



# JOURNAL OF PRAGMATIC CONSTRUCTIVISM

## Holism or reductionism, this is the main question in reality

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### Prologue

It is a great pleasure to participate in this academic exercise called 'Festschrift'. It is the first time I have accepted such a flattering assignment, which is the reason why I had no idea how this should be done. Inquiries with colleagues and google scholar search all provided pretty much the same answers. Apparently, you are quite flexible in what you want to write about and how you want to do it. However, think especially about including as much praise for the honoree and her work as possible! This advice is not difficult to follow since I am very impressed with what Hanne has delivered over the years, and much of that material also has meant quite a lot for my own development.

Another suggestion was not to give away the best of your ideas as a 'Festschrift' is not the place where you can get most 'credit for your effort'. This advice, perhaps followed by some, who simply reuse some old desk material, sounds terrible. Although recycling might be a good thing from an environmental perspective within some domains of life, academic writing should not be one of them. Therefore, what follows is a hundred percent newly written text, thus no recycle, where I will present some examples of my own experiences and areas of use of the Pragmatic Constructivist (PC)-framework, thus give a sort of selective, historical overview. By doing so, I try to connect to today's discourse within the PC-network, where language games take up quite some space.

This is in line with another piece of advice for the content of a 'Festschrift', which was to find problems in the work of the honoree's body of scholarship. Of course, only small problems since honorees are almost perfect researchers and do not miss out much, but problems on which the honoree, and her network, could work on in the future. This is important advice, which I will follow, as nobody wants Hanne to be sitting around twiddling her thumbs, and have the world miss out on her brilliance. And neither should the PC-network do that!

Before I start, however, I must inject a note of caution. The below is an unusually personal text, with all pros and cons, that I will 'fire away'. Thus, there is no risk that my contribution here is the outcome of a masterpiece of a scientific process or empirical investigation as the text primarily includes my own reflections and ideas that are addressed to a highly respected researcher, Hanne, and her/our much-appreciated network. Hanne has a special ability to shine through text and people, which makes me feel and hope, that these reflections and ideas not just end up in the empty space, on a hidden data server, or in a wastebasket. So, let's rock!

### 1 Introduction

The Pragmatic Constructivism (PC)-framework (as demonstrated in Nørreklit et al., 2006 and Jakobsen et al., 2011), where Hanne Nørreklit has been heavily involved in the creation and distribution, obviously together with other members of the PC-network and especially the wonderful Lennart Nørreklit is one of the 'theoretical' works that has had the biggest impact on me and my academic life. I could probably say on my whole life, if I start to think about how often I reflect and reason in terms of the four dimensions of the PC-concept, regardless of whether it is academic or completely ordinary conversations in general. In whatever case, this is not always appreciated by everyone as such presentations of reality, simply put, often tend to get 'too complicated' in ordinary situations. No doubt, the PC-framework has made me truly start, and here I admit that it still is a start, although many years have passed since, to genuinely reflect upon epistemological, ontological, and methodological issues in a more holistic manner. It is also the PC-framework that is the focus of my discussion below.

The next section, section 2, will therefore start with how the PC-framework changed my view of reality, or to put it slightly different, what reality might be or how it could be understood. In section 3, I will continue with my own 'rhetoric battles', findings from my PhD thesis, and how they resemble today's discourse on language games. Section 4 describes the important role of tacit knowledge and how it determines the rules of the (language) game. These three sections provide a retrospective to my early years as a 'junior' researcher during 2005-2007.

Then, the three subsequent sections 5-7 concern my research and teaching time from around 2012 onwards. They deal with sustainability issues mostly, which I will link to the conversation within the PC-network. E.g., section 5 describes what happens when sustainability becomes central in companies and how this increases complexity further. Section 6 provides a more contemporary view of sustainability and what should happen now, which in section 7 is linked to the area of 'opportunistic behavior' and the PC-framework's possibilities.

Section 8 then makes a slight turn when linking the PC-framework to the information age and digitalization, something that is strongly evident today in research and business education, with problems that arise when more and more tasks are determined by zeros and ones.

The concluding section 9, finally, will reveal why illustrating reality is so complex, how reductionism is part of all this, how well the PC-framework copes with that, and what future possibilities all this might bring.

## **2 When the PC framework changed my view of reality**

The first time I got in contact with Hanne and the PC-framework and immediately got 'confessed' was during a PhD-course, where Hanne was a teacher, in Gothenburg in 2005/2006. It was then and there, when this entirely obvious, self-evident, and ever-present, yet totally incomprehensible and ungraspable academic 'reality' got colors and features I had not experienced before. Note the word 'academic' in the previous sentence because I rarely had sleepless nights in my earlier non-academic life accepting reality as it was. Reality was, I guess, real to me regardless content and shape!

