avoid this problem? Anand mentions a ‘consequentialist’ option to deal with it. On this account, the choice primitives are defined with reference to what the agent perceives as her choice. Anand summarizes such a position in the following manner:

[...] if the agent derives utility over something – if it is of “concern” to the individual as Savage put it – then, whatever it is, it should be modelled as part of the utility-yielding primitive. (Anand, 1990: 97)

Likewise, with regard to the example of Jane, we could say that whatever the preference-relevant context, consideration, or information, it has to be reflected in the way we construct the choice primitives. But, if any yielded utility to the agent had to be incorporated into the description of the choice primitives, then it would be impossible to assess whether the axioms are respected or not, whether the agent acted rationally according to those axioms or not. This is what Anand was interested in in the first place, testing axioms or assessing their normative appeal (cf. Anand, 1990: 97). If the agent was to have, say, a deliberate preference for intransitivity, it would of course be pointless to try to assess the transitivity of the actions. If Jane had chosen *c* only because she derived utility from deviating from predictions by rational choice theory, what sense would it make to ask – with regard to the axioms we postulate – whether this was a rational choice or not? For Anand, basing the description of the choice primitives on the agent’s internal state is ultimately incompatible with normative assessment of choices, and with the very project of axiom testing.

2.3 Two objectives of decision theory

Accounts like the one above are thus in danger of producing absurd implications because they endorse ‘pre-axiomatic proposals for primitive constructing’ (Anand, 1990: 97). If the agent’s utility determines the structure of the axioms, then the very reason to use axioms is subverted. Although theoretically possible, such a consequentialist solution to the arbitrariness-charge would be ‘rather costly’ in terms of

[...] effects on the objectives which decision theorists set out to achieve (in particular the aims of providing a theory with behavioural content and one which is “hands-off” [...]) (Anand, 1990: 97)

Now, what does Anand mean with ‘behavioural content’ and “hands-off”? This distinction is crucial, since Anand argues against the compatibility of the two objectives that are pursued in decision theory: the descriptive and the normative objective. The underlying idea is this. In decision theory, we are aiming at, on the one hand, a *descriptive* account of the ways people eventually make their decisions on a factual level. And such an account needs to simplify, explain or even predict the concrete behavior in question – it has to have ‘behavioural content’. According to this objective, the decisions theorist aims to obtain an appropriate and realistic description of the choice – and the previous discussion of Anand’s translation theorem applies to such an approach. On the other hand, however, we are looking for an independent and convenient tool or benchmark against which actual behavior can be *normatively* assessed without the decision theorist having to look at every specific case (‘hands-off’). On this account, the re-description of choices does not need further argument, as the primitives need to be determined upfront. Evidently, Anand’s criticism of re-descriptions after the fact presupposes this normative objective of decision theory.

So, what is the relation between the two objectives or approaches? Interestingly, with regard to the differences in primitive construction, Anand states on the one hand:

Solving *simultaneously* for the twin objectives of being “hands-off” and providing content is akin to squaring the circle. (Anand, 1990: 100)

However, he seems to make a concession which is at odds with his own argument: ‘Both projects seem to be reasonable ones to follow...’ (Anand, 1990: 99). It is hard to see how the descriptive objective is supposed to be ‘reasonable’ in light of the challenge the translation theorem poses to it. Or, if the project can be somehow reasonable, will there be a criterion that ensures that (re-)descriptions are not arbitrary? Although Anand is not explicit about that, I want to argue for the affirmative answer to this question in the following section.

3. Getting the ‘hands-on’ description right

3.1 The interdependence of the two objectives

Let us start with a fundamental question straight away: why do we talk about the concrete normative appeal of axioms when they are artificially posited with the intention to serve a purely deductive purpose? The discussion of the axiomatic method is basically motivated by the observation of recurrent *prima facie* violations of those very axioms. The experimental results, presented first by Allais and subsequently widely confirmed, speak clearly against the axiom of transitivity in preference orderings (as displayed through choices). But intuitively, it is doubtful whether agents simply act irrationally on a systematic and widespread scale and thereby violate an axiom as important as transitivity. So, if we do not want to bite the bullet that humans consistently act irrationally, two different strategies are open to us: either we check whether rationality – as defined by the posited axioms – might apply to the undertaken actions in another manner, or, we ask whether those very axioms do indeed represent the best way for normatively assessing our behavior. I will defend the former strategy in the following pages, whereas Anand emphasizes the latter approach to axiom testing.

Experimental evidence is descriptive and hence inductive; it is based on concrete outcomes or choices. As such, it is brought forward against the normative conclusions of an axiom-based deductive approach. The point is that Anand’s discussion of how axioms should be tested presupposes

the interdependence of the two projects, the descriptive-inductive and the normative-deductive. It does so to the extent that it takes evidence from the empirical approach as a motivation and justification to scrutinize the validity of the axiomatic approach. Although Anand’s two objectives are ultimately connected, he presents them as two independent goals. However, it is insufficient to declare a seemingly axiom-violating behavior as irrational merely on the basis of a *prima facie* observation: to call Jane’s choice *c* straightforwardly irrational simply because she preferred *a* over *c* at would undermine the requirements of the descriptive approach. By barring any options that would preserve rationality, such a conclusion about Jane’s behavior would be premature, as it would not consider the possibility that she has acted rationally after all (in view of information unknown to an outside observer, for instance). But the central question remains unanswered: of what nature is the relation between the two objectives in decision theory, if such a relation exists?

Anand argues that the two objectives are mutually exclusive approaches to decision-making processes (Anand, 1990: 92) – one pursues either the descriptive or the normative objective, but it is impossible to pursue both at the same time or only partially. As a result, to simultaneously solve both objectives literally amounts to ‘squaring the circle’ (Anand, 1990: 100) – it would be tautologically false and hence contradictory. Such a position, however, undermines the interdependence of the objectives and thus the very reason for testing axioms in the first place. Doing so begs the question of Anand’s own project. But it is not my intention to enter the century-old discussion of induction and deduction here. The upshot is that Anand’s dichotomy is too strict, too rigid, and deeply unrealistic with regard to any concrete decision-theoretic take on choice behavior. What I mean with this claim shall be shown by returning to Anand’s translation theorem.

3.2 The Translation Theorem revisited

According to Anand, choice primitives should not be described *ex post*. Instead, we should follow the normative objective and determine our ‘linguistic conventions’ with respect to the choice primitives prior to the observation of the choice. What we can postulate about the decision-mak-

ing process beforehand, or *ex ante*, is basically that a choice has to be made – a *decision* must be taken in order to have something to assess in the first place. In doing so, presumably, we could not say anything about what underlying preference, considerations, or motivation will lead the agent to her final decision, because we would be unable to make sure that we have enumerated all the underlying motivational considerations of the choice set. Such an approach would be *descriptively* satisfying only if the agent was merely influenced by the bare observable outcome and commonly known information thereof¹¹. However, this is unlikely to be the case in situations which interest us here: we would not be able to consider the possibility of c^* in Jane's example even if we realized later on that she was in possession of the particular information that turned c into c^* . To follow a strict and rigid normative *ex ante* requirement in Jane's case – that is, to focus merely on the eventual decision and hence not differentiating between c and c^* – would be descriptively deeply unsatisfactory. However, it is not clear why allowing c^* would be so problematic on a normative-deductive level. Could there not be a middle-ground between the objectives?

