

Relational Processes in Whitehead's Metaphysics and Commons' Economics. The Relevance of Cosmology for Economic Theory



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Abstract Scientific methodologies are faced with two problems. On the one hand, they have to decide whether to proceed macro- or microanalytically. This paper deals with several microanalytical conceptions (Whitehead, Commons, Wieland, etc.) that have chosen this approach because the basic units (events, transactions) are the only “things” that actually exist. In this sense, these microanalytical approaches are “reductive” (they concentrate on the most basic units). On the other hand, scientific theories have to deal with the problem of complexity reduction. Because it is the nature of scientific theories to come up with models which are abstractions from the “messy” reality, science must always be confronted with the question of how much complexity reduction is appropriate. While radical “reductionist” methods declare that all things are actually “nothing but ...”, the mentioned conceptions are not “reductionist” because they conceptually take into account the polydimensionality of the real. In this view, the concrete world of business presents itself as a network evolving out of countless transactions with a polydimensional (and not: monodimensional) nature.

Keywords Scientific methodology · Abstraction · Macroanalytic · Microanalytic · Reductive · Reductionist · Natural ontology · Social ontology · Cosmology · Process philosophy · Event · Net-work · Polydimensionality · Transaction · Going concern

With his “Relational Economics”, Josef Wieland has presented a theoretical offer. And theoretical concepts are always faced with a fundamental question: How much abstraction should theory allow? The physicist Brian Greene formulates the challenge as follows:

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The art of science [...] lies in making judicious simplifications that render problems tractable while retaining enough of their essence to ensure that the conclusions drawn are relevant.¹

Inevitably, scientific theories are therefore of a reductive nature, because one cannot think without abstractions at all. But the crucial question is how much abstraction is allowed on the one hand and how much of the ‘essence’ (Greene) is retained on the other. The mathematician, physicist and philosopher Alfred North Whitehead names the problem behind it:

The disadvantage of exclusive attention to a group of abstractions [...] is that [...] you have abstracted from the remainder of things. In so far as the excluded things are important [...], your modes of [abstract] thought are not fitted to deal with them.²

It is not simply a matter of any theory having a “blind spot”. The crucial problem is how big this “blind spot” is. In other words, how much complexity reduction is appropriate? This is precisely where Josef Wieland’s theory programme comes in. Of course, the reductionism of conventional mainstream economics did not come about by chance:

there are good methodological reasons in every theory for the reduction of complexity which first renders an object capable of theoretical treatment.³

Wieland is fully aware of the fact that his theoretical offerings (“Governance Ethics” or “Relational Economics”), in contrast, are associated with an increase in complexity:

his basic conceptual suggestion “consequently amounts [...] to an increase in complexity—with the corresponding follow-up problems”.⁴

These follow-up problems arise from the fact that a theory that is less reductionist, i.e. allows for more complexity, cannot of course be quite as elegant as a theory that simplifies (reduces) much more radically. That is the price to pay. But the strongly reductionist mainstream economics also pays a high price, a probably even higher prize, which Nobel Prize winner Richard Thaler sums up as follows:

Economic theory [neoclassical mainstream economics] is elegant and simple—and wrong!⁵

In this sense, Wieland accepts an increase in complexity in his theory because without it important things would remain hidden. He accepts that his theoretical

¹ Greene (2020, p. 117). Previously, he described the problem in this way: “[T]he art [...] lies in simplifying the horrendously complex so as to preserve essential [...] features while making the theoretical analysis tractable.” (Greene 2011, p. 17).

² Whitehead (1925/1967), p. 59.

³ Wieland (2014), p. 127.

⁴ Wieland (2014), p. 127.

⁵ Thaler (2010); time code: 19:55 Min. The term “elegance” (of a scientific theory) reminds me of a saying by physicist Ludwig Boltzmann: one should leave elegance to the tailors and shoemakers (cit. Einstein, 1917/2009, p. v: “man solle die Eleganz Sache der Schneider und Schuster sein lassen”).

approach is more “messy” than conventional mainstream economics,⁶ because the things excluded in neoclassical economics actually are important if one wants to aim for a conception that is appropriate to reality.

Science always thinks in abstractions. But precisely for this reason, science must always be confronted with the question of how much complexity reduction is appropriate. Otherwise, there is a risk of the ‘fallacy of misplaced concreteness’, as Whitehead calls it. This is the mistake of confusing one’s own abstracting model with concrete actuality.⁷ The ability of a theory to depict the essential components of the dynamic network of economic transactions, is the crucial point here.

1 Economics of Transaction. The Microanalytical Theory Decision

Josef Wieland’s “Relational Economics” is a microanalytical economics (and ethics). Its basic unit is the economic transaction. This is particularly evident in his (early) “governance function” from 2001⁸:

$$T_{mij} = f (aIS_{ij}, bFI_{ij}, cIF_{ij}, dOKK_{ij})$$

(a ... d = -1, 0, 1; i = specific transaction; j = specific place)

This function maps the factors influencing the moral dimension (m) of a distinct transaction (T).⁹ In Wieland’s concept, transaction analysis forms the basis for the ultimate goal: the governance of moral-economic transactions.¹⁰

Probably, Wieland’s most important source for this orientation towards transaction and governance is Oliver E. Williamson’s Transaction Cost Economics. His economics can be seen as a continuation of the transaction cost approach, which Ronald Coase had already founded in 1937 in his famous essay on The Nature of the

⁶ In this sense, Nobel Prize winner Paul Krugman also encouraged his own discipline shortly after the financial crisis: “[E]conomists will have to learn to live with messiness.” (Krugman, 2009).

⁷ Whitehead sees the job of philosophy or metaphysics in confronting the sciences with this “fallacy of misplaced concreteness” and making itself useful as a “critique of abstractions”: “You cannot think without abstractions; accordingly, it is of the utmost importance to be vigilant in critically revising your modes of abstraction. It is here that philosophy finds its niche as essential to the healthy progress of society. It is the critic of abstractions.” (Whitehead, 1925/1967, p. 59 f.). So, considering “the ‘fallacy of misplaced concreteness’ [...] [i]t is the office of metaphysics to determine the limits of the applicability of such abstract notions.” (Whitehead, 1929/1979, p. 93).

⁸ This “governance function” can be found for the first time in Wieland (2001), p. 9, and then of course in subsequent applications, such as Wieland (2005), p. 29, or Wieland (2014), p. 16.

⁹ We do not need to go into the details of this governance function here. But the influencing factors are: “individual self-commitment” (IS), “formal institutions” (FI), “informal institutions” (IF), and “the mechanisms of coordination and cooperation of a certain organization” (OCC). This governance function shows that Wieland advocates a polydimensional or “comprehensive concept of governance as its starting point” (2014, p. 7).

¹⁰ Cf. Wieland (2014), pp. 8 f.

Firm.¹¹ However, for the microanalytical theory decision to regard the distinct transaction as the basic unit of analysis, Williamson always referred to another economist, namely John R. Commons. As was to be expected, Williamson started his 2009 Nobel Prize speech with a famous quote from Commons. Williamson declared:

John R. Commons, who was a leading institutional economist during the first half of the twentieth century, formulated the problem of economic organization as follows: ‘The ultimate unit of activity ... must contain in itself the three principles of conflict, mutuality, and order. This unit is a transaction’ (Commons 1932, 4).¹²

Except in his early years, Williamson referred to this quote from Commons in all his important works and in many papers, and consequently made the distinct transaction the ultimate unit of further investigation:

[T]he transaction is made the basic unit of analysis.¹³

But now two things attract attention. Firstly, as far as I can see, Williamson never really explained what has been the theoretical-strategic reason for him to place the transaction at the centre of his governance analyses, i.e. to proceed microanalytically.¹⁴ On the other hand, it is striking that Williamson always made an omission in the Commons quote, which is indicated by the three dots.¹⁵ In checking what Williamson has omitted, one will find a surprise. For the complete original passage in John R. Commons is the following (I’ve put in italics what Williamson has omitted):

Thus the ultimate unit of activity which correlates law, economics and ethics must contain in itself the three principles of conflict, mutuality, and order. This unit is a transaction.¹⁶

If we now look at the title of the original essay, we see that it was dedicated to precisely this problem (which Williamson omitted), namely the “Problem of Correlating Law, Economics, and Ethics”. What Williamson “achieved” with his omission was a reductionist economization of the transaction, which Commons wanted to reconstruct precisely as a polydimensional event—in which the legal, economic and ethical dimensions meet. It must be said that Williamson made his reductionist

¹¹ Cf. Coase (1937).