It was/is the comparatively holistic and integrated approach of the PC-model with the four dimensions, the clear distinctions, but at the same time also the nicely explained relationship, between the three concepts 'world', 'reality', and 'facts', that persuaded most. And this more than any previous modeling of reality I knew of. It would turn out, however, that seeing all these colors and features of this 'new' reality, and how we, for validity to be high, and to enable action that improves practices, should see, experience, and report upon the world and the activities on it, is not a good thing only. In fact, knowing all this has proven to become almost as much a burden as a blessing. It has turned out that knowing more (about reality and its parts) also means to get into more trouble. I will try to elaborate more on this later, first back to why the PC-framework-reality was so convincing.

To me, sense-making, which sometimes is seen as the (bad) opposite of empirical/scientific evidence, has always been important in terms of accepting something as good or bad, as relevant or not, and as plausible or not. Scientific evidence could never fully convince me if that evidence did not make sense to me as well. This was and still is a little narcissistic. Maybe, it is the result of me growing up on a farm, a place that is close to mother earth and very hands-on in terms of nature. Being a practitioner for most of my life before starting my academic endeavors at around 30 years of age surely contributed additionally. In the meantime, however, I have become more cautious about my role and sense-making in describing reality and what role scientific evidence might play in all this.

During my first years as a PhD-student, in 2004 and 2005, things about reality mostly got turned upside down! By studying different theoretical models, it seemed as if there existed many different worlds and realities. Each theoretical model illustrated this world or reality, sometimes as the same but often as different things, and parts of it in different ways, then expressed in specific words and meanings, and proving relationships of all kinds. They all provided different explanations about facts, life, the world, and reality, but also the relationship in-between them. That, I could accept, and to get to know all this made great fun. However, all too often, these models shared two big problems. The representations came at the expense of sense-making, a part that seemed to be missing in most cases, and they not seldomly reduced reality by discrediting other research streams attempts to do so. These attempts of invalidation, it would, however, turn out, simply were another way of being reductionist and did hardly tell the entire truth/story about reality.

Around that time, the PC-framework, for a big change, made visible the connection that had been missing. It was the connection between what I called 'sense and meaning making' with the more established (and accepted) and, earlier mostly piece by piece presented, concepts of science (empiricism, rationalism, positivism, etc.). In addition, the PC-framework brought with it the dimension of language (incl. social constructivism, and hermeneutics). This was just great as I loved social constructivism but had problems accepting an entirely 'non-factual' reality. That social constructivism almost had replaced the positivists' pole position in science, which did make sense to me from a scientific view, especially in my 'social' domain of research. Still, from a more practical standpoint, such ignorance seemed to be one-sided and practically not very useful.

Thus, to combine different research streams' views about facts, reality and the world was for me then, and it still is today, the PC-framework's greatest merit. It brought together science with practice and academics with 'real world'

people (practitioners). PC therefore brought closer academic rigor and practical relevance, which I believe is important for things to function ‘smoothly’ and in real life, thus our experienced reality.

### **3 When language games came into the picture as ‘rhetoric battles’**

During 2006 and 2007, the PC-concept found its way into my PhD-thesis that studied how key management control actors experienced the integration processes following two distinct large cross-border acquisitions (Beusch, 2007, 2011). I used a, what I called, pragmatic (re-)constructivist research approach, where key actors’ (22 actors in Case 1 and 28 actors in Case 2) narratives and their sense-making were in the core of the investigation. The word ‘re-constructing’ was meant to underline the fact that it was me who constructed the story of the M&A integration work, which most likely is the case in most qualitative case-study research. Results showed that the primary factors that made the difference for integration to happen were not the management control systems per se, but the power of the rhetoric and language used when talking about these systems, and clearly also the built-in language in different artefacts that were at stake.

Thus, what most often decided the outcome of merger and acquisition (M&A) integration attempts were the skills of the finance actors (advocates) who wished to persuade and convince other actors (guardians) of the strengths and advantages of a given model or a part thereof. Hence, an acquirer’s management control model and its advocates could not defeat an acquired entity’s model and its guardians if the acquirer’s model and its rhetorical/persuasive powers were weaker. The language and communication dimension turned out to be the major driver for change to happen. The conclusions confirmed that it was more important how something appeared to be than what it really was.

My thesis, at least to my knowledge and judged by comments from some PC-network members, was probably the first empirical study using the PC-framework more profoundly. During that time, in 2006/2007, when I pulled together the thesis manuscript, the PC-network/community did not focus on, and did not more specifically, talk in terms of Wittgenstein’s (1953) ‘language game’ concept. This, however, has changed dramatically as it is the corner piece of much research going on in our community right now. I fully understand this, since language is, means, and determines a lot, if not everything, in life. It is hard to deny, that there is anything that we experience and share in this world that is not somehow based on language constructs, thus socially constructed. Some sort of language always plays a role in (human beings) reality and constructions thereof. This never hardly be argued away with any science. However, what role other parts play, and what that means, is and should be one of the main issues in most scientific endeavor, I believe!

