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Dilthey and Darwin Combined? 19th Century *Geisteswissenschaft* for 21st Century Cultural Science

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This paper explores the relevance of Dilthey's conceptualisation of the '*Geisteswissenschaften*' (human sciences) for Cultural Science. In a nutshell, I argue that Cultural Science is Dilthey plus Darwin. In this effort, I define the *Geisteswissenschaften* as 'performative sciences': Taking economics as an example, I show that the *Geisteswissenschaften* are sciences which are ontologically productive in creating and performing the object of their research. That means, they are inherently normative since they entail critical reflexivity as a major mode of research. Following Dilthey, *Geisteswissenschaften* are deeply historical, which implies that their disciplinary structure is evolving together with their objects. Therefore, I argue that the 19th century division of disciplines needs to be thoroughly overhauled in the 21st century, including the division between economics and sociology, which is a left-over from 19th century nation-state development. New disciplines, with Cultural Science and Technosphere Science as prime examples, must be established to cope with the challenges of our times: where human agency, culture and technology have blurred long-established boundaries separating nature, culture and society; where identity and meaning have become global, fluid, contested and reflexive phenomena; and where nature (the environment) and culture (cities) are inextricably interrelated in the dynamics of the emergent Anthropocene system.

Keywords: Dilthey; human sciences; performativity; reflexivity; Hegel; objective spirit; normativity; cultural science; cultural studies; technosphere; economic methodology; Anthropocene

1. Introduction: The messy business of translation as inspiration

The project of Cultural Science aims at establishing a new discipline. One specific claim is about the 'scientific' status of this approach to culture, which apparently sets it apart from common perspectives in the humanities, in the sense of orienting its methodology along the standards of the natural sciences: Cultural Science puts itself in contrast to 'Cultural Studies'.¹ This is manifest in theoretical networking with disciplines such as evolutionary biology and economics, with the latter being the social science that raises similar claims, and in a tendency to adopt an explanatory approach that avoids value judgments. Yet, Cultural Science maintains its affiliation with the humanities, thus propagating a cross-disciplinary synthesis.

In this context, it is fascinating to reflect on the difficulties of translating such a new term into other languages. As a German, this language comes to my mind in the first place, but there is also an important systematic reason for doing this, which will prove very productive in reflecting the case for the new discipline. In fact, 'cultural science' cannot be translated into German without causing serious misunderstanding. The immediate German equivalent would be 'Kulturwissenschaft' and, I hasten to add, there seem to be no other convincing choices. This was a core term in German social, legal and historical sciences at the turn

¹ Tellingly, in search engines the term 'Cultural Science' almost exclusively generates references to this new project, and many more hits at 'Cultural Studies'. For a summary of its core claims, see <http://cultural-science.org/>.

from the 19th to the 20th century, with intellectual giants such as Max Weber putting it at the centre of their efforts at cross-disciplinary integration.

For example, my own institution is called the 'Max Weber Centre for Advanced Cultural and Social Studies', in German: '*Max-Weber-Kolleg für kultur- und sozialwissenschaftliche Studien*'. Here, the '*kulturwissenschaftlich*' is translated as 'cultural studies', indeed, avoiding the association with the sciences, and looking for the closest equivalent in English. That was 'Cultural Studies' at the time when this Centre started its operations in 1998. Yet, 'cultural studies' is a misleading denomination, as in English this denotes a specific field in the humanities that emerged in Britain and then diffused globally, though not uniformly and comprehensively.² Today, it seems in decline as a separate field (it never really took hold in Germany). Viewed from that perspective, 'cultural science' might have been a better choice in translating the German title, with hindsight, because it matches 'social science' ('social studies' would be unusual in this context). As far as I know from discussions within the Centre today, the translation aims at downplaying the 'cultural studies' association via the spatial distance created between 'cultural' and 'studies' by the insertion of 'and social'. But cultural studies are a fusion between humanities and social sciences, after all. On the other hand, given the fact that the Centre also has a close affinity to Critical Theory, the political concerns of 'cultural studies' are meaningful referents. But these are neutralised in the German '*kulturwissenschaftlich*'. We should not forget that Max Weber himself was a staunch protagonist of 'value-free judgements' in the social sciences. So, the issue of translation is messy, and translations send different signals to different readers.