In fact, Anand himself seems to imply an interconnection between the objectives. For him, axioms in themselves are empty (Anand, 1990: 98). They need to be applied to a domain via defined relations. Indeed, how and where axioms like transitivity are supposed to apply is the crux of the matter. On this basis, primitive construction in itself (and re-description thereof) is not so much the issue at stake; it might even be a rather useful tool in testing, for instance, outcomes of experiments (Anand, 1990: 98-99). According to Anand, we need to make sure that the primitives have 'substantive meaning' and a non-empty behavioral content (Anand, 1990: 99). This is how we can define and clarify the primitives and their relations to the domain. So, how do we determine the relevant information in the choice set of economic agents in order to obtain primitives with 'substantive meaning'?

To do this, we simply need to specify and describe a choice primitive such that it holds for the specific decision-making process of the agent. The description of the choice primitive has to correspond to the grounds on which the agent makes her decision and has thus to encompass the relevant motivational basis of the decision maker. By motivational I mean

the set of considerations, beliefs and thoughts that *make* the agent take a decision. It is the set of factors that lead her to the conviction of acting on reasoned grounds. It is in virtue of this motivational basis – and with regard to this basis only – that an observer can legitimately assess the rationality of an action. Those reasons make the decision rational or not. An act is not rational by chance or because certain unconsidered or unknown factors *happen* to make an act or choice appear rational. A choice is not rational if it is identical to what a rational person would have chosen. It is rational if the 'right' and rational reasons have led the person to make that decision¹².

Consequently, we need to get the description right with regard to the agent's perception of the choice – this is the criterion that saves the description from being arbitrary. I admit that we hereby jettison a strictly 'hands-off' requirement because the underlying motivation might not be directly observable and thus not defined *ex ante*. However, I am not saying that the requirement is useless *per se*. In fact, the previously mentioned legitimate basis for assessing the rationality of agents itself represents a hands-off requirement. Basing this assessment only on the motivational grounds of an agent is less strict and more encompassing. *Pace* Anand, this focus on motivational grounds is not necessarily problematic, as we shall see now.

3.3 The impact on decision theory

Allowing for a re-description of the choice primitive after the fact need not be a problem so long as we base the re-description of the choice primitives on evidence external to the decision theorist, the experimenter herself, or the observer in general. This is based on the assumption that a direct influence of the investigating subject on its object of study needs to be avoided or controlled for. But beyond that point, we do not need to restrict ourselves unnecessarily from finding an action's real motive. The grounds of action might not be the directly observable: in Jane's case, her apparent choice for c would have been considered irrational if we had not allowed for a broader scope, involving *her* underlying motivation. Indeed, our primary focus is what leads the agent to her decision and not so much

what this ultimate choice is. Whatever the grounds for the decision are, these grounds need to serve as the final answer to the question whether a choice has been rational or not. Rationality is attributed to the underlying decision-making process of the agent; her choice is merely the output and result of this process.

Our aim in this paper has been to show that there is a possibility to preserve the axiomatic method and transitivity despite the challenge of experimental results. Let me now briefly address a major charge against this view. To describe the choice primitives in terms of the motivational reasons or beliefs of the agent might seem quite natural. But the former are not necessarily directly observable. This not only poses a problem concerning the proper observation and categorization of these motivations but also has problematic consequences for the demands on the observer or experimenter.

Whereas the first issue can be dealt with technically (by refining methods such as surveys or experiments, or finding appropriate proxies, etc.), the second issue goes deeper. It aims at current problems like data mining, that is, the selective interpretation and treatment of data to confirm a specific preconceived conclusion. Is it possible for the experimenter to not at all influence the social experiment? Admittedly, our benchmark is less demanding than what is required by current standards in rational choice theory (that is, strict 'hands-off'). However, we have seen in the previous sections that a benchmark of objectivity that satisfies the 'hands-off' criterion perfectly is rather unrealistic. Involvement of the experimenter is unavoidable, as can be seen in issues of, for instance, framing experiments¹³. It is a matter of degree, and one may criticize our account for giving too much leeway to this involvement. The complete absence of involvement desired by those critics, however, should be given up, since it is an illusion.

Let us return to Jane in order to consider some preconditions under which our account of re-description is likely to be successful. What if Jane reconstructs or invents a rational choice after the fact? She might be intelligent enough to make up a story that makes her *prima facie* intransitive decision appear rational after all. Here, the decision theorist will have to roll up her sleeves, soil her hands, and conduct an investigative case-by-

case study asking whether Jane's new story makes sense. Furthermore, the experimenter would have to take a clear stand. Firstly, by openly defining and *defending* a normative benchmark of rationality by which behavior is assessed. Secondly, by eliciting a transparent criterion for the appropriate translation or (re-)description of the choice.

By loosening up the 'hands-off' requirement and allowing the experimenter to be involved we can still address issues of obvious contradictions in preferences. For alluding to the motivational grounds of an action does not bar us from assessing such cases on a normative level. Our benchmark of rationality and transitivity (or whatever other axioms we posit) still applies. If it turns out that Jane simply enjoys violating axioms, and, moreover, our c^* has never been the case or was deliberately neglected by Jane – then there is no reason not to frame her ultimate decision as irrational according to the benchmark. Evidently, at the end of the day it all depends on our definition of rationality. This, in turn, depends on the axioms we endorse beforehand to determine what we mean by rationality. Questioning an overly standardized understanding and application of rationality or doubting its underlying axioms, as done by Anand and others, is a desirable endeavor. However, we need not throw out the baby with the bath-water and by dismissing transitivity altogether. Nor do we have to chuckle less about Jane's anecdote.

4. Conclusion

In this paper, we looked at the puzzle of transitivity focusing on the example of Jane: is her intransitive choice to take the cheese cake necessarily irrational? We suggested a re-description of her choice according to motivationally salient considerations as a way to preserve transitivity. We argued against Anand's claim that any re-description is ultimately arbitrary, by showing that observable choice is not the sole criterion for describing preferences. Furthermore, we suggested that Anand's argument is based on an overly strict distinction between descriptive and normative decision theory. In our view, both approaches are interrelated. On such an account, we are no longer bound to a strong and fruitless dichotomy between questioning intuitive axioms and accepting irrationality on a large scale.

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Notes

1. This anecdote is attributed to Sidney Morgenbesser as a case of violating the independence of irrelevant alternatives. We shall presently adapt and use the anecdote for our purposes of discussing transitivity.
2. Dietrich & List (2009) model an agent's preferences as influenced by 'motivational salient dimensions' of options. Evidently, the present approach is inspired by their account but not necessarily perfectly congruent with it.
3. Anand (2009) endorses the validity of the claims in his 1990 article.
4. All following, not further documented references relate to Anand (1990).
5. The contextualization in the present paragraph is mine and not literally found in Anand (1990).
6. I adapted Allais' findings to our example and neglected framing issues for the present purpose.
7. Kahneman & Tversky (1979) and Loomes & Sugden (1982), most seminally, extended on this 'Allais paradox'. Both of these stand in a tradition of gradually eroding the importance of transitivity in economic modelling.
8. Although we do not deal with them, accounts of rational choice that relativize or waive transitivity are acknowledged (cf. Anand (2009) and Hansson & Grüne-Yanoff (2011) for a representative list).