Connected to this, and therefore especially important, is Wittgenstein’s idea (or thesis), that ‘words’ and combinations of words (e.g., terms, expressions, sentences, etc.) have meaning only because of the rule of the game being played. Particularly for pragmatists/pragmatically oriented scientists holds, that the meaning of words is in their use. Words and language are tools more than anything else. This, however, might be accurate regardless of a research streams stance on language being more of a tool, a system, a structure, or a representation. E.g., language as a representation might be the main idea when looking at it from an accounting perspective in general. Accounts are then e.g., seen to represent the outcome of businesses. Still, the same accounts are tools to communicate, and these communicated accounts can represent facts or illusion (‘fake news’).

In my PhD-thesis, I talked about these events and activities in terms of ‘rhetorical battles’ and ‘wins’ and ‘losses’, instead of language games, then reproducing some significant respondents’ views and their own vocabulary. These interviewees all played their own rhetorical battles or language games with their own linguistic weapons, some better and some worse, weapons that, after all, also determined how my story of the M&A integration process looked like.

In all this, I even considered to show off even stronger in the thesis with respondent’s original words like ‘conquer’ and ‘defeat’. This was, however, considered to be going a bit too far by my slightly more cautious and wiser, and unfortunately far too early deceased and greatly missed, supervisor Professor Olov Olson. Such terminology could, he meant, “piss off” more Orthodox management accounting scholars. To stay at least partially within the most important linguistic rules of the game was preferable.

### **4 When tacit knowledge determines the rules of the (language) game**

What the M&A study also brought to light was the difficulty to weight the pros and cons involved with making management control system changes and adaptations from a purely financial perspective. In most cases, the subjective judgments and common sense of actors were important in the process of deciding if, how, and why one choice was better than another. Key actors’ socio-economic ‘inherent’ logic and their personal and company values played a major role in this. Also, what type and sort of language games that were being played was always context dependent and situational, as it followed certain/specific rules, regulations, norms, standards, etc.

What appeared to be very delicate to agree upon for common future action, was that most rules of the games that were played included, and were based on, tacit knowledge (e.g., personal wisdom, experience, insights, and intuition).

This tacit knowledge about the rules of the game was even more difficult to grasp, recognize, and transfer to others, especially in settings where there was lack of direct contact. It required a first ‘transformation’ or ‘translation’ into some form of language by writing things down or by expressing it to somebody. In my thesis, I wrote (Beusch, 2007, p. iii):

“...as long as actors do not recognize the same management control models and do not apply the same worldview and logic, all tacit knowledge has to be made clear and ‘visible’ before it can be communicated to new members of the new entity. Otherwise, new members will not understand the new model and will not accept it. Interpretation and translation of management control models are therefore major drivers in creating a common management control language of clarified images and shared meaning and understanding. This in turn requires direct contact between actor groups: direct interaction and direct communication. Management control is not a ‘technical rational’ area where there is universal agreement on its benefits.”

Thus, language games are only possible if there is such a thing as a language to play games with. Actors’ values and their ‘applied logics’ when choosing among possibilities, which are basic elements of the PC-framework, are predominantly implicit. These are matters only suggested but not directly expressed, which is the reason why it first needs to be made explicit to be part of any game. First then, actors might be able to build the basis for (valid) reality construction.

Tacit knowledge represents internalized knowledge an individual may not consciously be aware of. These can be things as ‘practical’ as how he or she accomplishes tasks. Much more difficult, however, it gets when talking about internalized knowledge regarding how he or she sees different parts of the world. This is about the same as my exercise here right now, but with the difference that I am trying to put things in writing, which is a process that aims to provide my (implicit) understanding of the world, as experienced through every-day life and strongly affected by own and others research, and to make it explicit. Language in all its forms, expressed in speech or writing, is needed as a tool at different stages of any sort of communication or learning (most communication is done for some sort of learning) to make it more explicit and ‘visible’.

According to the PC-framework, a key for all learning is the notion of mutual interests. Learning during M&As to improve action and achieve planned outcomes meant to get to know about the (explicit and implicit/tacit) knowledge of organizational members and their interests. Such learning needed to take place at different steps of integration, from the first contact between members of the different organizations (intuition), to the point where members had internalized ‘the others’ way of doing, thus the stage of enactment, most likely a stage where mutual interest is high, and coordinated action leads to great achievements.