¹² Williamson (2009), p. 673.

¹³ Williamson (2009), p. 674.

¹⁴ This was probably simply because he had previously worked with the transaction *cost* approach.

¹⁵ The typical omission is found in Williamson (1995a), p. 187; Williamson (1995d), p. 36; Williamson (1996a), p. 12; Williamson (1999), p. 1088; Williamson (2000), p. 599; Williamson (2002a), p. 438; Williamson (2002b), p. 175; Williamson (2005a), p. 3; Williamson (2005b), p. 25; Williamson (2005c), p. 371; and in the Nobel Prize speech: Williamson (2009), p. 673. More generally, Williamson refers to Commons in: Williamson (1975), p. 3. 254; Williamson (1981), p. 1543; Williamson (1985), p. 3. 6; Williamson (1991a), p. 281; Williamson (1991b), p. 8 (in W./Sidney); Williamson (1991c), p. 93 (in W./Sidney); Williamson (1991d), p. 79; Williamson (1995a), p. 225; Williamson (1995c), p. 34; Williamson (1996a), p. 26. 45. 58. 105. 175. 234. 371; Williamson (1996b), p. 390. In Williamson (1996a), p. 251, he at least takes up the keyword “law” (“To be sure, John R. Commons deserves credit for his early recognition that ‘law and economics’ was a combined enterprise (Commons, 1924, 1925).” But “ethics” remains banned here too.

¹⁶ Commons (1932/1996), p. 454 (emphasis mine).

omission directly against Commons' systematic intention.¹⁷ And it is probably no exaggeration to say that Wieland's conceptual focus is not least of all to reverse this omission by Williamson and to start precisely with the problem that Commons formulated at the time: the relational analysis business of correlating law, economics and ethics in a transaction. So it applies: back to Commons!

If one turns to the original writings of John R. Commons in this sense, one finds that after his decision—already made in 1924—to make the transaction the ultimate basic unit of his conception, he discovered that a philosophical metaphysician had made a very similar theory-strategic decision for his cosmology. And this metaphysician was the mathematician, physicist and philosopher Alfred North Whitehead. Commons wrote:

These [...] transactions are to economics what Whitehead's [...] 'event[s]' are to physics.¹⁸

The parallels between Commons' economics and Whitehead's cosmology suggest that a decision of metaphysical significance is involved here: in the effort to clarify "how the (business) world really works (in general)", it is theoretically strategically appropriate to proceed both microanalytically and polydimensionally, in other words: to use a "reductive" but not "reductionist" method (I will come to this terminology shortly). So, first of all, the question (not further discussed by Williamson) must be clarified, what exactly are the reasons for regarding the transaction as the "ultimate unit of activity", as the micro-analytical basic unit for the economic analysis.

In a sense, my paper is actually "only" discussing one single sentence of John R. Commons ontologically and metaphysically, namely the following sentence (already quoted):

[T]he ultimate unit of activity which correlates law, economics and ethics [...] is a transaction.¹⁹

¹⁷ There is an interesting passage in his Nobel Prize Lecture that is no longer found in the published version. There Williamson declares: "It 's not clear, that this is the way he meant it, but it 's the way that I employ it." (<https://www.nobelprize.org/prizes/economic-sciences/2009/williamson/lecture/>; time code: 00:06:40 Min.) I think it's pretty clear that Williamson's reductionism—which turns the polydimensional transaction of Commons into a purely economic event—is *not* "the way he meant it". Williamson actually only takes over from Commons the microanalytical approach to transactions. He writes about it: "My debts to Commons are principally that he defined the economic problem in a spirit that is very much akin to my own. I do not borrow more in detail from what he did because his is a highly personalized analysis" (Williamson, 1975, p. 6). But Commons had just seen "the economic problem" in "Correlating Law, Economics, and Ethics".

¹⁸ Commons (1934/2009), p. 96.

¹⁹ Commons (1932/1996), p. 454. It is not difficult to see that I have also made an omission in this quotation on my part. However, this omission does not serve the purpose of retouching a systematic problem (as Williamson did with Commons' "Problem of Correlating Law, Economics, and Ethics"). The reason for the omission is simply that the so-called "Commons Triple" ("conflict, mutuality, and order") is not relevant to the topic of my paper.

2 Natural Ontology and Social Ontology of Actual Transactions. Living in Exactly One, but Complex Universe

Why does Commons declare the transaction to be the basic microanalytical unit? The answer is: because in the economy the transactions are the only “things” that actually exist. And the philosophical discipline that deals with this question of what kinds of “things” there are in our universe, i.e. “what exists”,²⁰ is called “Ontology”. Of course, philosophers argue about how to classify what exists.²¹

- (1) “*Natural Ontology*”. One possible (and traditional) division is the tripartite division into physical, mental and abstract “things”. There are very different events in our universe: the formation of a star, the birth of a child, the decay of an elementary particle, a chemical reaction, thinking an idea, or, at the very beginning, the Big Bang. If, on the other hand, we look at the content of a thought or feeling, for example, then these “things” are of a different nature: although a thought or feeling is produced—according to a common understanding—by something physical (the brain), but they themselves are not physical, but mental. And finally—somehow—there are also “things” that are again of a different nature: numbers, for example, or the laws of logic are in themselves neither physical nor mental, but abstract. This traditional tripartite division can be called the “Ontology of the Natural”.
- (2) “*Social Ontology*”. Now the philosopher John R. Searle has convincingly argued that besides this traditional (three-part) “natural ontology”, another type of existing reality should be distinguished, which he calls “social ontology”. The first decisive characteristic of social ontology is that it exists only because it was simply invented by human beings:

we are inventing a reality out of nothing.²²

These are, therefore “imagined orders [...] existing only in our imagination”.²³ For example, paper money is such an invention of a social reality. It was not nature (“natural ontology”) that created banknotes, but human society (“social ontology”). The same is true for political offices, football games or companies:

God can create light by saying ‘Let there be light!’ Well, we cannot create light but we have a similar remarkable capacity. We can create [...] corporations by saying [...] ‘Let there be a corporation!’²⁴

²⁰ See Searle (1998/1999), p. 5: “ontology (what exists)”. “Ontology [...] is concerned to answer existence questions.” (Thomasson 2015, p. 1).

²¹ For current introductions to this ontological question see Urbich & Zimmer (2020); Thomasson (2015).

²² Searle (2010/2011), p. 105.

²³ Harari (2015/2018), p. 143.

²⁴ Searle (2010/2011), p. 100.