9. Although Anand argues against this conception, it underlies my own argument in particular in section 3.2.

10. Cf. Mandler (2005) for a detailed account of the nature of this relationship.

11. This implicit assumption of Anand is clearly inspired by the broadly shared behavioral framework among economists involving 'revealed preferences': whatever the agent chooses is what she de facto prefers. Our alternative and contrastive account, in turn, is inspired by Davidson (1974) or Sen (1977) and focuses on internal states as determinants of preferences.

12. Evidently, such an account involves several controversial philosophical premises – epistemological internalism or world-mind dualism, to provide some labels. Although I will not be able to deal with these considerations here, my aim is reached if I can show that there are argumentations that avoid Anand's dismissal of transitivity.

13. The matter here is, in a nutshell, that the way choices are described, presented and framed by the theorist has an influence on how people act despite the fact that the objective probabilistic outcomes are identical. This is analogous to Allais' (1953) or Kahneman and Tversky's (1979) findings.

References

- Allais, M. (1953). Le comportement de l'homme rationnel devant le risque: critique des postulats et axiomes de l'école Américaine. In: *Econometrica*, 21 (4), 503-546.
- Anand, P. (1990). Interpreting Axiomatic (Decision) Theory. In: *Annals of Operations Research*, 23, 91-101.
- Anand, P. (2009). Rationality and Intransitive Preference: Foundations for the Modern View. In: Anand, P., Pattanaik, P.K., & Puppe, C. (eds.) *The Handbook of Rational and Social Choice. An Overview of New Foundations and Applications*. Oxford University Press, Oxford, 156-172.
- Davidson, D. (1974). Psychology as Philosophy. In: Davidson, D. (2001) *Essays on Actions and Events*, 2nd ed., Oxford University Press, Oxford, 79-89.
- Dietrich, F. & List, C. (2009). A Model of Non-Informational Preference Change. In: *The LSE Choice Group Working Paper Series*, 5 (1).
- Fishburn, P.C. (1991). Decision Theory: The Next 100 Years? In: *The Economic Journal*, 101 (404), 27-32.

- Hansson, S.O. & Grüne-Yanoff, T. (2011). Preferences. *Stanford Encyclopedia of Philosophy*. <http://plato.stanford.edu/entries/preferences/>. Last access: 21/12/2012.
- Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. In: *Econometrica*, 47 (2), 263-292.
- Loomes, G. & Sugden, R. (1982). Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty. In: *The Economic Journal*, 92 (368), 805-824.
- Mandler, M. (2005). Incomplete preferences and rational intransitivity of choice. In: *Games and Economic Behavior*, 50, 255-277.
- Sen, A. (1977). Rational fools: A Critique of the Behavioural Foundations of Economic Theory. In: *Philosophy and Public Affairs*, 6 (4), 317-44.



Philosophy and Religion in service of the *Philosophia Christi*

Nicole Linkels

Introduction

Desiderius Erasmus proposed a *philosophia Christi*, in which – at least to the Renaissance humanist – both religion and philosophy dictate the Christian way of living. The very term implies that philosophy and religion share a common ground. It fails, however, to acknowledge the unyielding conflict that arises from the differences between these two fields as conceived by Erasmus. The *philosophia Christi* is in fact intrinsically biased by its overruling dogmatic assumption of truth as dictated by Scripture. By default, it seems to be incompatible with the unbiased disposition that lies at the heart of philosophy itself. In this paper, I aim to show that this incompatibility becomes apparent through the fundamental difference between Erasmus' use of Christian sources and his use of philosophical sources from antiquity, even if both of these sources equally condition the idea of a *philosophia Christi*. To illustrate this difference, I will compare the occurrences of Augustine and Epicurus in Erasmus' study of proper Christian conduct, and address the question of the extent to which he abides by their opinions in order to form his own.

It will then become clear that while ancient philosophy was invaluable to Erasmus, pagan material was always to be considered conditional to religious doctrine. I will thus highlight some of the neglected aspects of Erasmus' humanist approach to the study of antiquity, in particular the ambiguous way in which he advocated a return to the classics. We will see that Erasmus claimed to profess only truths directly extracted from those ancient texts, but a closer notice will show that his conceptions of philosophy and religion could not form a perfect synthesis, and Erasmus must have made some concessions in processing them. To Erasmus, Christianity and philosophy should sooner be seen as each other's

opponents, both aiming to dictate the best way of living. To spin his idea of the *philosophia Christi*, Erasmus would have to put one teaching above the other, and the standard of his era left him little choice in deciding which one.

This makes Erasmus' use of Augustine and Epicurus particularly interesting. Erasmus did little to conceal his criticism of Augustine, yet relied on Augustine's words as unquestionably authoritative when he was in need of their support. To demonstrate Erasmus' use of religious sources, I will investigate how he studied the appropriate treatment of heretics, based on ancient Christian material. From here I will observe how and when Augustine was mentioned by Erasmus as a significant source. His defense of heretics will offer a stark contrast with the notion of pleasure which Erasmus wished to introduce to the Christian mind. We will find that Erasmus held considerable admiration for Epicurus and his philosophy of pleasure, but his appreciation of Epicurean ideas did not reach further than what was compatible with Christianity. Erasmus' devotion to ancient philosophical sources would grind to a halt at the borders presented by his religion. Nevertheless, Erasmus took considerable trouble to reintroduce and support Epicureanism as part of the *philosophia Christi*.

Below I will explore how and why Erasmus was inspired to do so. Most significant for our purposes is the extent to which he stayed true to Epicurus' original work. This will be best illustrated by comparing his evasive tactics when using Epicurus to the diligence of his use of Augustine. Erasmus did not particularly favor this saint, and a short introduction to his influence on western Christianity will show us why. Erasmus nevertheless approached Augustine as his fellow Christian, for all his errors, while Epicurus remained at an arm's length for all his brilliance.

The divine gift of philosophy

Erasmus observed that Christ came into the world when it was at its peak of culture and arts. The pagans of antiquity had been able to discover these arts by themselves as a divine gift from God, intended to support them until the arrival of the Messiah. God carefully orchestrated the circumstances of Christ's arrival, so that the world would be fit to support the supreme religion he would introduce on earth. When Christ finally came, his followers no longer needed to take the trouble of discovering these arts: they had already been finalized in the teachings of their leader. They could now focus on spreading Christianity, while enjoying the philosophical knowledge that had already been discovered in the past (Bejczy, 2001: 19).

Erasmus reflected on Scripture as a collection of historical documents. He believed that the New Testament, just as well as the Old Testament, should be read in its proper context. However, Erasmus saw Christ as a transhistorical teacher of the *philosophia Christi*, which called for a commitment to moral and spiritual principles. The interpretation of this commitment, would change throughout history and conform to the needs of evolving societies. In Erasmus' reflection on the history of Christianity, he finds that at the very beginning, the faith was still pure, while classical learning lay forgotten. The very first Christians, in such close proximity to their teacher, may have been able to afford to neglect the intellectual gifts bestowed upon humanity before the First Coming. But for later generations, who would have to study and learn to apply the Gospel by themselves, literary education was indispensable. When later Christians sought to revive knowledge from antiquity, Christianity was already corrupt and Latin was barbarized (Bejczy, 2001: 24).