In retrospect, I believe that Wittgensteins’ texts on language games could have helped me more than what I recognized at that time in the analysis of my empirical thesis material. Therefore, I have plans, when life allows it, to go ahead with a prolonged study to investigate what the Chinese have brought to the table after replacing the Americans as owners of one of the case study organizations (Volvo Cars).

Such a study could provide a door to open the black-box of the concept of ‘reality’ further, and connect it more directly to the language game idea of Wittgenstein. To open that door could give way to a plethora of new paths and grounds ahead. Most likely, a stronger focus on language games would require building stronger bridges into the domains of semantics and rhetoric, but also more in-depth insights into psychology and social anthropology.

This will, however, perhaps happen partly at the expense of less focus on certain other parts of the concept of reality. In the PC-framework, it could mean that less attention will be paid to above all logics, then illustrated most distinctively by mainstream economic theories, at least in the field of accounting in general and management accounting more specific. Therefore, I believe, to open that door does not only provide possibilities but also risks as opening it increases complexity even further. Because of that, other parts of the holistic picture of ‘reality’ might become more blurred. I make this assumption because there seems to be a finite number of different factors and perspectives that man is capable to fit into his/her value scheme at the same time. With too many things, there is a risk for overload!

## **5 When sustainability comes into the picture and increases complexity**

For around ten years now, sustainability, linked to the domain of management accounting and control, has been the focus area in most of my teaching and research. “Sustainability” is a term that is a relatively new addition to the popular vernacular of humanity and by that, it also got hold in many language games played around the world. Although the concept has ancient and universal roots (there are e.g., many examples of people, such as the Native Americans, who always emphasized notions of harmony with nature as a sacred duty of human life), it is only during the last about 50 years that it has started to become a real global movement. Just during the last about 10 to 20 years, it has also started to develop into a genuinely important component of business schools and companies around the world.

A publication that stands out as a landmark for sustainability is the 1972 book “The limits to Growth” (Meadows and Club of Rome, 1972). Without even mentioning the word ‘sustainability’, the main message from the book was simple, as expressed by Gomis et al. (2011, p. 173): “The contemporary mode of massive economic consumerism, on

which the industrialized economies were based, was unsustainable, and humankind had to choose between creating a self-inflicted global catastrophe or adopting a path of sustainability.”

Unfortunately, the forecasts made by the book exactly 50 years ago so far failed to get turned into widespread societal actions that would have been compatible with sustainability. Today, perhaps more than ever before, human beings are trying to increase the economic and social quality of life, although in many cases this only happens at the expense of environmental degradation.

The role and relevance of business schools in all this has been the focus of a study I published in 2014, which examined the content of curricula of business schools in generally and my business school ‘Handels’ more specifically (Beusch, 2014). The evaluation also included teachers’ and faculty’s view about these curricula regarding sustainability and the connection to various business study areas (e.g., accounting, finance, management, etc.). The purpose was to account for, and conceptualize, the internal and external forces that influenced higher education business schools as we were striving to integrate sustainability issues into our curricula in the effort to achieve a more sustainable (yet capitalist) world, as I wrote.

My findings outlined different paradigms, during which business school education changed focus. Whereas business relevance was the business schools’ major focus until around the 1950’s, academic rigor replaced much of that during the 1950s onward until the end of the 1970s, when market relevance and shareholder focus took over. First from around 2010 onward, business education slowly started to include academic rigor and societal relevance together. For this last paradigm shift to succeed, a new value proposition based on “responsible management education” and “responsible management” was required, where business schools offer an education which prepares students with rigor and relevance for employment in well-functioning organizations.

In the area of sustainability, it would turn out, that achieving both, academic rigor and societal relevance, at the same time is even more complex than assumed. The inclusion of even more stakeholders’ views and value schemes in curricula meant that there was an almost unlimited number of goals and directions to teach, which was too many for numerous educators at my business school, similarly to many other higher education institutions in business. A key reason for this was, and still is, that most topics within sustainability are very value-loaded, and it is unclear, what value to agree on. For example, in the areas of finance and investment, there were discussions on the issue of ethical funds. Such discussions can be controversial because it is not easy to state what “ethical” really means. Are investments in clinics that perform abortions ethical? Should investments in nuclear power be classified as ethical (or sustainable)?

When such questions arose, how should educators, but also businesses, take a stand and on behalf of what? Exactly when complexity seemed insurmountable, educators often brought forward the traditional argument, that the market in fact is the prime and best mechanism for efficient resource allocation. Technological solutions within existing means of production will offer the promise of a trade-off between economic goals and environmental or even social objectives. Thus, business schools simply can maintain their status quo by continuing to teach the same curricula and the same economic (rational) models. This way of simplifying reality, without scientific proof, made sense to many as everything else was too complicated to deal with and would result in overloaded curricula.