The term '*Kulturwissenschaften*' is a loaded term in another way, specific to the German academic institutional context. Often former faculties of the humanities have been relabelled as '*Fakultät für Kulturwissenschaft*' and sometimes, more specifically, pedagogical faculties with the special task of teacher education according to government regulations on teachers' degrees (which therefore would include many disciplines beyond pedagogy in the narrow sense). The former sense is mostly applied in renaming faculties of philosophy or '*Geisteswissenschaften*'.³

That brings me to the core point of this paper. The term '*Geisteswissenschaft*' always posed difficulties of translation: the recognised one is 'human sciences'. This is interesting, as this translation aims at conveying the specific claims made at that time and does not follow the actual practice regarding the naming of the corresponding departments in Anglo-American academia, namely 'humanities'. At the outset, the '*Geisteswissenschaft*' was the unifying theoretical framework for all the humanities, social sciences, economics and political science, and '*Kulturwissenschaft*' was a sub-discipline, though with an especially prominent status, since often other social domains were conceived as being part of the encompassing phenomenon of culture.⁴

The translation 'human sciences' is partly congenial. One aspect is that the claim of scientific status is conveyed. But I should immediately add that this did not just mean adopting the scientific standards of the natural sciences; it meant elevating the distinct standards of the '*Geisteswissenschaft*' to the same status of

² For an excellent account of its history and status as a discipline, see Hartley (2003). Hartley (2012: 30–32) gives background information important in the current context: When the field of British Cultural Studies was established, the founders explicitly referred to German '*Kulturwissenschaft*' and even used the term 'cultural science': Raymond Williams regarded 'cultural studies' as a translation of '*Kulturwissenschaft*', while also using the term 'cultural science' in order to denote the German tradition more specifically. Williams described his approach as 'cultural studies, which is English for "cultural science"' [*Kulturwissenschaft*].

³ To give an impression of the wide range of usages: Bayreuth may serve as an example for a 'faculty of *Kulturwissenschaften*' that centres on teachers' education, but includes disciplines such as ethnology or sports science (<http://www.kuwi.uni-bayreuth.de/de/index.html>). Tellingly, there is no English version of the faculty site, presumably because foreign students would not join a program devoted to a teachers' degree that is specific to Germany. On the university main site in English the term 'cultural studies' is used, an obvious misnomer. Leuphana University of Lüneburg, widely seen as an innovative institution, includes the entire range of former '*Geisteswissenschaften*' with social sciences under the heading of '*Fakultät für Kulturwissenschaften*' – which is translated into English as 'faculty of humanities and social sciences' (<https://www.leuphana.de/en/university/faculty/humanities-social-sciences.html>). The Ludwig Maximilians University of Munich has a '*Fakultät für Kulturwissenschaften*' which is much more specialised, with the term 'faculty' being closer to the meaning of 'department': Aside from this faculty, there are faculties of philosophy, linguistics and literature, psychology and so on, which only in their conjunction would be equivalent to *Geisteswissenschaften*. Here, '*Kulturwissenschaft*' includes disciplines such as archaeology, ethnology or Asian studies. This is translated (unusually, but evidently intentionally designed) as 'Faculty for the Study of Culture' (http://www.en.uni-muenchen.de/about_lmuni/academics/faculties/fak_12_kultur/index.html). Finally, the University of Cologne may serve as an example for retaining the classical '*Philosophische Fakultät*' that is translated as 'faculty of arts and humanities', thus capping the connection with the social sciences (https://www.portal.uni-koeln.de/forschung_fakultaeten.html?&L=1). My impression is that the explicit use of '*Fakultät für Geisteswissenschaften*' is now rare in Germany and, if it is used, as at the University of Hamburg, it has a narrow meaning including language and literature, theology, or philosophy. This is translated as 'faculty of humanities' (<https://www.uni-hamburg.de/en/uhh/organisation/fakultaeten-fachbereiche.html>).

⁴ This points to another trouble in translation, as in many uses the German '*Kultur*' is closer to the English 'civilisation.'

the natural sciences, while retaining their autonomy. This is one question that I wish to tackle with reference to Cultural Science: In which sense does Cultural Science today deal with similar issues in evaluating scientific methods and methodological standards as ‘*Geisteswissenschaft*’ did in the past?

The other aspect relates to the ‘human’. Clearly, all the different disciplines related to ‘*Geisteswissenschaft*’ deal with human action and its materialisations, such as in cultural artefacts and institutions. Yet I argue that something important is lost. This is salient when we ask why ‘*Geisteswissenschaft*’ could not be directly translated into English, referring to the ‘*Geist*’ part. One alternative is ‘mind’, which is plainly wrong because ‘mind’ in the Anglo-Saxon tradition is the individual mind. Until today, this is often related to a clear commitment to the thesis of the identity of brain and mind. Therefore, the only alternative at hand is ‘spirit’. Of course, ‘spiritual science’ was and remains a no-go. But in fact this translation would be the correct one.