So, “social ontology” is a remarkable matter. The existence of money is something objectively real, but at the same time money is real money only because we subjectively think it is money. In Searle's philosophy this “puzzling character of social ontology”²⁵ is clarified in the following way:

Basically, Searle considers his concept of “social ontology” as part of a “metaphysics of [...] social relations”.²⁶ More specifically, Searle has worked out that the strange ontology of social reality can only be dealt with through a double conceptual distinction:

First of all: Mount Everest is a mountain that physically is objectively there; and it would be there objectively even if there were not a single person on earth who would say: “There's a mountain!” Money, on the other hand, is only money because we think it is money and we accept it as money.²⁷ The question arises: How can money be an objective reality if it is money only because we subjectively think it is money? The three traditional ontological “drawers” are “things” which—in Searle's terminology—are “ontologically objective”: their existence does not depend on someone else thinking them. Mount Everest is there as a physical fact, even if nobody would think that there is a mountain. If someone has an idea, then that thought would be there in the mind of that person as a mental fact even if nobody else knew about it. The number 3 would exist as an abstract fact even if nobody would think that the number of the apples here is exactly 3.²⁸ All these “things” are “ontologically objective”. Money, on the other hand, is “ontologically subjective”: if nobody would think that the piece of paper here is money, it would not be money.²⁹ Our thoughts obviously have the power to make something else (money) out of a thing (a physical piece of paper). We can create money, so to speak, “out of nothing”.³⁰

But now Searle makes a second distinction, namely the one between “epistemically objective” and “epistemically subjective”.³¹

For example, the statement that the *Lehman Brothers* went bankrupt on 15 September 2008 is an “epistemically objective”, i.e. objectively (acknowledged) fact.

²⁵ Searle (2010/2011), p. ix.

²⁶ Searle (1995), p. 3.

²⁷ Money “is money only if we think it is money” (Searle 1998/1999, p. 112).

²⁸ However, the ontological objectivity of numbers is controversial. But I myself think that they exist in any universe in an ontologically objective way. But that is a separate question. It should be noted that, despite this ontological objectivity, the number 3, for instance, is of an *abstract* nature; there is nothing concrete about it.

²⁹ “If everyone forgot what money was, there wouldn't be any money anymore”. (Dennett, 1991, p. 24).

³⁰ See Searle (2010/2011), p. 105: “we are inventing a reality out of nothing”. So, we “have created a remarkably potent object, a limited liability corporation, so to speak out of thin air.” (Searle, 2010/2011, p. 98).

³¹ The term “epistemology” he explains briefly and to the point: “epistemology (how we know)” (Searle, 1998/1999, p. 5).

This statement “is epistemically objective, because its truth or falsity can be ascertained independently of the attitudes and opinions of observers”.³²

In contrast, the assessment of whether Apple or Samsung smartphones have the more beautiful design has an “epistemically *subjective*” character.

Money—and this is what makes it so remarkable as an example of an entity of “social ontology”—is “ontologically *subjective*”, but at the same time “epistemically *objective*”: although this euro note is only money if we *subjectively* think it’s money (“ontological subjectivity”), but if I were to tear a 200 € note in front of you now, you would think in horror: “This moron has just destroyed 200 €!” So, anyone who does not realise that this € note is *objectively* money (“epistemic objectivity”) has a problem of perception.

- (3) Living in A *Physical Universe*. After this double conceptual distinction, another point is important: like all other things, social-ontological realities only gain concrete actuality in physical actions (in the economy: transactions). *Example 1*: In our traffic system there exists the rule “Stop at red (lights)” This traffic rule as such is of an *abstract* nature. It only becomes reality when—and only when—people actually adhere to it in their *concrete* behaviour. However, this is not always the case: some people actually stop; others overlook the red because they are dreaming; yet others knowingly ignore it because their self-interest in getting quickly now from A to B outweighs the situation. The fact that the *concrete* reality at the red traffic light often looks different from the (in itself) only virtual or abstract traffic rule is again based on the (ontological) fact that reality is more diverse or *polydimensional* than the *monodimensional* traffic rule. There are innumerable possibilities that can determine real action, not just traffic regulations. *Example 2*: Most legal systems have provided for a criminal prohibition of bribes. However, the actual reality does not at all correspond to the legal rules: for many years, a considerable dark field of at least 95% has been expected here.³³ This means that in this case, the legal system remains largely *abstract* (merely virtual). The prohibition of bribes is an “epistemically *objective*” fact: it is important to know that bribery is prohibited, and therefore if discovered, sanctions are to be expected. Nevertheless, the rules of the game regarding the criminal prohibition of bribes remain “ontologically *subjective*”: you must not have to follow them! And the estimated darkfield of at least 95% shows that most economic actors apparently do not actually do so. The more actors ignore this rule, the clearer its inherently *abstract* nature becomes. The “incentive arrangement” enshrined in criminal law only becomes *reality* if the actors are concretely guided by the incentives and do follow the rule. If absolutely nobody would recognise this rule as guiding real action, the rule would remain completely *virtual* or *abstract* even as an incentive arrangement. In terms of its reality content, it would then be practically *non-existent* (any

³² Searle (2010/2011), p. 18.

³³ Bannenberg/Schaupensteiner (2004/2007), p. 40.

longer).³⁴ This possibility that a rule can remain completely abstract depends precisely on its “ontological *subjectivity*”. However, if the abstract social ontological realities are to become *actuality*, they must be concretised into physical *actions* (actual stopping at the traffic lights; economic: *transactions*). We invent money by assigning a function to a piece of paper (namely to function as money),

but that function is manifested only in actual transactions; hence, our interest is not in the object but in the processes and events where the functions are manifested.³⁵

In this way the “*social ontology*” is bound back to the “*natural ontology*”. Although we live in a complex world which has not only a “*natural*” but also a “*social ontology*”, we still “live in exactly one world, not two or three or seventeen”.³⁶ And it is one of the characteristics of this one world that there is no actuality without physical concreteness.³⁷ Note, that this does not mean that everything is merely physical. But all things that are actual must have a physical dimension. This also applies to “*social ontology*”.³⁸ The relevance of the natural cosmology for the economy lies fundamentally in the fact that the “*social ontology*” of the economy can only be realised in physically concrete transaction processes.

[M]oney has to exist in some physical form or other. [...] Most money is now in the form of magnetic traces on computer disks. It does not matter what the form is as long as it can function as money, but money must come in some physical form or other. [...] [T]here must be some physical realization. [...] Institutional facts exist, so to speak, on top of brute physical facts.³⁹

Thus, on the one hand, Commons' transaction is characterised in two respects by “*social ontology*”, i.e. institutional rules, namely in its *economic* and in its *legal* dimension. But on the other hand, these two social-ontological codes only

³⁴ “There are at least two different senses of the objective/subjective distinction: an epistemic sense and an ontological sense. The epistemic sense has to do with knowledge. The ontological sense has to do with existence.” (Searle, 2010/2011, p. 18).

³⁵ Searle (1995), p. 57.

³⁶ Searle (1995), p. xi.

³⁷ “[A]part from things that are actual, there is nothing—nothing either in fact or in efficacy. [...] This general principle will be termed the ‘ontological principle.’ [...] The ontological principle declares that [...] in separation from actual entities there is nothing, merely nonentity—‘The rest is silence’.” (Whitehead, 1929/1979, p. 40 & 43).

³⁸ Searle basically assumes that this one world is characterised by certain “*basic facts*”, namely the physical facts which are investigated by natural sciences (cf. Searle, 2010/2011, p. 4). This is the “*basic ontology*” (Searle, 2010/2011, p. 108). Hence its “*basic requirement*” that—in *one* world—everything must also be related to the “*basic facts*” or “*basic ontology*”. So, “*social ontology*” must also be connected with “*basic ontology*”—in my terminology: with “*natural ontology*”: “On the conception of basic ontology [...] it should be impossible for anything in the real world not to be grounded in the basic facts [...]. Money, corporations, and blindfold chess cannot just float on thin air”. (Searle, 2010/2011, pp. 108 f.).

³⁹ Searle (1995), p. 34 f.

gain actuality in the concrete *transaction*. And that is why Commons made the *transaction* the basic “unit of investigation in economics”.⁴⁰

3 Reductive” or “Reductionist? An Important Methodological Difference for Microanalytical Approaches

The “basic idea” of Josef Wieland’s Governance Ethics and his Relational Economics is the hypothesis that all the problems of Economics and Business Ethics “can be described microanalytically as the immanent [...] dimension[s] of distinct economic transactions”.⁴¹ In order not to misconceive this microanalytical theory strategy that links Wieland with Commons as well as Whitehead (and myself), it is important to remember a terminological distinction: Wieland’s microanalytical approach is “reductive” but not “reductionist”.