## **6 Where sustainability is today and what happens now**

Today, there is more and more scientific evidence that neither businesses nor business education as usual is good enough to achieve sustainable development, as technological achievements and market mechanisms so far have not offer such a promise fast enough. In a recent study that looked at the integration of management control systems for sustainability in a large multinational firm, findings show that the language of the market and the involved market analysts has hardly been updated over the last 15 years or so despite major lip service and confirmation thereof as they all asked for financial measures only and neglected achievements within other areas to almost entirely (Beusch et al., 2022). Despite great attempts by the company’s management to produce and sell more environmentally friendly products, progress was very slow precisely because (short-term) profitability was, by markets, higher valued than (long-term) environmental performance.

Today, hardly anyone can escape the various scenarios (most threats and only a few possibilities) that are presented by scientists and environmentalists. A good example is the just recently published sixth assessment report of Intergovernmental Panel on Climate Change (IPCC, 2022). The 2913 pages long account is an updated ‘factsheet’ that aims to provide a summary of the main literature to date on “the scientific, technological, environmental, economic and social aspects of mitigation of climate change” including the provision of a certain “level of confidence” (p. 2) for each matter. An impressive work, indeed!

In a similar vein, the by Sachs et al. (2022) compiled Sustainable Development Report (SDR) from 2022 summarizes, on only 508 pages, the progress made each year on the Sustainable Development Goals (SDG) since their adoption by the 193 UN Member States in 2015. Thus, this report provides a summary of the entire world and what is going on here. The SDR reveals that for the second year in a row, the world is no longer making progress on the SDGs. The main reason is that short-term issues (Covid, Ukraine-war, etc.) have started to “slow down or even stall the

adoption of ambitious and credible national and international plans but also squeezes available international funding for sustainable development” (p. vii).

It is very likely that the 17 SDG-framework represents the most holistic and worked through mapping of the world and its physical and social status, which is a great achievement. To break down the world with all its problems into only 17 main areas, of which every area has around 10 more specific sub-categories with targets/KPI to achieve and strategies to apply to get there, must be one of the biggest outcomes of language games played ever.

The two reports together, the IIPC report and the SDR, do not only represent what we know (facts) about the status of the world but are also tools to communicate and inform, with a language that convinces most (but far from all). This includes information about the status of the world seen from a natural, economic, and social perspective, which is a typology that applies the within accounting well-known Triple Bottom Line (TBL) approach. Much data in the SDR is based on large-scale surveys with respondents (hard facts on soft issues?) complemented with data derived with natural science (physical) measurement methods.

What the IIPC report and the 17 SDGs examined and presented in the SDR also express is a certain value scheme, thus an aggregated picture of what the value is of things in life, what to achieve on earth/with the world and all life on earth, what to value highly (which is expressed in terms of KPIs/goals to achieve), what actions to commit on together (strategies), and what to prioritize (ranking of alternatives), including a time scale, but also what to give up on and stop working with (a further valuation scheme).

The IIRC report and SDR therefore provide a master game plan (tool) with an (almost) common view about the moves to take. This master game plan, the world’s aggregated values inclusive possibilities and threats, needs to get realized fast, thus get turned into a new and sustainable reality, since we are behind schedule already, because physical development is probably already slipping out of our hands, now that the Anthropocene has taken over (e.g., as described in Lewis and Maslin, 2015)!

## **7 What about sustainability, opportunistic behavior, and possibilities?**

As already above indicated, the moves to take for sustainable development to happen resembles the PC-framework’s factual possibilities, based on the facts of urgency to deal with today’s factual situation in the world but also based on limitations. But how ‘the world’s situation looks like’ is only part of reality, as the world does not break down into ‘facts’ that our descriptions could reveal more accurately than others. It is, again, our language that divides the world into facts, e.g., in these reports categorized into 17 SDGs and all that is added to it (KPIs, strategies, etc.), and that is why also facts only exist within a language.

The PC-framework holds that it is values that make us chose among factual possibilities. In the area of sustainability, precisely this seems to be the main problem as wrongfully and one-sided designed dominant value schemes, based strongly on economic factors and evaluations, make us choose the ‘wrong’ things. During a long time, gross domestic product (GDP), expressed and valued only in monetized values, has been the most used measure for the size and quality of an economy and the progress thereof. The capital market, a fully monetized institution, is the platform for the valuation of a large part of all assets in the world. Thus, the world is made of money, one could believe. Consumers and sellers agree on price tags based on supply and demand, where the invisible hand is at work without almost any control. It is beyond doubt as the saying goes: “Money makes the world go round”! We live in a very monetized world where life, growth, progress, and even happiness and prosperity, are valued and measured in almost one dimension only, which is money. But could this strong monetization of the world, together with (financial) greed also be the death knell for the world?