The church fathers tried to combine the Gospel with the classical intellectual heritage. The latter was literary rather than philosophical heritage, as ancient philosophers held no theological authority. Erasmus therefore did not view the time of the church fathers as the golden age in which Christianity and ancient philosophy reigned together; rather, the decline of literary culture had already set in. Latin had already lost its purity, and the church fathers could not help but have this affect their theological writings. In comparison, the Greek church fathers were

unaffected by this problem. Erasmus was therefore concerned with the civilization of the West (Bejczy, 2001: 25-26). Erasmus greatly valued Greek religious sources for their purity and we will see that he relied heavily on these works.

The Augustinian crossroad

Among the Latin church fathers was Augustine. He was born into a humble family in what is now known as Algeria, in 354. He studied to be a professor in Latin rhetoric, which led him to Rome, and later Milan. From his *Confessions*, we learn that he spent most of his life searching for a philosophy or theology he could believe in, before finally converting to Catholicism in 386. His return to the Christian faith drove him to write on religion instead of rhetoric. Augustine's work grew successful among the Christians in his circle, and he was appointed as bishop of their diocese (McCracken, 1981: introduction).

His attention shifted from philosophy to theology, and authority became an increasingly important theme to him. By this time, the church had fixed the canon of Scripture to comprise what are now the books of the Old and New Testament. Augustine contributed to this stasis by establishing that no historical event occurring after Christ's life would have any sacred significance. North-African Christians regarded themselves as defenders of the true Christian religion, and this conviction of being in the right would explain Augustine's intolerance towards deviation from the dogmas he introduced (Coleman, 2005: 310-313).

Augustine argued that man did not live in a world of knowledge, but of beliefs. We are incapable of teaching anyone anything, as God alone can teach. Also, without God, we can do no good. Believing that we can act out of our own independent will is the pride of the original sin. Augustine believed that when cast from Eden, Adam lost his original capacity to reason. Yet Adam thought that he knew himself and knew how to realize his interests, when he should have surrendered to God and relied on belief. Augustine saw his own life play out in this same universal way. He saw that humans do not have first-hand experience of the historical past or of the future. We may understand testimonies of others, but understanding is

believing rather than knowing. Thus humans cannot know, but must trust. Trusting authorities comes from plausible, rather than demonstrably true arguments. Life in a social or political community is marked by the search for grounds to trust its authorities, which bind people together to serve peace and stability. If we are to live in a Christian community, Augustine asserted that the church should be such an authority (Coleman, 2005: 313-319).

While man was originally created in the likeness of God, after the original sin he was created in the likeness of the fallen rather than the original Adam. This fallen man is still free in the choices he makes, but his choices are not motivated by a desire to do good. We therefore cannot suppress our passions and make ourselves live virtuously through philosophy – the goals of ancient teaching. Man is too proud, and wishes to be nothing other than his autonomous self. Only those who understand their dependence on God will no longer suffer from their passions.

Augustine's rejection of man's capacity to reason can be seen as a fundamental breaking point from ancient philosophical tradition. Augustine was a North-African Roman who lived around the turn of the fifth century, and was therefore entrenched in a culture with an unquestioned view on hierarchies of power. Whereas Plato and Aristotle believed in the power of citizenship, this notion was empty for an inhabitant of imperial North Africa at the time. Augustine's views on the human need for absolute authority traveled fast, and were particularly pressed in the Early Modern era with its crisis of authority (Coleman, 2005: 320-336).

Augustine remained to be an – possibly the most – influential church father throughout the Middle Ages and into Early Modern times. Erasmus, wishing to break with contemporary scholastic tradition and advocating humanism instead, did not adhere to Augustine's popularity. From a historical perspective, Erasmus classified Augustine as a church father of Middle Antiquity. This period was characterized by the introduction of dogmas, as a reaction to the alarming expansion of heretic deviants of Christianity at the time (Bejczy, 2001: 30). The dogmatic character of Augustine's preaching was also a means of creating a schism between Christianity and paganism. The transition from paganism to Christianity, for many new believers, was only a few generations apart, and remnants of

pagan culture were still entrenched in society. Christians oftentimes found it difficult to completely separate their beloved and glamorous pagan traditions from their new Christian lifestyles. Augustine had no influence on the public practice of paganism and could only aim to keep his followers away from its temptations. By stigmatizing the participation in such traditions, Augustine encouraged converted Christians to break with their pagan roots. Many Christians were unaware of the pagan background of their traditions and Augustine was therefore firm in setting ample rules and regulations regarding the practice of Christianity (Cameron, 2011: 790-796).

To Erasmus, however, the introduction of dogmas meant that the Christian faith became debatable, and presented the onset of religious decline. Augustine in particular tried to support his Christian beliefs through reason. Thus he confidently laid down the laws of Christian faith, much to the appeal of medieval theologians. Erasmus saw that Augustine's work contained the foundations of scholastic theology and the very character of the Middle Ages (Bejczy, 2001: 30-31).

Renaissance headway

Contrary to popular belief, not all of antiquity was lost in the Middle Ages. Many classical sources were thoroughly studied and valued throughout this period. The history of the Roman Empire in particular has always been the subject of much attention and praise. In the court of Charles the Great, classical sources were vigorously restored. As part of the cultural rebirth that Charles encouraged, a new art of copying and binding was developed (Romagosa, 2003: 146). It was the preservation of these sources to which the Renaissance owed its realization. Remnants of antiquity, it must be noted, were considered practical and useful to medieval men – rather than products of a great, lost civilization. They did not consider there to be a fracture between the classical age and their own, as we do now. There was indeed a difference in religion, but even ancient pagan art was appreciated within pious circles. Aside from Christianity, they found that all that separated them from the ancients was a number of centuries in time (Weiss, 1969: 1-4).

Erasmus, however, was among the humanists who believed that the neglect of ancient writings had caused the darkness of the Middle Ages. He asserted that the revival of Latin and Greek classics, the New Testament and writings of the church fathers, would restore mankind's moral and spiritual values. Studying such original sources would provide a more minimalistic, and therefore pure, understanding of Christianity. Coupled with the study of classical knowledge, this understanding could be enhanced, as it had done in Christ's time. Erasmus' humanistic goals were all geared towards the improvement of understanding Christianity, and consequently the advancement of society (Bejczy, 2001: xiv).

In his *Enchiridion*, we find Erasmus lamenting the decline of proper education and piety since civilization's break from antiquity. He announced his departure from contemporary culture and started anew, criticizing the scores of repetitive theological writings from which people could not learn anything anyway because reading them would take a lifetime. Erasmus was not alone in his claim of novelty, as this was a popular statement for many other humanists of his time. Each of these enlightened authors bemoaned the loss of ancient wisdom during the Dark Ages, which they sharply contrasted with their own illuminating influence on society through the study of antiquity. They were reluctant to recognize the medieval inheritance that often formed the foundations of their works, resulting in a discredit that contemporary medievalists struggle to correct (Roest, 2003: 115-120).

Erasmus is most likely to have been well aware of his exaggeration of the gloom of the Dark Ages, and his criticism of scholasticism added little originality to what was already the scholastic stereotype. While it is important to recognize the boastful nature of Renaissance authors, Humanism was nevertheless the driving force behind the pursuit of culture and civilization after the Middle Ages (Roest, 2003: 118).