This useful distinction was proposed by the philosopher Thomas Nagel. Usually, only the term “reductionist” is used to describe the methodical approach of the sciences. A well-known plea for a strictly “reductionist” methodology is made by the physicist and Nobel Prize winner Steven Weinberg in the chapter “Two Cheers for Reductionism” of his book *Dreams of a Final Theory*⁴²:

[O]ne common feature of everyone’s idea of reductionism is a sense of hierarchy, that some truths are less fundamental than others to which they may be reduced, as chemistry may be reduced to physics.⁴³

Human beings are less fundamental than biology, biology is less fundamental than chemistry, and chemistry is less fundamental than physics. So, in the end, everything is reducible to physics. The “reductionist” method is a “nothing but ...” approach: there may be many different things, but at the end of the day all things that exist, all our lives are nothing but physical particles thrown together:

The reason we give the impression that we think that elementary particle physics is more fundamental than other branches of physics is because it is.⁴⁴

⁴⁰ Commons (1950/1956), p. 52.

⁴¹ Wieland (2014), p. 15. “The basic idea of Governance Ethics is the consideration that all of the questions discussed nowadays in regard to the role and performative capacity of the economy in the realization of the moral claims and concepts of a society and, vice versa, of ethics in economic and entrepreneurial transactions can be described microanalytically as the immanent moral dimension of distinct economic transactions.” (Wieland, 2014, p. 15) “In [...] Relational Economics, [...] transactions [...] *sui generis* have a normative, legal, political, moral and sundry other dimensions.” (Wieland, 2018/2020, p. 85).

⁴² Weinberg (1992/1993), p. 51–64.

⁴³ Weinberg (1992/1993), p. 51.

⁴⁴ Weinberg (1992/1993), p. 55.

This may seem bleak to many people, but, according to Weinberg, it is simply the scientific truth:

The reductionist worldview is chilling and impersonal. It has to be accepted as it is, not because we like it, but because that is the way the world works.⁴⁵

The “reductionist” method and worldview is best summarised in the following quotation from Weinberg:

All the explanatory arrows point downward, from societies to people, to organs, to cells, to biochemistry, to chemistry, and ultimately to physics.⁴⁶

Now, Thomas Nagel makes an important differentiation: he distinguishes this “reductionist” approach from a conception which he calls “reductive”:

I will use ‘reductive’ as the general term for theories that analyze the properties of complex wholes into the properties of their most basic elements. I will continue to use ‘reductionist’ for the more specific type of reductive theory that analyzes higher-level phenomena exclusively in terms of physical elements and their physical properties. [...] The point to keep in mind is that it is possible for an antireductionist theory to be reductive, provided that the elements to which it reduces higher-level phenomena are not exclusively physical. That is the kind of reductive theory I am talking about here.⁴⁷

A “*reductive*” approach is, therefore, one that proceeds *microanalytically* and assumes that our entire concrete reality is built up from basic units—in physics, for example, from elementary particles or elementary events, in economics from transactions. Such a “reductive” approach can also be “reductionist”: Weinberg’s physical reductionism, for example, claims that these basic units are ultimately “nothing more than” physical entities and thus all the realities of the cosmos of purely physical nature. And an economic reductionism declares these basic units of the economy, the transactions, to be “nothing else than” economic processes, that is, they are of a purely economic nature. An example of such an economic reductionism is the theory of Oliver Williamson already mentioned. But there are also, as Nagel points out, “reductive” theories which are at the same time “*antireductionist*” and do not claim that the basic units are exclusively monodimensional. The economic conceptions of John R. Commons, of Josef Wieland, of myself and also—as we will see in a moment—the cosmological metaphysics of Alfred North Whitehead are such theories, which are “reductive” but not “reductionist”. They rather assume that the ultimate units are polydimensional in nature.

In the following two sections, I would like to introduce the two “reductive”, but not “reductionist” conceptions most important for my subject, namely the cosmology of Alfred North Whitehead on the one hand and the economics of John R. Commons on

⁴⁵ Weinberg (1992/1993), p. 53.

⁴⁶ I could not find this “quote”, which is attributed to Steven Weinberg in numerous publications, in the writings of Weinberg. So, I e-mailed him, and an hour later he answered: “No, I never said the sentence you quote, and I have no idea where it comes from. This is not an uncommon occurrence. Some of the best quotes of me are things I never said. Best, Steven Weinberg “ (e-mail October 08, 2019).

⁴⁷ Nagel (2012), p. 54, fn. 14.

Table 1 Whitehead's Metaphysics and Commons' Economics

Whitehead's cosmology	Commons' economics
"Creativity"	"Activity"
"Reductive"	
"Event" ("actual occasion" ...)	"Transaction"
"Society" (existing in its occasions) with "defining characteristic"	"Going concern" ("existing in its transactions") with "working rules"
Not "reductionist"	
Polydimensionality of "events" ("physical and mental poles")	Polydimensionality of "transactions" ("law, economics and ethics")

the other. The cosmology of Whitehead is relevant to Commons' economics because economic transactions are also events in this cosmos and therefore the way the world (the cosmos) works determines how the transactions of the economy are working. The relationships are summarised in the following table (Table 1).

4 Cosmological Process Metaphysics. Alfred North Whitehead

Alfred North Whitehead (*1861; †1947) was a British mathematician and physicist who, at the age of 63, accepted a chair of Philosophy at Harvard University (Cambridge, USA) and wrote several metaphysical works there, including his major work *Process and Reality*.⁴⁸ Because Whitehead called his cosmology a "metaphysical" one, then, against the usual misunderstandings, it should be pointed out that metaphysics here has nothing to do with absurd speculations, such as how many angels fit on the tip of a needle. Rather, Whitehead understood his "metaphysics" in the strict sense of philosophy of science, namely as the philosophical endeavour of finding out "how the world works (in general)"⁴⁹:

⁴⁸ Whitehead's books are not easy to understand. For example, the then young student James Wilkinson Miller (documented in: Lowe, 1990, p. 142) reports on Whitehead's first lecture in the USA: "the opening lecture plunged us into a morass of absolutely unintelligible metaphysics". About the "Gifford Lectures" which Whitehead held in Edinburgh (Scotland) in 1928 and which then became the basis of his major work *Process and Reality*, one of the visitors, a Dr. J. M. Whittaker, reports that due to the very successful previous Gifford Lectures offered by the physicist Arthur Stanley Eddington, many people came to Whitehead's first lecture: "Eddington [...] was a marvellous popular lecturer who had enthralled an audience of 600 for his entire course. The same audience turned up to Whitehead's first lecture but it was completely unintelligible [...]. The audience at subsequent lectures was only about half a dozen in all, so I am told, for I fear that I myself was one of the backsliders". (cit. Lowe, 1990, p. 250). There is even a rumour that in the end there were only two listeners left (cf. Lowe, 1990, p. 250).