That the world largely is determined in economic means can be attributed to the popularity of above all (positivistic) economic theories, or to rephrase, the success of scholars within these fields when playing their language games. E.g., the field of organizational economics claims human beings generally to be opportunistic and self-interested and to take advantage of others when even that is possible. Foss and Koch (1996, p. 190) summarized well-known authors’ criticism of organizational economics as being about the same as reflecting traditional economic theory. Their summary goes like this (in square brackets is the original source that has been removed):

“... the criticism of organizational economics has been that the approach is given to methodological individualist excesses [...], that it puts a low premium on empirical studies [...], neglects power considerations and instead over-emphasizes efficiency [...], relies on functionalist explanation [...] and works with an under-socialized conception of agency that gives self-interest seeking a too prominent explanatory role [...]. Such a critique amounts to essentially the same as have been levelled at "economic imperialists" by traditional sociology [...]. And the central component found most reprehensible by contemporary critics of organizational economics is undoubtedly the assumption of opportunistic behavior; an assumption that is held to reflect precisely the undersocialized concept of agency that characterizes traditional economic theory.”

Undersozialized theoretical models, which assume human beings to be (economic) rational, efficiency seeking and functionalistic, self-interested creatures, might have had a (too) big impact on the real behavior of human beings

and our understanding of reality and the world. Thus, strong economic structures seem to have determined a certain dominant way of agency. It is an agency that might be undersocialized and where free will has been channelled strongly into market liberalism and ideas of free market forces, capitalistic thinking, and economic opportunity at any price.

However, homogeneous value schemes or value free or value neutral life does, thank God, hardly exist. Such a limited (economic) logic, usually expressed in mainstream economic theory, has been strongly opposed by the PC-framework designers, and supplemented with the value dimension, first and foremost. Whenever human beings decide on the future and things to do within it (possibilities), they will use their compass, principles, standards of behavior, or judgement of what is important in life, to choose among the possible alternatives. Thus, there is still hope, as the undersocialized compass of the past only needs to be reset to create and organize a common and sustainable future for the world and to take successful action.

Overall, one can state that opportunistic behavior is required to avoid lack of drive, direction, and motivation, but the big question is in what form. According to the PC-framework, 'factual' possibilities constitute one of the major differences between the concept of facts and reality. Clearly, this makes sense as a life without a future, today without things to plan ahead, a present without opportunities to come and achieve, or a factual life right now without dreams about tomorrow, does not make sense. Precisely because such a future does not look good, it would indeed look terribly bad, it can be the cause of suicidal thoughts and the actual implementation thereof. Instead of painting the devil on the wall and saying that it is too late already to save the planet, actors of all kinds, except some of course, therefore present possible solutions. But to only reset the compass without fast action to follow will not solve the problems.

Still, without a future, where would 'action' come in and on behalf of what? How would this make a difference for real life? Here, the PC-framework has the answers since values make us choose between different possibilities, thus values are the driving force for things to happen in the future, at least if these possibilities are not illusionary and can be turned into real things to happen. In the area of sustainability, the time factor connected to technical developments, of course, can make a difference as today illusionary possibilities can be actual possibilities tomorrow (e.g., new materials are discovered, diseases are cured; meat can be replaced with vegetarian alternatives with about the same nutritional value and taste, etc.). Thus, illusionary possibilities today might be part of tomorrows reality, which should never get lost!

Action, and practices that serve the purpose of action, strongly represent the classic pragmatist thought. This most likely (or assumingly) is the reason why the word 'pragmatic' is making out half of the PC-construct from a semantic and most likely also meta-theoretical perspective. Without a (future) game plan, through which we can act and take actions, reality does not make sense. Or to put it differently, reality might exist without the future, but such a construct does not really make sense for any conscious human beings to be 'properly' functionable, not to mention an energetic, active and purpose driven actor, which is what the PC-community sees as the role model for the entire framework. This principle can be applied, in the same way, to the area of sustainability and for sustainable development to happen.

Thus, in the difference between reality and the world, life, i.e., the opposite of death, has an important role to play. The eminent neo-pragmatist Richard Rorty (1989), for instance, worked on the premise that most of the world exists independently of us and is not the creation of our mind or our language. However, when we describe the world, we do so within the confines of a certain language game, or (to use Rorty's own concept) vocabulary. It is the physical world that exists without us, but we only know that due to our existence and due to language. Right now, we also know that human beings wrongly applied opportunistic behavior during the past, which reveals, that this of human being's independent world is dependent on human being's future actions to survive, which is quite a paradox.