In his pedagogical work, Erasmus also stressed the importance of studying ancient literature and philosophy. Mastery of classical Latin and Greek would facilitate the study of biblical texts and those of the church fathers, while classical moral philosophy opened the mind for a better understanding of the Christian religion. The ancient authors, Erasmus found, held all knowledge that was essential to society. Together, they

offered all there was to be known in all fields of mankind – from law to the sciences and religion alike. These reversible tendencies can be discovered in the writings of many humanist authors; as a result, they ignored many of the medieval innovations in the sciences and philosophy. Significant here is Erasmus' optimism that stemmed from his abandonment of the deficiencies of original sin, so much emphasized in the late Middle Ages. From the ancients Erasmus learned to believe in exploiting man's natural talents to the fullest, rather than emphasizing his incapability of grasping intellectual and moral reasoning (Roest, 2003: 141).

Erasmus believed that civilization had greatly improved since adopting the Christian religion, but that it had also taken leaps back with regard to secular culture. Luckily, he believed, the Renaissance man was now trying to restore society to its glory days of antiquity. Until now, no period had been dominated by a perfect synthesis of Christianity and classical learning (Bejczy, 2001: 107). The question that arises here is whether Erasmus aimed to restore classical knowledge or admired it only for its ability to enhance Christianity.

Spudaeus and Hedonius

Erasmus believed that the study of ancient moral philosophy would greatly benefit the understanding of Christian religion and would aid the believer in living according to the *philosophia Christi*. In the *Enchiridion*, Erasmus explains the message of the Bible in terms of ancient philosophy. He identifies the detachment from the worldly passions with the Stoic teachings, which concur with Plato and Socrates. Aristotle however would argue that the passions are to be restricted when they pass the point of their usefulness. These classics teach philosophies that agree with the piety of a Christian. Erasmus' opinion on the compatibility of a Stoic and pious lifestyle appears to have taken a turn whilst writing the *Praise of Folly*, in which he offers an unconventional alternative to the classical philosophies: Epicureanism (Van Ruler, 2006).

It is likely that the work of his idol, Lorenzo Valla, inspired Erasmus to consider Epicureanism. In Valla's *De Voluptate*, Christian Epicureanism was faintly suggested by one of the participants in the dialogue as a way

of living better than Christian asceticism. Valla showed his understanding of a worldly Epicureanism, but Erasmus directed the Epicurean pleasure towards that which we will experience through the joys of Christian piety instead. Furthermore, Erasmus was a close friend of Thomas More, who was the author of *Utopia*, which touched upon the Epicurean philosophy as well by discussing the realization of happiness through pleasure. Finally, in Erasmus' *Colloquies* we find a dialogue between Spudaeus and Hedonius, respectively named after soberness and pleasure, in which Erasmus himself discussed the compatibility of the philosophy of pleasure with a pious Christian lifestyle (Erasmus, 1965: 535-537).

In this dialogue, Erasmus gives a clear account of his interpretation of Epicureanism. Erasmus aimed to convey a positive Christian account of Epicureanism. He had to do so carefully. His famous adversary, Luther, often accused Erasmus of being an Epicurean in an attempt to discredit his piety. Erasmus therefore had to speak very cautiously when defending Epicureanism or risk accusations of heresy (Verstraete, 2006: 42).

Epicurus was a controversial figure among humanists because of his strictly materialistic conception of the world. His universe of mere atoms left no room for the supernatural. Erasmus, in order to defend him, therefore had to ignore Epicurus' physics and focus only on his ethics. In his dialogue, Erasmus gently introduces two pious figures, discussing the ends of truth and the good.

Hedonius suggests exploring the work of Epicurus. Well aware of the peculiarity of his choice, he needs to persuade Spudaeus to reconsider his bias towards Epicurus. When prejudice is cast aside, he would see that a good Christian is in essence an Epicurean. Hedonius explains that a Christian seeking pleasure may seem to be suffering, but is in fact on his way to happiness by pleasing God. A true Christian, after all, does not find happiness in simple pleasures. He does not seek worldly, but spiritual pleasures. Worldly pleasures are short-lived, while spiritual happiness lasts all of eternity. Additionally, simple pleasures often lead to discomforts, even in this world, and are not worth enjoying. Worse still is suffering from a bad conscience, and even that must be borne, as it is preferable to having no conscience at all.

A poor, unfortunate man could therefore easily be much happier than a rich, powerful one. While it is perhaps difficult to grasp how the poor man could be happier despite of his ailments, the rich man cannot make himself spiritually happy through worldly means. Neither has any control over his fate in this life, but the man who has suffered from misfortune knows how to endure his ailments and is more likely to gladly accept the will of God, while the successful man is more likely to be in search of carnal pleasures and is ungrateful for the things he might enjoy.

A good Christian would therefore seek to abandon his worldly pleasures, and seek to live righteously instead. When such a man falls into the good grace of God, he will find true and ultimate happiness. Thus Hedonius convinced Spudaeus of the true meaning of Epicureanism: finding pleasure in living righteously and godly, knowing and rejoicing that it will lead to happiness (Erasmus, 1965: 538-551).

Epicureanism according to the ancient

The above offers a philosophy that is compatible, even supportive of Christian religion. It does not, however, tell the entire story. Much of the essentials of Epicureanism are delicately avoided or excused in order for this philosophy to suit Christianity. While Erasmus tiptoed around Epicurus' philosophy, the ancient himself wished to promote his doctrine as straightforwardly as possible. In this section, we will see that Epicurean philosophy was indeed better suitable – at least without generous modification – for the pagans of antiquity than for the Christians of the Renaissance. Epicurus' *four-part cure* to humanity's greatest obstacle to happiness, anxiety, could easily serve as a short and sweet summary to his philosophy: 'Don't fear god; don't worry about death; what is good is easy to get, and; what is terrible is easy to endure.' (Epicurus, 1994: iii)

Epicurus did believe in gods, but taught they were not to be feared. Gods, he believed, were much too happy to concern themselves with what we mortals do to want to reward or punish those who do or do not act in their favor. Their constant state of happiness was what Epicurus aimed for man to achieve. He believed in a world in which people had arrived by chance, unindebted to a god, free to live and be happy. Still, we should

abide by moral laws. Not because a god commands them, but because they serve a good purpose. Breaking the rules only leads to anxiety, while leading a moral life leads to friendships which, next to philosophy, are essential to a happy life.

Another concern that tends to grip human minds enough to put them in a state of anxiety is the fear of death. Epicurus did differentiate between body and soul, but as soon as the two part ways, as happens in death, the pair no longer exists. In his *Letter to Herodotus*, Epicurus explains how the soul is involved in sense perception. This is possible because the soul is connected to the body, and also the reason why the body dies when the soul parts from it. Without the body, the soul will lose its sense perception and will cease to exist (Epicurus, 1994: 13). Death itself should not worry us because it is not something we will be aware of, let alone have to endure.

Instead, we should focus on the good things we can get in this life. Luckily, these good things are easy to acquire. Epicurus explains his understanding of pleasure in his *Letter to Menoecus*. Our goal in life should be to make every choice in life in favor of the health of our bodies and peace of our minds, since we would do everything in our ability to avoid pain and fear. Our seeking of pleasure serves to alleviate our suffering, and this is why Epicurus found pleasure to be the leading principle of life.

We should nevertheless choose our pleasures wisely, and sometimes even choose pain if the pleasure following it would be worth its while. Pleasures should therefore be measured relative to the trouble they might cause. From this follows that a prudent lifestyle offers more happiness than an extravagant one, as simple needs are easier to fulfill. Our bodies only need very basic things to survive, and our mind only needs to be confident that our bodies will be supplied with them. Wanting more than we need only awakens the anxiety that we might not fulfill these additional desires. Overindulgence will not lead to a pleasant life, but prudence will. It allows us to sensibly calculate our choices in order to avoid pain. Prudence leads us to live virtuously, to make just and honorable choices, and teaches us that these are inherent to a pleasant life (Epicurus, 1994: 28-31).