⁴⁹ This wording ("how the world works") is not Whitehead's, but Alan Greenspan's, who used it to explain the term "ideology": "Well, remember that what an ideology is. It's a conceptual framework

By 'metaphysics' I mean the science which seeks to discover the general ideas which are indispensably relevant to the analysis of everything that happens.⁵⁰

It was chiefly with his main work *Process and Reality* that Alfred North Whitehead presented a cosmological metaphysics which he himself has mostly called a "Philosophy of Organism" but which has now become better known as "Process Philosophy". And it's a good term, because the idea of "process" is indeed central to Whitehead:

'[P]rocess' is the fundamental idea.⁵¹ So, a most important metaphysical [...] principle is that the very essence of real actuality—that is of the completely real—is process. [...] There is no halt.⁵²

But the systematically even more ultimate term in Whitehead's cosmology is "*creativity*". As quantum physics views energy as the raw material of the universe and elementary particles as concrete embodiments of this energy, so does Whitehead's metaphysics describe the universal basic character of the world with the term

with the way people deal with reality. Everyone has one. [...] To exist, you need an ideology. The question is whether it is accurate or not. And what I'm saying to you is, yes, I've found a flaw [...] in the model that I perceived is the critical functioning structure that defines how the world works, so to speak." (Greenspan in 2008, see, for example, <https://www.pbs.org/newshour/show/greenspan-admits-flaw-to-congress-predicts-more-economic-problems>). If we replace Greenspan's ambiguous term "ideology" with the term "*metaphysics*", we can firstly say that "metaphysics" focuses on the conceptual frameworks with which we *generally* deal with reality. "Metaphysics" turns on the question of how the world works *in general*—whereas the different fields of science deal with the question of how the world works *in detail*. Secondly, we are faced with the fact that metaphysics is *inevitable* ("everyone has one"). And thirdly, we always have to ask if the metaphysical worldview in question is reasonable or "*accurate*", that is, if it is really problem-solving. In Karl R. Popper's *Philosophy of Science* the status of metaphysical theories is further clarified. He distinguished between three types of theory: "*First*, logical and mathematical theories. *Second*, empirical and scientific theories. *Third*, philosophical or metaphysical theories". (Popper, 1963/1985, p. 197) It is the empirical falsifiability which distinguishes scientific theories (natural sciences) from metaphysical theories: "According to this view [...] a system is to be considered as scientific only if it makes assertions which may clash with observations" (Popper, 1963/1985, p. 256). While the theories of the sciences are, therefore, empirically falsifiable, it is the characteristic of metaphysical theories that they are not falsifiable empirically: "[N]on-testable theories [...] may be described as metaphysical." (Popper, 1963/1985, p. 257) But that does not mean that they are senseless or useless. Quite contrary to any positivistic rejection of metaphysical statements, Popper considers them as very important: "But metaphysical hypotheses are important for science in at least two ways. First of all, in order to have a general picture of the world we need metaphysical hypotheses. Secondly, in the actual preparation of our research we are guided by what I have called 'metaphysical research programmes'". (Popper in: Popper/Eccles 1977/2003, p. 442).

⁵⁰ Whitehead (1926/2007), p. 84.

⁵¹ Whitehead (1919/1925/2011), p. 202. Cf. Whitehead (1926/2007), p. 112; Whitehead (1929/1979), p. 22; Whitehead (1936/1968), p. 140.

⁵² Whitehead (1933/1967), p. 274.

“creativity”⁵³ (which was presumably coined by himself!⁵⁴). With this term, Whitehead is aiming to express the fact that we live in a universe of activity and precisely not in a universe of the dead and passive matter:

‘Creativity’ is [...] divested of the notion of passive receptivity [...]; it is the pure notion of the activity [...]. It is that ultimate notion of the highest generality at the base of actuality.⁵⁵

Due to this creative basic character of reality/ies things are made fluid and become dynamic in an evolutionary way: everything is in flow (cf. Heraklits πάντα ῥεῖ = “everything flows”). New things are “born”, grow and decay again.

4.1 “Reductive”. A Cosmos of Relational Events

- (1) “Events”. With reference to quantum physics, Whitehead initially assumes, micro-analytically, the existence of many realities which are linked in processual relativity, and energetic process-droplets that he calls “events“, “actual entities“, or “actual occasions”:

This epoch is characterized by electronic and protonic actual entities, and by yet more ultimate actual entities which can be dimly discerned in the quanta of energy.⁵⁶

In terms of *metaphysics*, it is important, at this point, that the universe is made up of entities that have the character of *process droplets* that are *genetically relative* and exist in a *minute temporal period* (maybe on billionth of a second).

‘Actual entities’—also termed ‘actual occasions’—are the final real things of which the world is made up.⁵⁷

These “events” or “occasions” are also the basic units of the, thus, the micro-analytical conception of Whitehead’s “Process Philosophy”.⁵⁸

⁵³ The completely elementary and foundational meaning of the term “creativity” in Whitehead’s metaphysics can already be seen by the fact that he calls “creativity” “the ultimate” (Whitehead, 1929/1979, p. 20), the “universal of universals characterizing ultimate matter of fact” (Whitehead, 1929/1979, p. 21), the “ultimate principle” (Whitehead, 1929/1979, p. 21) or “that ultimate notion of the highest generality at the base of actuality” (Whitehead, 1929/1979, p. 31).

⁵⁴ Ford (1987), p. 179, wrote: “Alfred North Whitehead introduced the term ‘creativity’ [...] He appears to have coined this neologism”. Meyer (2005), p. 2, also said: “Whitehead did invent ‘creativity’”.

⁵⁵ Whitehead (1929/1979), p. 31.

⁵⁶ Whitehead (1929/1979), p. 91. In his earlier books on natural philosophy he calls the basic units of the universe “events”: “The fundamental assumption to be elaborated in the course of this enquiry is that the ultimate facts of nature [...] are events” (Whitehead, 1919/1925/2011, p. 4). Space and time are built out of them: “Time and space [...] express relations between events” (ibid., p. 61). In his later metaphysical works he usually used the terms “actual entities” or “actual occasions”.

⁵⁷ Whitehead (1929/1979), p. 18.

⁵⁸ “How an actual entity *becomes* constitutes *what* that actual entity *is* [...]. Its ‘being’ is constituted by its ‘becoming’. This is the ‘principle of process’” (Whitehead, 1929/1979, p. 23).

- (2) “*Societies*”. At the *micro*-level, the universe consists, according to Whitehead, of such process droplets (“events”, “occasions”), while all bigger formations—such as atoms, water drops, ants, stones, trees, people or plants—are more lasting things. These things consist of “actual occasions” which, in a manner of speaking, “cooperate” more closely and, in this, achieve a *certain stability* of the structure. Whitehead calls these more complex and more lasting things of this world at the *macro-cosmic* level “*societies*”:

The real actual things that endure are all societies. They are not actual occasions.⁵⁹

“Societies” are, accordingly, *complex* structures. As (contingently) separate complexes of “events” they depend on a shared characteristic which then defines them as a “society” belonging to each other and which differentiates them from other “societies”. Whitehead calls this element of identity, which is common to all elements of a “society” a “*defining characteristic*”:

A society has an essential character, whereby it is the society that it is.⁶⁰ The common form is the ‘defining characteristic’ of the society.⁶¹ The self-identity of a society is founded upon the self-identity of its defining characteristic, and upon the mutual immanence of its occasions.⁶²

Whitehead’s “societies” are, in any case, “organic” forms which (have to) reproduce their “defining characteristic” every day in an evolutionary “life”-process. A “society” is existing in its occasions.

I do not want to expand on the system of “societies” at this point, but I do want to point out, in advance, that organisations—such as business enterprises—can be imagined, metaphysically, as “societies”. (The German word for stock corporation—“*Aktiengesellschaft*” = “society of shareholders”, is telling.)

In Whitehead’s cosmology all things—the “actual occasions” at the micro-level, the “societies” on the meso-level, and finally the universe on the macro level—are seen as dynamic “organisms”:

Science is [...] becoming the study of organisms. Biology is the study of the larger organisms; whereas physics is the study of the smaller organisms.⁶³

The “final real things of which the world is made up” are not “particles”, not dead billiard balls, but “waves”. Nothing in nature is like a static machine. Even the whole universe is “growing”. And all things within the universe are growing, changing their form, ageing, dying ... So, consequently, Whitehead explicitly called his metaphysical concept the “Philosophy of Organism”.⁶⁴ Actuality is an “organic” fabric or network of myriads of events. The philosopher Ludwig Wittgenstein suggested—in

⁵⁹ Whitehead (1933/1967), p. 204.

⁶⁰ Whitehead (1933/1967), p. 204.

⁶¹ Whitehead (1929/1979), p. 34.

⁶² Whitehead (1933/1967), p. 204.

⁶³ Whitehead (1925/1967), p. 103.