Therefore, for the world to be sustainable, not all type of opportunism is good. The 'maximizing shareholder value' ideology that, during the last about four decades, has been a shining star for regulating corporate governance, corporate finance, and capital markets, not only in the United States and Britain, but also more and more in other parts of the world (as described in e.g., Lazonick and O'sullivan, 2000), applies a value scheme that apparently does not solve all the world's problems. Rather, it seems to have created a system that has benefitted too few (individuals) in comparison to what harm it has made as well to the rest of the world, judged on how scientists mirror the world in e.g., the IIRC and the SDG reports. It remains to be seen whether a strong 'stakeholder value', thus a sustainable capitalist model, can contribute to a more balanced and holistic development of the world.

## **8 More on reality and the information age and digitalization**

The above has tried to illustrate that what reality is made upon, and how such a view about reality provides a basis for learning that improves action (e.g., for future growth and societal improvement), is essential to understand. In that perspective, the PC-framework makes a great contribution, especially for the research society but also for practice development overall. What, however, is even more important than to understand the normative template of the PC-framework and the components of (a theoretical) reality itself is, now more than ever, what 'appears' to be reality in

‘real’ life. This has, of course, also to be brought into theory about reality, as we never can grasp reality itself, thus it simply does not exist without language.

The reason for this statement about ‘appearance’ goes as follows. Life today, it seems, is all about being seen and heard, now more than ever before. In all this, the digitalization era, with a large plethora of signs, but still all in form of zeros and ones, plays a unique language game entirely according to their own rules! Technical innovations like algorithms and blockchains only, it seems, increase the distance between man and language and between reality and the appearance of reality. It is a time, during which semantic tools of all sorts are used not only to help create reality but also, and this I believe is dangerous, to construct a faked reality (e.g., when thinking about the internet and all faked news). It is here, the PC-framework has its strength as well, as it combines factual and agreed upon issues but admits and includes the decisive constructive power of language and constructivism. Both parts need to be combined to, at least, overcome the biggest validity problems.

To combine facts and communication, labels used in the PC-framework, is of particular importance especially in times when the information age is replacing traditional industries and when digitalization is, as it seems, taking over the world, both in terms of theory development and education (e.g., large parts of curriculums taught at business schools include subjects around digitalization today) but also in most other real-world practice. Thus, the digital age with IT based (control) systems provides mechanisms where the digital language not only provides opportunities but also reduces meaning, values, and possibilities to a fraction of what a more holistic language system would do.

IT-progress, similarly as the capital market system, has indeed meant a lot of change towards the better for many. However, this moving away from personal interaction and communication to become more and more dependent on a digital infrastructure is a danger as well. The biggest of them all might be the risk of strong reductionism in perceptions of reality due to the lack of e.g., meaning, values, and ethics in such technological systems and infrastructures, and the interactions in-between them. Zeros and ones simply cannot get that properly!

In social science, where we most often talk about the world of mental states and the construction of thoughts rather than the physical world with physical objects, it is important to learn how things function in this world. The PC-construct, but not the personal computer (PC), can help glue together the factual with the appearance (where it all is language only), and by doing so helps avoid fatal consequences. The PC-framework can provide a framing that helps attempts to make people create, utilize, and share intelligence about the (entire) world to take successful action.

By doing so, the PC-framework could enable a thought-structure and provide a bridge between a humanly rooted and historically adapted reality and an insensitive, value neutral and dehumanized, and often undersocialized, IT-world, in about the same way as it can help with such a bridge in terms of sustainability, as described above, but also business life in general. E.g., to go ahead with sustainability, we should not replace the idea of a value neutral and opportunistic economist view with a similarly value neutral digital system and language but think about what values we want to pursue to sustain.

## **9 To sum it all up: Illustrate reality ‘reality-like’ is complex if not impossible**

Above, I discussed different material (own and others) from different areas and with different take aways. Still, these accounts shed light on something in common I will try to demonstrate here. The key point is, that we in most descriptions and narratives of reality work according to the idea of ‘reductionism’, and that we all somehow like it, at least at first sight, and somehow cannot avoid it as well. This appears to be true in theory constructions and in real life practice, e.g., when we think of the great success story of internet and digitalization, where a very reductionistic language system of zeroes and ones replaces almost anything that includes value, meaning and ethics.

The PC-framework and the concept of sustainability (with its multiple perspectives) have e.g., in common that they both want to overcome a reductionists’ approach with their re-conceptualizations. So far, however, both concepts have been largely unused and/or delayed by a large part of the scientific society and by practitioners, even though there is scientific validity and large pragmatic ‘sense-making’ power in both models. Today, both concepts still fight strong counteractions of resilient structures that have hindered their real development and progress, and the fight for recognition will most likely go on.