I will start with my reflections on Cultural Science at this point. From now on, I will use the original German terms in italics, thus avoiding translation.

2. The objectivity of *Geist* and the possibility of Cultural Science

In discussing the relationship between Cultural Science and ‘*Kulturwissenschaften*’, I go back to the writings of Wilhelm Dilthey (1883, 1910), who is arguably the most influential thinker in creating the synthesis of *Geisteswissenschaft*.⁵ In the course of his academic career, Dilthey assumed Hegel’s Chair at Berlin. Although he was critical of Hegel in many respects, in his later writings he explicitly endorsed a central component of Hegel’s philosophy, namely the concept of ‘objective spirit’. In the following, I will defend the view that this concept can provide a theoretical foundation for ‘Cultural Science’ today, in the sense of a science-based ontology (à la Bunge: 1977, 1979).⁶

When introducing Hegel, we face the same difficulties of translating *Geist* as noticed previously and therefore, in the English-language literature on Hegel, ‘spirit’ is the recognised term. However, for understanding the approach of *Geisteswissenschaft* in the German tradition, it is essential to refer to Hegel’s meaning of *Geist*. Hegel distinguished between subjective, objective and absolute spirit. Basically, the first refers to human consciousness and its experience, as well as interaction with other human beings. Objective spirit is the emerging domain of externalised products of human action, and absolute spirit is the domain of reflection in the arts, philosophy and theology. In Hegel’s thinking, these distinctions were undergirded by certain very strong metaphysical and ontological presumptions about spirit as being a reality of its own, and even creating reality via its unfolding, governed by a specific kind of conceptual logic.⁷ In the reference to absolute spirit, Hegel’s distinct teleological (and theological) conceptions were manifest, especially in the sense of the gradual unfolding of the ‘freedom’ of spirit, with spirit legislating its own reality. This unfolding of spirit happens in the struggles of human history, reflected in the experiences of subjective spirit.

This is not the place to delve deeper into Hegel’s thinking, as we are interested in Dilthey’s reception of it. In moving from philosophy to ‘science’, Dilthey simply discarded ‘absolute spirit’ and included the domain of reflection into ‘objective mind’. Whereas in Hegel’s original conception ‘objective spirit’ mainly referred to the institutions of civil society (the family, associations, the state, and so on), now the arts, philosophy and religion were included, too. Thus, in a nutshell, we get a combination of what today are called the social sciences and the humanities. Hegel’s conception of civil society included economics, with the market as a central organising principle of civil society (his ‘system of needs’). This tradition remained very strong in German social theory, with Max Weber as the point of culmination. Weber recognised economics as an independent social science with distinct laws and methods, but at the same time argued that economics only obtains empirical relevance if contextualised via the approaches of *Kulturwissenschaft*.⁸ This line of thinking remained strong in German economics until the 1950s, with Walter Eucken arguing that economic theory can generate theoretical hypotheses about economic systems, but the systems are without empirical content, being mere ‘concepts’, unless being applied to the analysis of ‘economic orders’ in historical contexts.⁹

⁵ There is an excellent entry on Dilthey in the Stanford Encyclopedia of Philosophy, Makkreel (2016). In my discussion, I refer to the two books devoted to the ‘*Geisteswissenschaften*’, Dilthey (1886) and Dilthey (1910), with an emphasis on the latter.

⁶ This is based on the ‘neohegelian’ approach to economics that Ivan Boldyrev and I have elaborated in our (2014) book. For a shorter overview, see Boldyrev and Herrmann-Pillath (2013).

⁷ That is why Hegel counts as ‘idealist’, although a much more adequate characterisation is Stern’s (2008) one; a ‘conceptual realist’.

⁸ He developed this argument in his famous article on ‘Objectivity’, Weber (1922). It deserves emphasis that his focus on ‘*Kulturwissenschaft*’ was made in the context of assuming the role of an editor of the Journal ‘*Archiv für Sozialwissenschaften und Sozialpolitik*’, hence devoted to the new social sciences.

⁹ For a summary of these methodological aspects in English, see Herrmann-Pillath (1994).