Should we run into the unpleasant things in life, we should remind ourselves that by nature, pain is either extreme or chronic; never both. We would then realize that our suffering will not last long, and otherwise be only of a mild nature, and therefore easy to endure.

Epicurus expounded his doctrine through longer letters and texts, but his four basic truths remain the fundamentals of living a good and happy life. The promise of happiness and the simplicity of his phrasings earned Epicurus many followers in the ancient world. Yet from the beginning Epicureanism had also been heavily criticized, mostly on the basis of misinterpretation, and eventually faded into the shadows of academic philosophies, until it was completely drowned out by Christianity (Hutchinson, 1994).

Limited authority of the ancient philosopher

Epicureanism has thus often been rejected first-hand due to prejudice and misinterpretation. Erasmus aimed to sweep these aside and give Epicurean philosophy a fair chance among the newly arising appreciation of ancient teachings during the Renaissance. It is not difficult to understand what attracted Erasmus to Epicureanism and led him to include it as a part of the *philosophia Christi*. Epicurus promoted a life of prudence and virtue, and in turn we would receive what we all seek in life: happiness. Christ promoted a similar reward for a similar lifestyle. In concurrence with Christian philosophy, Epicurus claimed that in order to live well, we must live virtuously – not because it is demanded of us but because we know it is rewarding in the long run.

Epicureans would seek the simple life and fulfill their longings sensibly, carefully calculating how to maximize their happiness in life. While they contentedly eat their barley cakes in their Garden, pious Christians submit to water fasts in their chambers. Though their sober lifestyles seem similar at first glance, Epicureans and Christians part ways when we start to consider their motivations. Christians keep to their water fasts because they want to restrict their mortal bodies from the worldly pleasure of food and strengthen their spirit, not because they take pleasure in drinking water. In the *Colloquies*, Erasmus explains that a Franciscan, vowed to poverty, may lead a happier life than a man living in luxury. If he has a good conscience,

his happiness surpasses that of those who possess everything that worldly pleasure has to offer. He might seem unfortunate, but is in fact 'smeared all over with honey' (Erasmus, 1965: 539). This poor man, free of conscience, pure of heart, is close to God – the very fountain of happiness. Erasmus does not make the additional claim that a man living in luxury has any less of a chance of being pure of heart, given that he does not live impiously.

The sober Epicurean on the other hand, would be sure to enjoy his water, and would not limit his food for the sake of restricting his body. Quite the contrary: he is happy to know that his simple pleasures are easily fulfilled and does not have to long for them in their absence. He abstains from simple luxuries to keep his mind at peace, rather than to please a god judging his virtues. The Epicurean would avoid certain pleasures if he knew they would lead to a greater pain, and would endure pain if he knew it would lead to a greater pleasure (Epicurus, 1994: 28-31). Erasmus makes a similar calculation, but relates these decisions to the final verdict it will lead to: heaven or hell.

Considering Erasmus' perspective, the soul leads an eternal life. The Christian endures suffering in this world, not because pleasure will follow soon, but in his next life. Still, this does not mean that this Christian, who denies himself a simple pleasure, is unhappier than the Epicurean who restricts his pleasure. The cheerfulness they both get from their choices and acceptance of fate makes them equally grateful for the state they find themselves in. The Christian, clear of conscience, does not have any more reason to fear God than the godless Epicurean. However, the absence of this fear cannot be held equal to that of the Epicurean, as it would take away the essential freedom that Epicurus believed relieved us from anxiety.

After all, Epicurus believed we do not exist after this world. One of the fundamental teachings in the Epicurean guide to happiness is to not be concerned with, let alone fear, death. It is pointless because we are not dead yet and therefore do not have to deal with it, and when we are dead, we no longer exist and therefore do not need to ever deal with it at all (Epicurus, 1994: 13). To Christians, death is the beginning of eternal life. Their prospect of eternal life is exactly what motivates the choices they make in this earthly life. Their goal is not to calculate which choices lead towards a pleasant life, but to abide by the guidelines that have been set in stone.

While Epicureans avoid pain and disruption of their peace of mind, Christians are taught to avoid sin. Epicurus himself taught that there are no bad pleasures, only pleasures that are not worth the pain they produce. There is no harm in the occasional luxury, but it is the dependence on luxuries that will make us unhappy, because it awakens the anxiety that we might not get them. This is entirely different from the Christian's abstinence of overindulging, who avoids gluttony because it is a sin. Sinful behavior will be punished in the afterlife. It is God's judgment Christians fear rather than the effects their actions have on the natural course of creating a pleasant life on earth.

It is this fear, the belief that someone might punish us for the decisions we make, that Epicurus fundamentally rejected. The anxiety that this fear awakens stands in the way of happiness, and makes Christianity incompatible with the Epicurean doctrine. It is therefore striking that Erasmus advocated Epicureanism, when he must have been well aware of this divergence. Erasmus must have regarded this as Epicurus' inevitable but forgivable shortcomings, considering a pagan could not have known any better.

Humanism in the study of Christianity

In order to compare Erasmus' use of Epicurus with his use of Augustine, we must first consider the novel way in which Erasmus applied a humanistic method to the interpretation of religious sources. He applied the humanistic method because he thought that the church should be reformed, and the only way to do it properly was to go back to its origins. He asserted that we can find what God truly means to tell us in the primary biblical sources (Jarrott, 1970: 119).

Erasmus believed that Humanism was key to restoring the church to its pure and intended form. He was adamant in following the true biblical and church father's orders. These sources serve to explain the intensity and the unwavering nature of Erasmus' opinions to which we will return. After all, Erasmus lived in a society in which truths and ideologies were taken to be more trustworthy if they could be derived from authoritative texts than when they were the product of one's own reasonings (Coleman,

2000: 29). He was not afraid to challenge contemporary scholastics in defense of his ideal by restoring the beginnings of Christianity. He refused point-blank to the contemporary trend, and instead looked to the works of the ancient church fathers. Below we will see that when attacked, Erasmus would point out that it was unreasonable to disapprove of certain views in his work when the same statements had been made by church fathers before him, and would have been accepted when the very same would have been read in an authoritative source.

Such vindications can be readily studied through Erasmus' letters. From the fifteenth century onwards, it was perfectly acceptable that humanists invested a considerable amount of time in maintaining their reputation. They professed pride in their achievements, and vehemently defended themselves in public polemics (Enenkel, 2003: 94). Through many of such self-representative letters we can observe some of Erasmus' attitudes and motivations. Here we find that Erasmus had a sharp pen when responding to his critics. In his *Confessions*, Erasmus sharply remarks that those who criticize his works apparently do not understand what he means to say in them. He claims that they are offended by his refusal to trouble with scholastic jargon, and then stumble over his superior use of Latin. Erasmus then continues to criticize the opinions of modern scholastics, doubting the validity of their work, and finding that they cannot even agree amongst themselves. Erasmus verifies the validity of his own beliefs by comparing them to the works of the ancient church fathers. If his contemporaries would do the same, they would find much more controversy in those ancient works than what his critics want to censure in his (Erasmus, 2012: 9).