⁶⁴ e.g., Whitehead (1929/1979), p. xi. 7. 18 and so on.



Fig. 1 Ludwig Wittgenstein's "thread" and "fibres"

a completely different context—a metaphor that expresses this organic “spinning” of the truth quite well (Fig. 1):

... as in spinning a thread we twist fibre on fibre. And the strength of the thread resides not in the fact that some one fibre runs through its whole length, but in the overlapping of many fibres.⁶⁵

So, just like the “thread” develops out of the “spinning” and the “overlapping of many fibres” in an evolutionary way, the thread of a human life is also spun from a vast number of individual events. The thread of life has to *reproduce* itself with every new day. The continuing, ongoing spinning represents, in this, the distinctive *identity* of this person from their conception to their death, in which, however, nothing remains the same “sub-stantially” but where this human being—this human “society” of “actual occasions”—continually changes over the course of his life, gains experiences, starts turning grey, and at some point this human “society” dissolves. All things in the universe have the same “organic” character—from the atom to the business enterprise, and also a galaxy.

4.2 Not “Reductionist”. Not Everything in the Physical Cosmos is Physical

Whitehead’s theory is “reductive”—the “societies” are existing in their “events”—but not “reductionist”. Within the framework of his cosmology, this antireductionist character is particularly evident in his rejection of the view that everything in the physical cosmos ultimately has a purely physical nature (this was Weinberg’s thesis, as reported). Coming from mathematical physics, Whitehead, as a philosophical

⁶⁵ Wittgenstein (1953/2009), p. 36 (§ 67). Interestingly, there is a quite similar passage in John R. Commons: “Of course, [...] we mean not a substance nor entity, but a principle of similarity running through all the changing parts” (1934/2009, p. 620).

metaphysician, developed a cosmology that also claimed the mental as a fundamental characteristic of all things. This must be explained briefly.

When we look at the world, we see that there are some “societies” that do have something very interesting that other “societies” do not have: namely mind or even consciousness. Obviously, one has to distinguish (at least) two different types of “societies”⁶⁶:

- On the one hand, there are “societies”, which are mere aggregates, like stones or clouds (in process philosophy they are called mere “aggregational societies”);
- However, on the other hand, there are those “societies” that incorporate a complex structure, namely, a central nervous system (with a brain) that allows for mind and consciousness (process philosophy here speaks of “compound individuals”).

And so, a metaphysical question arises: what has to be the nature of these elementary “actual occasions”—of those “final real things of which the world is made up”—, so that mind or consciousness can arise (given the required structuring of a “compound individual”: central nervous system, brain)?

And the answer Whitehead's cosmological metaphysics gives to this question is the following: beyond their physical nature the elementary “building blocks” of the universe (“actual occasions”) must have a kind of mental nature, a “potential for mentality” or a kind of “protomentality”. The emergence of the mind from completely mindless matter would be nothing but magic, nothing but a miracle!⁶⁷ So, Whitehead declares that the elementary “building blocks” of the world must be ontologically polydimensional (physical and “mental”):

Thus an actual entity is essentially dipolar, with its physical and mental poles.⁶⁸ Each actuality is essentially bipolar, physical and mental.⁶⁹

This polydimensionality does “not necessarily involve consciousness”.⁷⁰ On the level of the elementary particles, it is merely a “mental” potential.

Whitehead called his metaphysical hypothesis, that there is a kind of “protomentality” all the way down, the “*reformed subjectivist principle*”,⁷¹ because “actual occasions” which have a kind of “protomentality” are also something like “subjects”

⁶⁶ See Hartshorne (1936/1967).

⁶⁷ “Why aren't we zombies? I think the answer lies in the nature of the building blocks of organisms. If science acknowledges human experience at all, it must ask from what it has evolved. If it is acknowledged that it has evolved from animal experience, the question is pushed further back. At some point, does experience, mentality, or subjectivity emerge from entities that are totally lacking in these properties, entities that are simply objects for other subjects? If the basic constituents of the physical world are purely material, then the answer must be yes. But to believe this is to affirm a miracle. Unless you believe in miracles, you would expect mindless atoms to evolve into zombies. But this does not seem to happen. Griffin provides cogent and detailed arguments against the common view that mentality evolves from that which has no mentality at all” (Birch, 2008, p. 253).

⁶⁸ Whitehead (1929/1979), p. 239.

⁶⁹ Whitehead (1929/1979), p. 108.

⁷⁰ Whitehead (1929/1979), p. 239.

⁷¹ See Whitehead (1929/1979), pp. 79–80, 157, 160, 167, 189, 196–197.

or “agents”. Physicist Freeman Dyson answers the question about empirical evidence for (a rudimentary form of) “mind” in an elementary particle as follows:

Well, simply that it seems to make choices. [...] So the atom seems to have a freedom to choose. That’s something which characterizes quantum processes [...] It’s spontaneous that to my mind implies that the thing makes a choice. [...] This freedom that the individual atom has to have [...] seems to be an indication of some rudimentary form of mind.⁷² Matter in quantum mechanics is not an inert substance but an active agent, constantly making choices between alternative possibilities according to probabilistic laws. [...] It appears that mind, as manifested by the capacity to make choices, is to some extent inherent in every electron.⁷³

And maybe our brain is a kind of amplifier that is using this rudimentary form of mind to produce full-fledged conscious agency. In contemporary philosophy, this metaphysical hypothesis is called “panpsychism” ($\pi\alpha\psi\chi\eta$ = everything + $\psi\upsilon\chi\eta$ = mind).⁷⁴

5 Transaction Economics. John R. Commons

“Metaphysics” is concerned with the question of how the world works in general whereas the natural sciences are dealing with the question of how the world works in detail. If we transfer this approach to human society and especially to economy, it is possible to say the following. “Business Metaphysics” is concerned with the question of “how the business world works in general”,⁷⁵ whereas the specialised discipline of economics is dealing with the question of how the business world works *in detail*.

Nevertheless, specialised economics can also contain conceptual elements that are more or less *metaphysical*. For example, a discussion on the “essence” or the “nature of the firm” is actually such a metaphysical question.⁷⁶ An economist who gave such

⁷² Robert Wright interviews Freeman Dyson, Complete Interview. Download: <https://meaningoflife.tv/videos/40595> (time code: 13:09 min.) Similarly Bohm & Hiley (1993), p. 387: “Even an electron has at least a rudimentary mental pole, represented mathematically by the quantum potential”.

⁷³ Dyson (1988/2004), p. 297. Whitehead usually uses the word “decision”: “The word ‘decision’ does not here imply conscious judgment [...]. But ‘decision’ cannot be construed as a casual adjunct of an actual entity. It constitutes the very meaning of actuality. An actual entity arises from decisions *for* it, and by its very existence provides decisions *for* other actual entities which supersede it” (Whitehead, 1929/1979, p. 43).

⁷⁴ Here are some advocates of this “crazy” idea of panpsychism: Charles S. Peirce, John Dewey, William James, Ernst Haeckel, Henri Bergson, Bertrand Russell, Arthur Eddington, Carl Gustav Jung, Alfred North Whitehead, Pierre Teilhard de Chardin, Freeman Dyson, Roger Penrose, Bernard Haisch, Rupert Sheldrake, Thomas Nagel, David Chalmers, Galen Strawson, Giulio Tononi, Christof Koch and Gregory Matloff. On the subject of “panpsychism” see my own documentation: <https://www.youtube.com/watch?v=6Uy5-mOGgC8>.

⁷⁵ See Schramm (2016); Schramm (2017); Schramm (2019); Wagner (2019).