I refer to this sideline of German economics to demonstrate that, at the turn of the last century, the central idea of the *Geisteswissenschaft* was to create and maintain the unity of the 'human sciences' while assigning proper roles to the different emerging disciplines of the time. What is the foundation of that unity? In my view, this is the systematic conjunction of the study of externalised products of human activity ('objective mind') and the irreducible subjectivity and individuality of the human agent. It is extremely important to understand the meaning of 'conjunction' here: German idealism had produced the idea that the subject can only access its own spiritual reality via mediation by action and its externalised products.¹⁰ This creates a kind of knowledge that can claim a special epistemological status in being directly accessible, unlike entities in the physical world. That idea separated Kant and Hegel: Whereas Kant thought that the subject is a noumenon (a thing-in-itself, as opposed to a knowable phenomenon), hence epistemologically inaccessible, Hegel believed that the subject becomes accessible to itself via the historical unfolding of objective spirit. Central notions such as that of the 'will', which appear to be thoroughly subjectivist on first sight, turn out to be social; and as such become accessible for both the subject and others.¹¹ Dilthey's approach was freed of metaphysical baggage. It boils down to methodological principles, such as, that autobiography and biography are a central medium by which we can study this conjunction between subjectivity and history, thus rendering the former epistemologically accessible. Yet, the Hegelian core remains valid: Against the Kantian thesis of the inaccessibility of the subject, the subject becomes 'objectified' in history, and thus can become the object of scientific scrutiny.

The concomitant emphasis on irreducible individuality has led many subsequent receptions into the trap of radically distinguishing between the *Geisteswissenschaften* and the *Naturwissenschaften* in terms of the ideographic (biographically particularistic) and the nomothetic (generalising) method, or, *Verstehen* (interpretative understanding) and *Erklären* (law-governed explanation). Dilthey himself did not support such an absolute opposition. On the one hand, he recognised that human action is always mediated by regularities and constraints that belong to the domain of 'nature', such as neurophysiological mechanisms or environmental determinants. These would be subject to the nomothetic sciences, for sure. On the other hand, he observed that in many fields of the *Geisteswissenschaften*, such as linguistics and economics, the search for law-like regularities is fundamental. That means he did not envisage a clear cut methodological opposition and separation between the two sciences in terms of approaching their object domain, human action and human sociality. Yet, as reinstated by Max Weber in his assessment of economic theory, the nomothetic disciplines are 'Hilfswissenschaften' (auxiliary disciplines) of the core disciplines of the *Geisteswissenschaften*.

These core disciplines do not pursue the goal of causal explanations in the sense of subjecting observable events to law-like hypotheses that connect the events in causal chains. For one, this is impossible because of the all-pervasive force of individuality. Individuality, however, is not only a property of human individuals, but also of the externalised products of their action. In abstract terms, we can say that Dilthey envisaged processes that come close to modern conceptions of Critical Realism: Human action results in structures which themselves have productive force, i.e. it creates social ontologies which are singular on their own right.¹² In a sense, we might speak of 'uncaused causes', and indeed, many effects of these creative processes could be analysed in terms of causal conceptions of the natural sciences. But the driving force remains outside their scope.

However, individuality does not preclude generalisation, once we approach higher-level entities, such as human organisations, for example the nation-state, in which populations of individuals may share many properties. Two core analytical categories are 'values' and 'purposes', which boils down to etiologial and telological analysis and explanations. These differ from causal explanations and refer to the population level. Hence, we should not misunderstand 'Verstehen' (interpretation) as a kind of intuitive or emotional access to subjectivity, as often has been done, but as an intersubjectively valid and hence objective reconstruction of the purposiveness of human life and its social forms: This is what Dilthey defines as 'hermeneutics'.

Based on this very sketchy characterisation of *Geisteswissenschaften*, the relevance for Cultural Science today is salient. As Hartley and Potts (2014) argue, the core unit of cultural evolution is meaningful entities,

¹⁰ Charles Taylor (1985) refers to this as 'expressivism', with leading protagonists such as Fichte.

¹¹ For a treatment of these issues in terms of modern analytical philosophy, see Quante (2011). These aspects also remain at the centre of the recent reception of Hegel in Anglo-Saxon philosophical traditions, e.g. Pippin (2008). Of course, the most influential mediator remains Taylor; for a succinct account see Taylor (2015).