The parable of the tares

To illustrate the tenacity with which Erasmus stood by his humanist ideology of redefining Christianity, I shall study his defense of his paraphrase of Matthew 13, which offered an interpretation different from what was accepted at the time. Erasmus' response to the controversy that arose from this paraphrase exemplifies his use of religious sources. Erasmus came to his opinion through his own interpretation of the passage. He also heavily relied on the explanation of this chapter by Chrysostom, whose writings

validated his interpretation of Matthew. Both of these elements speak volumes on what Erasmus believed to be fundamental to truly knowing Christianity: truth extracted from Scripture and its interpretation by the church fathers.

Matthew 13 contains the parable of the tares. It is often shortly referred to as *sinite utraque crescere* (Hoffmann, 1982; Bainton, 1932: 67), ringing with the emphasis on allowing both wheat and tares to grow together. Specifically, in Matthew 13:24-30, Christ tells a surrounding crowd a parable of a farmer whose field had been tampered with by his enemy, causing weeds to grow amidst his growing wheat. When his servants asked him whether they were to remove the weeds from the field, the farmer answered that they should not, lest they harm the wheat in the process. The weeds should be allowed to grow until harvest day, after which they would be burnt by the master himself. This very passage had been used over and over again to support the position that heretics should be tolerated. The most significant statements extracted from this parable are that we cannot distinguish wheat from tares in this life, that we can and should tolerate the tares because God will deal with them in the end, or simply – that we are to leave the tares be, as that was what Christ commanded us to do. This passage was nevertheless also used by those with a less liberal agenda. In these cases, the tares were not taken to symbolize heretics, but offending members of the church. Also, the servants who are forbidden to remove the tares were sometimes interpreted as instructions solely for ministers, which meant that they did not apply to magistrates (Bainton, 1932: 67).

Throughout the history of Christianity, the parable of the tares was interpreted and applied differently. In the early centuries of Christianity, the church was not yet in any position to persecute heretics. Thomas Aquinas later merged the existing interpretations of the parable, including those of the church fathers, into one that suited the policy of the church in his time. The tares may be rooted out, lest the wheat suffer the consequences. The heretics may therefore be coerced by the church, as long as the members of the church are not harmed in the process. This was to be the leading theory throughout the Middle Ages. In the time of the Reformation, the parable was again used in favor of leniency (Bainton, 1932: 76-83).

When the parable was newly evaluated by Erasmus, he asserted that the tares are to be tolerated. They might one day become wheat; and even if they do not, they will meet their fate on Judgment Day. In his paraphrases, Erasmus adds particulars to the original Gospel with his own interpretations, often concurring with those of Chrysostom (Erasmus, 2008: 214). Erasmus for instance identifies the wheat not just with ‘the children of the kingdom’ (Matt. 13:38), but also with those who, through Gospel teaching, ‘become worthy of the heavenly kingdom’ (Erasmus, 2008: 215) by practicing what they preach. The tares are not only ‘the children of the wicked one’ (Matt. 13:38), but also those who teach false gospels (Erasmus, 2008: 215). Matthew does not offer an explanation for the servants who asked their master whether they were to remove the tares from among the wheat, but Erasmus interprets the servants as people who believe that heretics should be punished by death.

Just as the farmer does not wish for the tares to be removed until harvest so that the wheat would not be harmed in the process, Erasmus states that the tares should not be removed, should they repent and turn into wheat. This is nowhere stated in Matthew, but this implication had been made earlier by Chrysostom. Erasmus goes on to say that even if they do not repent in their lifetime among the wheat, the tares should be saved for their Judge and allowed to meet their fate then. When this final day comes, Christ will send his angels to separate the good from the bad – judged according to their deeds. Those tares that lived among the wheat but did not better themselves in their presence, or harmed them instead, will be separated from them and cast into the furnace of hell (Erasmus, 2008: 215-216).

This paraphrase of the parable of the tares exposed Erasmus to much criticism. It was understood as a denial of the right of authorities to use force against heretics. Criticism came from Noel Beda, Spanish monks and several theologians from Paris (Erasmus, 2008: 215). When his works were pronounced dangerous by the Faculty of the University of Paris, Erasmus responded by stating that his own interpretations of the Scriptures are of no significance, but it must be conceded that those of Jerome, Chrysostom and Augustine certainly are. These church fathers held similar opinions to his, and their authority is unquestioned (Erasmus, 2012a: 216). Erasmus believed that his opinions were therefore unreasonably condemned.

Nevertheless, the paraphrase was perceived as an unacceptable defense of heretics, whilst Erasmus was also expected to defend the Catholic Church during a confessionally turbulent time due to the onset of the Reformation. Erasmus fortified his interpretation by echoing the words of Augustine, who did not disapprove of secular authorities coercing heretics, but felt that church figures had no business using violence against its offenders, nor should they call upon these authorities to commit these acts of violence for them. When they ask authorities to murder on their behalf, the members of the church carry the responsibility of the act themselves (Bainton, 1932: 84).

In addition to the above example, Erasmus oftentimes cited the works of Augustine, despite his criticism of the near-medieval church father. Erasmus appealed to this church father, who he regarded as the champion of scholasticism, to come to his aid when he needed to defend his own points. He was well aware that his contemporaries were more likely to agree with more widespread writers, especially Augustine (Bejczy, 2001: 31). Erasmus often flaunted his knowledge of Augustine, and praised him when appropriate, to counter any accusations of heresy.

One might wonder whether Erasmus’ insistence on tolerance, as derived from the parable of the tares, was a result of his own virtue, or a byproduct of his characteristic pursuit of returning the church to the original and pure form of Christianity. It could just as well be the other way around, if Erasmus knew just which excerpts to quote to support his own views. Yet in an intimate letter to his friend Thomas More (Erasmus, Ep 1804), Erasmus lamented that he had grown tired of the ceaseless criticism that he had to deal with. Still, his convictions stood unwavering. Though sharp of pen, he assured Moore that he did not seek to win a debate on his own accord, but to profess what he believed to be the truth as presented by Scripture and the church fathers.

Indisputable Christian sources

Having studied his paraphrase of the parable of the tares, we can observe the value Erasmus placed in the biblical scriptures and the works of the church fathers. Christ is no longer with us and we can only know

his wishes through studying the sacred Gospels. Nevertheless, Erasmus viewed the Bible as a collection of historical texts. They must therefore be taken and understood in relation to the times in which they were written, instead of being applied directly to contemporary societies. Similarly, he acknowledged the humanity of the church fathers, knowing that they too were only able to learn the will of God through the inheritance of the ancient Scriptures (Bejczy, 2001: 24).

Erasmus was therefore able to show both favoritism and criticism of the ancient church fathers. In relation to the linguistic decline of the West, Erasmus saw the limitations that the Latin church fathers could not overcome. This is why Erasmus often stressed the importance of studying the ancient Greek language in addition to Latin. Indeed, the unadulterated Greek sources made it possible for Erasmus to revise the old Vulgate translation of the Bible. His knowledge of Greek had also put Erasmus in touch with the writings of the Eastern church fathers, which he considered invaluable to anyone studying Christianity.