Above, I have also tried to demonstrate that to illustrate examples of reality as ‘reality like’ as possible is difficult and complex. The higher the ambition is to provide an understandable but valid picture of reality and business life, the more difficult and complex this task becomes. The same goes for sustainability as it, for purposes of validity, entails a similarly complex and entangled presentation of conditions of the world (or parts thereof). Thus, reductionism is simply an easy way out of this dilemma!

The PC-framework makes a valiant attempt to illustrate this complex reality, at least in theory, but to simplify complexity might be the main reason why hardly anyone else tries to do it. Thus, the probably biggest advantage of the PC-framework (and sustainability) with its integrated/holistic approach is possibly at the same time also its biggest disadvantage. To do research about this complex reality and find out about actors’ view of the world and what is going on, and especially when including as many colors and features as possible, is complex - if not impossible.



To be selective, simple, and partial in relation to reality and the world is therefore probably what more 'restricted' research traditions, the ones without a composition as it is in 'pragmatic constructivism' (e.g., empiricists, realists, pragmatists, positivists, constructivists, or whatever it is that is more limited than PC) have applied in order not to drown. The same is true in terms of doing real business (real practice) as company leaders, through reductionism, best combat an overwhelming 'reality'.

In other words, to be functionable and productive (e.g., produce publications), faint-hearted researchers or company leaders have, probably consciously, chosen to reduce things and to maximize the value of the most important stakeholder, the shareholders, company leaders on purpose have neglected things such as negative externalities etc. These 'limited' researchers and company leaders probably not even claim to show reality, or they might admit to only include a particular area of it, then still sold as valid to the many, who accept this limited picture of reality as it is part of their paradigm in which they believe.

Additionally, these 'limited' research streams, can always claim to look at reality through the lens of a specific theory or a particular perspective, so that the specific vocabulary used in that field, thus an ingredient of all language games, implies validity enough to continue as it is. The same applies to company leaders and communication with certain stakeholders. Apparently, this way of proceeding with research and practice has proven to be sufficient, as many research societies but also practitioners seem to prefer to go for internal validity (rigor) rather than external validity, a validity that, in both cases, would focus stronger on achieving improvements for the world and real societal benefit (relevance).

I have experienced myself, in my education as a student, that reductionism is not good but normal. For this to illustrate, I recall a previous situation at Handels, the business school of my investigation mentioned above. In 1997, just a year before I started my university education, Handels started to offer a so-called three-year ICU Bachelor's degree program (Integrated Business Education). In the first two years of the program, almost all courses integrated two or three, in some even four, subjects (e.g., accounting, together with finance and business law) in which a practical problem was studied in a comprehensive format. The third year was for subject specialization (e.g., finance or accounting).

I appreciated this ICU version to study very much. It reminded me, and fed back in a realistic way, to the previous years in practice. Therefore, this (theoretical) education and the way it was executed (ICU) made much sense to me! However, in 2002, just right after I got my Masters-degree, the ICU program dropped the term "integrated" from its name and returned, in most cases, to traditional instruction (i.e., single discipline courses). By then, people said the abbreviation ICU stood for the "Intensive Care Unit". This was the death knell for a courageous attempt to illustrate more of the 'real' complexity of real business life.

By then, it became obvious that subject integration to be more 'practice like' not only required different pedagogical skills as well as more dedicated engagement by all teachers but also that dealing as realistically as possible with 'real' business life was no easy task. The lessons learned were that such integrated education required additional staff education and training, plus advanced coordination, and integration, to say nothing of extra resources. The other lesson was that the integrated course approach also required more mature students. After 13 years working with business practice, I clearly belonged to that category of students, but I probably was the exception.

To advance output that is based on the holistic nature of the PC-framework, in the same way as the here mentioned real-life education, also seems to require mature 'instructors/users' and 'recipients', whether it is for educational, theoretical, methodological, epistemological, or particularly practical purposes. E.g., the PC-framework is quite difficult to apply in a reader friendly way, as many journal reviewers and editors still might have difficulties to cope with the idea of a picture of 'reality'. Maturity might play a role also here!

## Epilogue

As hopefully can be noted from the text above, the PC-framework has meant a lot to me in the past although I have not used the concept genuinely within my own research for quite a while. Exactly this contradiction is typical of reality and illustrates how most discourses concerning reality are likely to be affected. Precisely that, and many of the above-mentioned disadvantages, however, might be the best evidence that the PC-framework is designed holistically. 'Reality-like' reality must be difficult to capture and illustrate, everything else would be a reductionist approach. This makes sense from a research construct validity perspective and in terms of possible research outcome. Such outcome, especially when connected to the area of sustainability could, rather than only function as a theoretical desktop product to be cited and re-cited (academic rigor), also provide a useful tool for action and improve society (academic relevance). To achieve this, I could not imagine anyone better than the excellent Hanne and the aggregated power of the great PC-network.

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