¹² Bhaskar (1989) is a meaningful reference here. He refers to the 'human sciences' as they stood in the 1970s and 80s, which represented the distorting reception of Dilthey's ideas in the international discourse.

a conceptualisation that goes far beyond a mere Neo-Darwinian analysis of the evolution of cultural traits.¹³ In the Hegelian view of 'objective mind', meaning is not conceived as an expression of subjectivity, in the sense of the sender of the message expressing her or his intentions, but as purposiveness of human action in communities of agents that mutually recognise their forms of life and practices. This can be easily translated in modern semiotics (as also suggested by Hartley and Potts), which adopts a triadic framework first outlined by Charles S. Peirce: The meaning of a sign is not the object as its reference, but the interpretation of the sign in terms of actions resulting from receiving the sign (the 'interpretant', in Peircian terms).¹⁴ Dilthey did not adopt such a conceptual framework, but the commonalities are obvious, as he emphasises the analysis of 'Wirkungszusammenhänge' (often translated as 'productivity', but perhaps better as 'effective connectivities'). For example, in understanding a piece of art, the original intention of the artist is of lesser interest than the effects that it has on audiences and in the larger context of society. These effects are accessible in an intersubjectively accountable form, they can be subject to rational reconstruction and critical reflection; hence we deal with *Geisteswissenschaften* as scientific endeavour.

Mentioning Peirce creates an awareness that the Hegelian intellectual tradition is not just limited to the German-speaking world. One most important strand of intellectual progeny is American pragmatism. Peirce and, later, Mead and others, firmly stay in the externalist framework of approaching mind and subjectivity as being manifest in expressions and actions which are social phenomena, in essence. However, mirroring Dilthey's critique of French and English developments in philosophy and social sciences, these traditions were later superseded by rationalist and positivistic approaches, especially in economics, where the pragmatist version, institutionalism, was eventually sidelined as a heterodox school.

This leads me to considering the question of the status of disciplines within the larger framework of *Geisteswissenschaften*.

3. *Geisteswissenschaften* as performative sciences

One central aspect in Dilthey's approach deserves a separate treatment in our context. This is the component of reflection. Again, this has Hegelian roots: Hegel understood philosophy as a discipline devoted to the study of reality, in the sense of reflecting on the unfolding of spirit in history *ex post facto* (the famous 'owl of Minerva' metaphor),¹⁵ thereby raising historical achievement of the unfolding of spirit to the level of conceptual representations in human discourse. This means that the *Geisteswissenschaften* cannot establish a seemingly neutral separation between subject and object of inquiry, as in the sciences, but are always part and parcel of the historical processes that they analyse. Contra Max Weber, Dilthey believed that *Geisteswissenschaften* always have a normative and evaluative dimension. I think that this perspective is very important for considering the question of various scientific disciplines in relation to the overarching term *Geisteswissenschaften*.

This is the point where I see a direct relevance of Dilthey for reflecting on the rationale for Cultural Science today. For Dilthey, *Geisteswissenschaften* play a central role in the cultural, social and political transformations that are at the same time their object of study. This observation needs to be combined with his most general characterisation of their scope, namely, to include all aspects of reality in which human spirit affects the world in terms of its products. This has far-reaching implications: For example, today the radical transformation of ecosystems under human impact would become an object falling into the scope of *Geisteswissenschaften*. I pick this up again in the next section.

If we consider the intellectual context of Dilthey's times, this is most evident in the manifold and comprehensive changes, if not revolutions, that Western societies underwent during that period. It is illuminating to compare this with Hegel at the beginning of the 19th century. Hegel was probably the first scholar who recognised the autonomy of civil society in the larger social, cultural and political fabric, but at the same time he did not yet approach the economy as being an autonomous subsystem. Hegel received the state of the art

¹³ This is the central concern of recent approaches to non-genetic inheritance mechanisms, e.g. Jablonka and Lamb (2005) or Mesoudi (2015).

¹⁴ I cannot deal here with the question how semiotics relates to evolutionary theory. I dealt with that in a systematic and comprehensive way in Herrmann-Pillath (2013a), building on the reconstruction of Peirce's semiotics in Short (2007) who emphasises the combination of evolutionary theory and thermodynamics in Peirce's thinking. Peirce was a scientist by profession and highly aware of the new scientific developments of his times. Yet, his semiotics clearly is an endeavour of *Geisteswissenschaft*.

¹⁵ Hegel noted that 'the owl of Minerva spreads its wings only with the falling of the dusk'—meaning that philosophy comes to understand a historical condition just as it passes away (Wikipedia: https://en.wikipedia.org/wiki/Owl_of_Athena).

of political economy of his times, but he did not develop his own economics.¹⁶ Several decades later, Dilthey recognised the plurality of disciplines that make up the *Geisteswissenschaften* and included economics as one of them. In other words, the growing differentiation of European societies, together with the emergence of nation states, is finally recognised in the disciplinary construction of the *Geisteswissenschaften*.