As we have seen above, Erasmus seems to have relied on both church fathers and Scripture in interpreting the parable of the tares. To the account of Matthew, Erasmus added details that were not found in the Bible itself, but had been mentioned by Chrysostom. Apparently, Erasmus took this Eastern church father's word to supplement the Gospel. Later, when the paraphrases on Matthew were published, Erasmus sought support from the writings of Augustine. Erasmus undoubtedly sought validation from this particular church father to ensure the approval of his contemporaries. Chrysostom would have been less known and therefore less useful in warding off the attacks Erasmus faced as a result of his deviation from scholastic tradition.

Still, Augustine was used as an unquestionable figure of authority, even though Erasmus saw him as the symbol of the medieval decline of ancient knowledge and the end of the church's purity. Everything Augustine said could be repeated out in the open, because he was such an accepted figure in the Christian community. Every single word he had written could be analyzed, even carefully criticized, without fear of being unorthodox. Herein lies the difference in Erasmus' study of Epicurus. Erasmus could not divulge the unchristian details of Epicureanism. At the

same time, it would do Erasmus no good to profess his dislike of Epicurus when he wanted to promote a Christian Epicurean philosophy. Instead, he left out the essentials, which Epicurus would have never forgiven him, but Erasmus ascribed all of the ancient's pagan faults to his unfortunate lack of Christian knowledge.

To conclude

Erasmus never failed to appreciate the historical context of his sources. We have seen that he believed that the arts of ancient philosophy and language were gifts from God to sustain humanity until the coming of Christ. For this reason, he held great admiration for the ancients and their work, and was understanding of their helplessly pagan ways. Furthermore, he took the Gospels as the nearest, purest knowledge of Christianity. Erasmus saw Christ as the ultimate teacher of the *philosophia Christi*, and his direct followers as those who were privileged to truly know Christ's direct teachings. The generations that followed fell victim to their forefathers' neglect of ancient wisdom and slowly lost touch with the original purity of Christianity and at the same pace, the decline of the purity of Latin increasingly affected their competence. Fortunately for the Eastern church fathers, the latter did not affect them, and Erasmus admired them for it. This was especially demonstrated by the formidable task he had taken upon him to study the Greek language, acquiring the ability to offer a new translation of original ancient Greek texts of the New Testament. He could not hide, on the other hand, his bitter resentment of the Latin church's failure to protect the orthodoxy of the Western church.

Among the Western church fathers was Augustine, and in him Erasmus saw the father of scholasticism. Erasmus made it no secret that he despised the scholastic tradition. Yet while he aimed to reform the church, he only did so through the theological authorities that were already present. As can be observed from his interpretation of the parable of the tares and his defense of it, Erasmus was an exemplary humanist by returning to original sources. He did not fear being controversial, as shown by his refusal to back down from his opinions when they came under fire. Erasmus defended the truth of Scripture and the teachings of the church fathers as vehemently

and relentlessly as his lifespan allowed. Theologically, Augustine was an unquestioned church father and Erasmus himself asserted that he had no interest in professing his own opinions, but only those of the founders of the absolute religion of Christianity.

Essential to Erasmus' idea of the *philosophia Christi* appears to be the recognition that God gave mankind the gift of philosophy, before crowning it with the final truth of the words of Christ. Christians must therefore recognize the value of the ancients, including Epicurus, and make their classical philosophies part of their Christian lifestyles. Nevertheless, his defense of the ancient pales in comparison to Erasmus' relentless vindication of what he considered to be forgotten Christian truths. Pagan philosophies were helpful aids in the understanding of Christian religion, but could never oppose anything that Christ had taught. While we have definitely seen Erasmus' appreciation of Epicurus, it was also clear that censorship was employed in translating Epicureanism into Christian terms. If Erasmus would have truly considered Epicureanism in its entirety, he would have addressed the possibility of its first fundamental convictions: to not fear God and to disregard the afterlife. Instead, Erasmus censored these essentials for the pagan mistakes that they were. He reduced the ancient philosophy to the pursuit of happiness, and from there on bent its meaning to fit the virtues of Christianity.

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References

- Bainton, R.H. (1932). The Parable of the Tares as the Proof Text for Religious Liberty to the end of the Sixteenth century. In: *Church History* 1, 67-89.
- Bejczy, I. (2001). *Erasmus and the Middle Ages. The Historical Consciousness of a Christian Humanist*. Leiden: Brill.
- Cameron, A. (2011). *The Last Pagans of Rome*. Oxford: Oxford University Press.
- Coleman, J. (2005). *A History of Political Thought. From Ancient Greece to Early Christianity*. Oxford: Blackwell.
- Coleman, J. (2000). *A History of Political Thought. From the Middle Ages to the Renaissance*. Oxford: Blackwell.
- Enenkel, K. (2003). In Search of Fame. Self-Representation in Neo-Latin Humanism. Gersh, S. & Roest, B. (eds.) *Medieval and Renaissance Humanism. Rhetoric, Representation and Reform*. Leiden: Brill, 93-114.
- Epicurus (1994). Letter to Herodotus. Inwood, B. & Gerson, L.P. (eds.) *The Epicurus Reader. Selected Writings and Testimonia*. Indianapolis: Hackett.
- Epicurus (1994). Letter to Menoeceus. Inwood, B. & Gerson, L.P. (eds.) *The Epicurus Reader. Selected Writings and Testimonia*. Indianapolis: Hackett.
- Erasmus, D. (2012). Declarationes 816D. Miller, C. (ed.) *Collected Works of Erasmus. Volume 82*. Toronto: University of Toronto Press.
- Erasmus, D. (2012a). Dictationes LB IX 906A. Miller, C. (ed.) *Collected Works of Erasmus. Volume 82*. Toronto: University of Toronto Press.
- Erasmus, D. (2008). Paraphrases on Matthew. Simpson, D. (ed.) *Collected Works of Erasmus. Volume 45*. Toronto: University of Toronto Press.
- Hoffmann, M. (1982). Erasmus and religious toleration. *Erasmus of Rotterdam Society Yearbook* 2. 80-106.
- Hutchinson, D. (1994). Introduction. Inwood, B. & Gerson, L.P. (eds.) *The Epicurus Reader. Selected Writings and Testimonia*. Indianapolis: Hackett, vii-xv.
- Jarrott, C.A.L. (1970). Erasmus' Biblical Humanism. In: *Studies in the Renaissance*, 17, 119-152.
- McCracken, G. (1981). *Saint Augustine. The City of God Against the Pagans*. Cambridge: Cambridge University Press.

- Roest, B. (2003). Rhetoric of Innovation and Recourse to Tradition in Humanist Pedagogical Discourse. Gersh, S. & Roest, B. (eds.) *Medieval and Renaissance Humanism. Rhetoric, Representation and Reform*. Leiden: Brill, 115-148.
- Romagosa, A. (2003). The Carolingian Renaissance and Christian Humanism. In: *Logos: A Journal of Catholic Thought and Culture*, 6, 136-149.
- Ruler, H. van (2006). Erasmus, Valla and the Stoic Epicurean Controversy. In: *Erasmus of Rotterdam and European Culture*, 175-197.
- Thompson, C.R. (1965). *The Colloquies of Erasmus*. Chicago: The University of Chicago Press.
- Verstraete, B. (2006). The Defense of Epicureanism in Erasmus' Colloquies. From the "Banquet" Colloquies to Epicurus. In: *Canadian Journal of Netherlandic Studies*, 27, 38-47.
- Weiss, R. (1969). *The Renaissance Discovery of Classical Antiquity*. New York: Humanities Press.