⁷⁶ The phrase “The Nature of the Firm” immediately brings to mind the essay by Ronald H. Coase from 1937 (Coase 1937). Despite the title, the problem Coase set himself in this famous essay was

metaphysical questions a relatively large space in his work was the aforementioned John Rogers Commons (*1862; †1945). For example, his answer to the question of the “nature of the firm” reveals a “*reductive*” and thus *metaphysical* concept:

[A] corporation [...] became an economic going concern existing in its transactions.⁷⁷

As Commons has conceived the transactions in a *polydimensional* way (“correlating law, economics, and ethics”), his “Business Metaphysics” is not only “reductive” but also anti-“reductionist”—similar to the metaphysics of Whitehead, which he has cited in agreement several times. In the same way that I have used Alfred North Whitehead as an example to affix the idea of an appropriate “Metaphysics”, it is also possible, in my opinion, to use John R. Commons as an example for an appropriate “Business Metaphysics”.⁷⁸ This is matched by the fact that Commons like Whitehead placed concrete events at the centre of the analysis from the outset. At the core of Commons’ conception is the question about “the ultimate unit of activity”.⁷⁹ As, with Whitehead, the universal fundamental character of the world is described by the term “creativity”, so Commons calls—metaphorically speaking—the fundamental “stuff” of which the business world is made up “activity”.

Economics should be a science of activity.⁸⁰ Economics is a science of activity.⁸¹

What *really* happens in business are forms of this (business) *activity*. Commons is not about some equilibrium model—quite the opposite: it is about the economic *activities*, the economic *events*, the *transactions*.

5.1 “Reductive”. An Economy of Relational Transactions

Commons represented a *microanalytical* approach that sought an “ultimate unit of activity”. From the outset, Commons’ conception is thus reductive in nature.

not the metaphysical question concerning the “nature of the firm” as opposed to the “nature of the market”. Rather, he was concerned with a purely *economic* explanation for the existence of firms in the context of a market economy. And his explanation relies on the quantitative level of “transaction costs”! Posing this question, however, he clearly started from the premise that the qualitative nature of the firm is ontologically identical to the nature of the market and that the “language” used in both cases is that of transaction *costs*.

⁷⁷ Commons (1934/2009), p. 53 (emphasis mine). The historical background with Commons is a reform of the way companies were valued in the eyes of the (tax) law in 1893 in Indiana, which is, however, not particularly relevant for our context.

⁷⁸ What Ronald H. Coase said about the older institutional economics does not, in my opinion, apply to Commons: “The American institutionalists were not theoretical but anti-theoretical, particularly where classical economic theory was concerned. Without a theory they had nothing to pass on” (1984, p. 230). This derogatory judgment is not only “too harshly” (Williamson 1996a, p. 251, fn. 2), but simply wrong.

⁷⁹ Commons (1934/2009), p. 58 (emphasis mine).

⁸⁰ Commons (1950/1956), p. 34.

⁸¹ Commons (1950/1956), p. 203.

- (1) “*Transactions*”. Already in the first of his three major works, i.e. in the *Legal Foundations of Capitalism* from 1924, Commons defined the transaction as the basic unit of economics:

A transaction [...] is the ultimate unit of economics, ethics and law.⁸²

Just like Whitehead metaphysically sees “actual occasions” (“events”, “actual entities”) as concrete occurrences of “creativity”, so the “transactions” function, with Commons, as microanalytical concrete occurrences of “activity”:

I made the transaction the ultimate unit of economic investigation.⁸³ Thus the ultimate unit of activity [...] is a Transaction. A transaction [...] is the smallest unit of institutional economics.⁸⁴

In this, he makes explicit references to the metaphysics of Whitehead:

These [...] transactions are to economics what Whitehead’s [...] ,event[s]’ are to physics.⁸⁵

For his own theoretical decision to start from the transactions in a microanalytical way, Commons explicitly refers to the cosmology of Alfred North Whitehead. However, Whitehead was not the cause of his theory decision—which was already made in 1924⁸⁶—but a metaphysical confirmation of his theory strategy. Commons’ “transactions” function, accordingly, like Whitehead’s “actual occasions”. Because of this, it is possible to also describe Commons’ position by paraphrasing a Whitehead quote: “Transactions” are the final real things of which the world of economy is made up.⁸⁷ What is metaphysically meaningful in this is that, in the world of economics, it is only these transactions that are real. Economic actors exist economically only in their transactions, regardless of whether they are individual (manager, consumers) or corporate economic actors (companies).

Thus the unit of investigation in economics is not an individual, it is a transaction.⁸⁸ I make transactions the units of economic science.⁸⁹

⁸² Commons (1924/2012), p. 68. To refrain from this polydimensionality means to think “abstract” (Commons 1924/2012, p. 387).

⁸³ Commons (1934/2009), p. 4.

⁸⁴ Commons (1934/2009), p. 58 (emphasis mine).

⁸⁵ Commons (1934/2009), p. 96. That Commons takes a *metaphysical* strategic decision with using this micro-analytical foundation of his economic of institutes can be seen in the numerous parallels he draws in his economics to physics, chemistry, biology and astronomy (cf. Commons 1934/2009, p. 55). Because we live precisely in *one* and only in one real universe, Commons is able to word his basis for a *metaphysical* conceptualisation, “how the *economic* world works (in general)“, in analogy to Whitehead’s cosmological concept of metaphysics, “how the *physical* world works (in general)”.

⁸⁶ Whitehead did not publish metaphysical books until 1925.

⁸⁷ See Whitehead (1929/1979), p. 18.

⁸⁸ Commons (1950/1956), p. 52.

⁸⁹ Commons (1950/1956), p. 57.

In the same way, economic “laws” or “game rules” only *concretely* exists in corresponding transactions which give life to these “laws”. This is because these “laws” or “game rules” remain *abstract* precisely until they reproduce in *concrete* transactions, “become incarnate”, become concrete. He put this point into quite philosophical terms:

The actual is always acting. [...] Not-acting is nothing.⁹⁰

- (2) “*Going Concerns*”. Just like Whitehead differentiates between “events” (“actual occasions”) on the one hand and “societies” (as “cooperations” or “cooperations” of “events”) on the other, so the concept of John R. Commons has, on the one hand, the “transaction” and on the other that which he calls a “going concern”.⁹¹ In this, too, he explicitly follows Whitehead:

These going concerns and transactions are to economics what Whitehead's ‘organic mechanism’ [later called: “society”; M.S.⁹²] and ‘event’ are to physics.⁹³ [T]ransactions [...] are functionally interdependent, and their interdependence constitutes the whole which, following American usage, we name a going concern. [...] This going concern is itself a larger unit, and is analogous to that which in biology is an ‘organism,’ or in physics a ‘mechanism.’ But its components are not living cells, nor electrons, nor atoms—they are transactions.⁹⁴

Metaphysically decisive is, here, the theory's strategy to construct “going concern” in a way that only its actual (real) transaction has concrete existence:

[W]e must perceive that the true unit of economic theory is not an individual but a going concern composed of individuals in their many transactions,⁹⁵ a going concern with its constituent transactions.⁹⁶ It is an economic going concern existing in its transactions.⁹⁷

A further point that is conceptionally important is that the transactions that build up to a “going concern” need a shared characteristic that turns them into transactions of *this* “going concern”. And like Whitehead's “societies” are marked by a “defining characteristic”, so the “going concern” is, with Commons, *structured* by that which he calls “*working rules*”:

⁹⁰ Commons (1924/2012), p. 70. The sentence could well be written by Whitehead, for whom the “actual entities” or “actual occasions” were the only real things.

⁹¹ Commons also provides a German translation of the term „Going Concern“: “The German equivalent, *gutgehendes Geschäft*.” (Commons 1934/2009, p. 69, fn. 102).

⁹² In Whitehead (1925/1967, p. 106 f.) “organic mechanism” means “some larger, deeper, more complete pattern” in the sense of what in Whitehead (1929/1979) is then called “society”.

⁹³ Commons (1934/2009), p. 96.

⁹⁴ Commons (1932/1996), p. 454.

⁹⁵ Commons (1932/1996), p. 335.

⁹⁶ Commons (1950/1956), p. 118.

⁹⁷ Commons (1934/2009), p. 53 (emphasis mine).