What we see is a *productive* role of the *Geisteswissenschaften* in identifying and delineating social domains. As has been elucidated sharply by Karl Polanyi (1944), British political economy was essential in shaping the institutional transformation of British capitalism and thence in creating this new pattern of social organisation. In the terminology of modern philosophy, we can approach this phenomenon as *the performativity of theories*.¹⁷ Referring to Dilthey, we can say that *Geisteswissenschaften* have the unique feature of being performative, or we could even define them as *the set of scientific disciplines that have the fundamental property of operating in a performative way*, with reference to their object of study.¹⁸ This is a fundamentally Hegelian idea, as they are conceived as a specific medium, science, which reflexively promotes and materialises the unfolding of spirit. Therefore, despite rejecting Hegel's concept of absolute spirit, according to Dilthey the *Geisteswissenschaften* maintain a distinct developmental perspective, although not necessarily with a fixed ultimate goal, in terms of structural interdependencies through time and the resulting phenomena of *directedness* and *melioration*. The growth of knowledge in the *Geisteswissenschaften* is the mirror but also instigator of improvements in the institutional fabric of human life.¹⁹

I cannot go into details here. Summarising my own extensive treatment of this topic in other places, we can approach economics as an ideal-typical example.²⁰ According to Dilthey's thinking, economics must be classified as *Geisteswissenschaft* because it is performative. This can be demonstrated by analysing periods of comprehensive institutional transformation, such as the emergence of financial capitalism in recent decades. Economics promoted and often even designed institutional changes in fields as diverse as accounting or intellectual property rights, which interplay and create a systemic whole, namely financial capitalism as a distinct economic system. However, economics succumbed to the 'dialectics of enlightenment', in classical Critical Theory terminology,²¹ in interpreting itself as an endeavour that objectively describes and explains an object that is independently given, namely 'the economy', thus supporting its claim to meet the standard of the sciences in explaining 'nature'. But in fact, economics is central in creating its own object, namely 'the economy'.²² This is reflected in the hidden normativity of claims of social engineering that economists often make, in the sense of referring to 'efficiency' and related notions in identifying alleged institutional improvements. Accordingly, in the theory of finance, the process of 'financialisation' is presented as a clear progress, even though the empirical foundation for this evaluation is shaky.²³

We can apply the same way of thinking to other disciplines that formed in the 19th century, such as sociology. Sociology played an essential role in identifying and creating a separate systemic aspect of human reality, namely 'society'. And like economics, it always tended to essentialise society, a point that is already criticised by Dilthey when referring to positivist conceptions of sociology in France. For him, sociology cannot claim to be a 'science', but is a *Geisteswissenschaft*.

¹⁶ It is interesting noticing that Georg Lukacs (1975) explained this with the relative backwardness of the German economy at Hegel's times, whereas Britain was more advanced, thus enabling Adam Smith to separate the field of economic analysis more succinctly. However, Hegel knew Smith's work very well. I think that Hegel did not develop an independent economic theory deliberately, as his focus was to show that the 'system of needs' cannot be analysed properly without making structures of embeddedness into 'Sittlichkeit' (ethical life) explicit (compare Neschen 2008).

¹⁷ For a comprehensive overview of recent research on performativity, see Boldyrev and Svetlova (2016).

¹⁸ I leave aside here the even more fundamental question whether the natural science also have performative functions which is a position that is certainly implied by many contributions to Science and Technology Studies. This points to the need to develop a more inclusive metaphysical and epistemological position, such as Barad's (2007) concept of 'intra-action'. Yet, I think that we might speak of different types of performative functions here. In a sense, the solution is simple, as we certainly need to accept the idea that we have no other access to reality than via science, and science itself is a phenomenon of *Geist*. Therefore, reality is always mediated and performed, but we have developed certain methodological criteria by which we can assess whether we experience progress in accessing this reality.

¹⁹ This was expressed in clear Hegelian terms in Fukuyama's (1992) mostly rejected notion of the 'end of history'. But in fact, these ideas are quite prominent in our modern understanding of history, such as in ideas about the universality of human rights and their gradual realisation. Pinker's (2011, 2018) work on human progress is deeply Hegelian, although he would probably deny that vehemently.

²⁰ Herrmann-Pillath (2013b) deals with the example of financial capitalism that I introduce now. Herrmann-Pillath and Boldyrev (2014) gives a systematic account.

²¹ Horkheimer and Adorno (1944).

²² Compare Çalışkan and Callon's (2009) notion of 'economisation'.

²³ There are stark differences between the disciplines in this regard: The term 'financialisation' (which might be conceived as specification of 'economisation' mentioned in the previous footnote) is a sociological term (Krippner 2005). Zingales (2015) overviews the more recent literature 'after the crisis', which raises questions such as whether the financial sector has overextended its reach.

If we recognise the performativity of the *Geisteswissenschaften*, what does this imply for the methodology of the social sciences? The conceptual companion to performativity is reflexivity, and one might add, critical reflexivity.²⁴ Consider the way that economics approaches the explanation of behaviour via the incentives that agents perceive, and how it claims that this knowledge can guide the social engineering of the economy. If economists design incentive systems, they mostly assume that the human agent possesses certain 'naturally given' characteristics, and that the incentive system exerts causal impact on human behaviour, resulting in predictable changes. However, if incentive systems are performative, this assumption falls apart, because the agents become endogenous to those systems.

This is a Hegelian point, again: The institution and the agent are parts of a whole ('moments' in Hegel's parlance), and we must consider this whole when taking decisions about institutional design. This is a reflexive turn, which necessarily needs to refer to normative standards, and hence, involves criticism. Thus, when considering the design of incentive systems, we must evaluate the institutional whole, and ask questions such as whether we want to be the kind of agent that emerges in this whole as a moment, and whether we want to conduct the resulting way of life. This is an ethical issue, and hence inherently normative. It clearly distinguishes Dilthey's perspectives on the *Geisteswissenschaften* from those of Weber, as it blurs the borderlines between these disciplines and ethics or moral philosophy (which reflects the integration of Hegelian 'absolute spirit' into 'objective spirit').

Increasing the role of financial incentives was an important aspect of financialisation in recent times, and the designs were deduced from economic theories. Since the 2001 Enron debacle, many critics have come to believe that these incentive systems caused a decline in moral standards and rewarded opportunistic behaviour. But we cannot evaluate these different perspectives without considering the entire institutional setup of financial capitalism, reaching a normative judgment of this way of organising the economy as a form of life.²⁵

In conclusion, we can say that the current disciplinary order in what we can approach as *Geisteswissenschaften*, the social sciences and the humanities, implies a specific way in which societies and ways of life are shaped: i.e. that all of these disciplines realise performative functions. These are especially powerful in the case of economics, which at least implicitly does not reflexively recognise this function, but on the contrary claims that it has a similar methodological status to that of the natural sciences. As long as this epistemological blindness is reproduced, we may falsely believe that our societies manifest a 'necessary' functional differentiation, such as embodying 'the economy' as a separate system. Therefore, if we want to correct this blindness, we must actively reflect on the accepted disciplinary division of labour. This kind of critical reflection is the ultimate foundation of the unity of *Geisteswissenschaften*: The *Geisteswissenschaften* must continuously question their established disciplinary regime and aim to maintain the drive of continuous disciplinary innovation. In this sense, there is only one stable framework: The *Geisteswissenschaft* in the singular, as epitomised in Hegel's philosophy.

4. Performing culture by means of cultural science

Let me now return to the issue of Cultural Science. Recently, economics has also shown a growing interest in culture (for an overview, see Alesina and Giuliano 2015). But in my view, these efforts fall into the trap of the dialectics of enlightenment again, by essentialising culture as an exogenous determinant of behaviour, thus overlooking the role that economics and the economy play in changing culture, and vice versa.²⁶ This raises the question of whether Cultural Science, in raising a claim to being a 'science', may commit the same error. In this sense, an important achievement of Cultural Studies would be lost, namely explicitly recognising the normativity of all thinking about culture.

As we have seen, Dilthey's notion of *Geisteswissenschaft* already presented the solution to this conundrum. Building on Dilthey, we can ask in which sense the need for a new approach to culture may be driven by the need for performative changes in 21st century societies. If, in the 19th century, newly arising disciplines such as economics and sociology assumed a central role in shaping the societies of the 20th century, then is there a reason why we need to establish new disciplines right now? I think yes, and apart from Cultural Science, I make this point in adding my own recent proposal to establish another new discipline, 'Technosphere Science' (Herrmann-Pillath 2018b).