A going concern is a joint expectation of beneficial bargaining, managerial and rationing transactions, kept together by ‘working rules.’ When the expectations cease, then the concern quits going.⁹⁸ It is these going concerns, with the working rules that keep them agoing.⁹⁹

A “going concern” exists in the becoming and perishing of transactions that are “spinning” (Wittgenstein) a dynamic network or web as the concrete reality of the corporation.

A transaction occurs at a point of time. But transactions flow one into another over a period of time, and this flow is a process. The courts have fully developed the notion of this process in the concept of a ‘going concern’.¹⁰⁰

Like Whitehead, Commons sees all “things” (transactions; “going concerns”) as dynamic “*organisms*”:

Whitehead has observed that the Eighteenth Century method of science had no notion of the organic unity of the whole in a changing relation of the parts to the whole. [...] But the mechanism [of an ‘organic unity’ or an ‘going concern’] itself is ‘organic’ in that it is a kind of prolonged interweaving of changing events [or ‘transactions’], having, as Whitehead says, a past, a present realization, and a future life in its present events.¹⁰¹

This “organic” character shapes all sorts of things on earth. In the same way that human beings are born, grow, age, and die, so companies—Commons’ “going concerns”—too, can be “born” (emerge), they can grow, they can shrink or “die”. But there is a significant difference: while biological creatures have to die, companies *can* also die, but do *not have to*. In principle they can “live” forever:

a corporation in one respect may even be said to have a higher status than the individual, for it may be endowed with that legal perpetuity which is pictured as ‘immortality’.¹⁰²

This “legal perpetuity” is an—in itself—abstract possibility of “social ontology”; in concrete terms, of course, the company only survives if it succeeds in reproducing itself in concrete transactions on and on:

The “going [...] concern ‘goes’ as long as the participants earn a living or a profit through collective action; it may die by bankruptcy, be dissolved, or be absorbed [eaten] by another corporation. Individuals come and go, but the concern goes on, if not in one form, then in

⁹⁸ Commons (1932/1996), p. 454 (emphasis mine). “Thus the going concern may be looked upon as a person with a composite will, but this so-called ‘will’ is none other than the working rules of the concern operating through the actions and transactions of those who observe the rules” (Commons, 1924/2012, p. 147).

⁹⁹ Commons (1934/2009), p. 69.

¹⁰⁰ Commons (1924/2012), p. 7 f.

¹⁰¹ Commons (1934/2009), p. 619 (emphasis mine). However, it must be acknowledged that Commons has come up with somewhat idiosyncratic distinctions between “mechanism”, “machine” or “machinism” and “organism” (cf. Commons 1934/2009, p. 119. 635). However, he rejected the machine thinking (“machinism”) of neoclassical economics just as Whitehead rejected the metaphysics of the machine in classical physics: “The main criticism to be directed against the economists and technicians is their mechanistic imitation of the physical sciences” (Commons, 1950/1956, p. 287).

¹⁰² Commons (1924/2012), p. 144.

another. Hence our 'institutions' are, in reality, 'going concerns.' A going concern is an organization".¹⁰³

Organisations are not "simply *legal fictions*",¹⁰⁴ they are not invisible legal entities existing only in contemplation of law, but "*economic going concern[s] existing in its transactions*".¹⁰⁵ Viewed as actualities, organisations are—to use Wittgenstein's metaphor cited above—"threads" existing in the ongoing "spinning" of "fibres" ("transactions").

5.2 *Not "Reductionist". Not Everything in the Economy is Economic*

Commons' theory is "reductive", but decidedly *not* "reductionist". From the beginning, the *polydimensionality* of his transactions was even the decisive problem for him (the "Problem of Correlating Law, Economics and Ethics"), not the so-called "Commons Triple" ("conflict, mutuality, and order"), to which Williamson refers. This problem of how to deal with the *polydimensionality* of the transaction was already explicitly mentioned in his *Legal Foundations of Capitalism* (1924):

A transaction [...] is the ultimate unit of economics, ethics and law. It is the ultimate but complex relationship.¹⁰⁶

Already here he speaks explicitly of the plural "dimensions" that characterise a transaction:

Thus every transaction has its physical dimensions of performance, avoidance, forbearance; its economic dimensions of opportunity, power, economy and expectation; its psychological dimensions of thinking, feeling, willing, persuading, coercing, commanding, obeying and expectation, its ethical and legal dimensions of rights, duties, liberties, and exposures, and its political or governmental dimensions of authority and authorization in the use of physical power, economic or moral power, according to common rules or working rules that set the limits and directions of conduct.¹⁰⁷

Each transaction is thus indeed characterised by a *polydimensionality*, although in subsequent years Commons has, for pragmatic reasons, limited this diversity of dimensions to the three dimensions of law, economics, and ethics:

[T]he problem of correlating law, economics and ethics [...] is the problem of discovering a unit of activity common to them.¹⁰⁸

¹⁰³ Commons (1950/1956), p. 34.

¹⁰⁴ Jensen/Meckling (1976), p. 310.

¹⁰⁵ Commons (1934/2009), p. 53 (emphasis mine).

¹⁰⁶ Commons (1924/2012), p. 68.

¹⁰⁷ Commons (1924/2012), p. 83.

¹⁰⁸ Commons (1932/1996), p. 453.

In any case, “economic transactions” are no purely economic occurrences. The in itself only abstract world of the code of the economic system (“to pay or not to pay”) exclusively shows only the economic dimension, and thus has a *monodimensional* character. This abstract *monodimensionality* is precisely not applicable for concrete transactions, however.¹⁰⁹ The concrete “transactions” are “events“, in which (at least) three *monodimensional* dimensions, which are in themselves abstract, come together and become *concrete* (“actual”) in every distinct transaction.

In fact, transactions have become the meeting place of economics, physics, psychology, ethics, jurisprudence and politics. A single transaction is a unit of observation which involves explicitly all of them.¹¹⁰

In the real economy, therefore, nothing is just economic.¹¹¹

6 Outro

The concrete world of business is a network (“threads”, “societies”, “going concerns”) evolving out of countless transactions (“fibres”, “occasions”) with a polydimensional nature. But this.

concrete world has slipped through the meshes of the scientific net.¹¹²

Attentive representatives of the economic sciences are well aware of this. For example, with regard to the “theories of the firm”, representatives of the field themselves attest to a “present lack of realism“.¹¹³ This deficiency is the result of economic formalisation efforts. Therefore, Whitehead is probably right in assigning metaphysical philosophy the task of criticising abstractions alien to reality:

Philosophy is the criticism of abstractions which govern special modes of thought.¹¹⁴

Sure, it is the nature of scientific theories to come up with models which are abstractions or simplifications of the “messy” reality. This serves the purpose of being able to take a more precise look at *certain* aspects of chaotic reality. Therein lies the usefulness of both a city map and a scientific theory. Nevertheless, the map is not the landscape. So, Whitehead’s “simple” message is:

Seek simplicity and distrust it.¹¹⁵

¹⁰⁹ The “metaphysical complexity” of such a simple event like a payment is described by Searle (1995), p. 3 f.

¹¹⁰ Commons (1924/2012), p. 5.

¹¹¹ “Wir argumentieren daher ontologisch [...]. Nicht alles in der Ökonomie ist ökonomisch.” (Wieland, 1999, S. 63). Translated: “We therefore argue ontologically [...]. Not everything in the economy is economic”.

¹¹² Whitehead (1936/1968), p. 18.

¹¹³ Foss/Lando/Thomsen (2000), p. 646.

¹¹⁴ Whitehead (1936/1968), p. 48 f.

¹¹⁵ Whitehead (1920/1982), p. 163.

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Relational Economics and Organization Governance

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Birger Priddat · Josef Wieland ·
Adrian Zicari · Dominik Fischer *Editors*

The Relational View of Economics

A New Research Agenda for the Study
of Relational Transactions



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