²⁴ My new book in German unfolds this idea in terms of a radical rethinking of economics across all of its subdisciplines, such as microeconomics and macroeconomics (Herrmann-Pillath 2018a).

²⁵ I discuss the performativity of incentive systems in Herrmann-Pillath (2016). The idea that economic theory contributed to behavioural changes has been ventilated by many critics of education at business schools where these theories are being taught, see Ghoshal (2005) and Foroohar (2017). Zingales (2015) agrees.

²⁶ For an early critique in this respect, see Jones (2006).

To justify this idea, it is necessary to look at the central defining features of Cultural Science. According to one of its programmatic expositions (Hartley and Potts 2014), these seem to be the adoption of an evolutionary methodology and reference to the core theoretical term of identity.²⁷ The evolutionary methodology goes hand in hand with other features, such as externalism in approaching human mind. The concept of identity ties up with other basic notions such as dynamic group-formation on different levels. All this is contextualised in historical trends such as globalisation of economies, societies and cultures, and technological transformations, especially the internet and digitalisation. Now, in which sense can we speculate that these features of the theory may obtain performative functions in 21st century societies? What is the relationship with established disciplines, beyond the narrow reference to Cultural Studies?

If we look at the standard division of disciplines, one observation may apply across the board. They tie up with the phenomenon of emerging nation-states in the 19th century: Societies are national societies, economies are national economies, and even culture was increasingly seen in the light of national identities (which was especially strong in unifying Germany). In this context, the question of identity could be taken for granted, being just an external reference for fixing object boundaries in the other disciplines, such as the economy as 'Volkswirtschaft', i.e. 'national economy'. In the 21st century, identity has become a core concern in social, political and cultural movements, and it has become fluid, indeterminate, and contested. Many currents flow together, reaching from the rise of 'reflexive modernity' (Beck 2014) that has opened a vast domain of individual freedoms in assuming identities (such as gender) to issues of religious and national identities. This goes along with a large variety of identity-driven social conflicts, such as the American 'culture wars' or wars along ethnic and religious lines. At the same time, these issues transcend the borders of national states, supported by the emergence of truly global communication networks such as the internet that eliminate the time distance between sender and receiver almost to zero. These technologies create their own cultural dynamics via a range of network effects, such as power laws determining the relative frequencies of website visits. Therefore, I think we can make a strong case for culture emerging as a new *disciplinary* object, while creating the need for a reflexive medium that contributes to performing culture under 21st century conditions: This is Cultural Science.

It is essential to notice that Cultural Science is orthogonal to the established disciplines, while overcoming them in a new disciplinary construct. For example, the concept of identity would include many aspects that are conventionally treated in sociology (such as group formation, ascriptive mechanisms, social status etc.), while many aspects of culture are today negotiated in an economic context, thus integrating economics. Cultural Science introduces entirely new perspectives into these other disciplines: As I have argued elsewhere, its 'social network market' paradigm, designed with reference to the cultural industries, can effectively be extended to become the fundamental model of market dynamics in economics as a whole, thus substituting for the standard supply and demand framework.²⁸ This is much more radical than just introducing 'Cultural Economics' as a sub-discipline to economics and it would lead us back to Hegelian ideas about the social embeddedness of the 'system of needs'.

Another case in point for a performative reshuffling of disciplines is my argument in favour of launching a 'Technosphere Science'. This results from the recent move to recognise the Anthropocene as a new geological epoch. It illustrates Dilthey's point about the inextricable relation between natural sciences and the *Geisteswissenschaften*, which is reflected in the broad reception that the concept of the Anthropocene has received, reaching from geology to the performing arts.²⁹ Human impact on the Earth System can be analysed in the framework of the natural sciences, such as in predicting certain consequences of global warming on the ecological system. Yet, at the same time, in this hypercomplex system there are difficult issues regarding human agency in social and political contexts which forbid a mere reduction to regularities in the natural sciences (Bonneuil and Fressoz 2017). In this sense, the study of the Anthropocene is only possible as part of the *Geisteswissenschaften*. One conspicuous phenomenon here is the emergence of the Technosphere, which is the globally connected system of human artefacts, including unintended products (or ignored ones), such as CO₂ emissions (Zalasiewicz et al. 2017).

If we look at disciplinary approaches, the Technosphere is not yet a dedicated disciplinary object. Its core, technology, is treated in different disciplines with widely varying methods, reaching from engineering to STS

²⁷ With reference to economic research on culture, the emphasis on identity matches the approach of Beugelsdijk and Maseland (2010).

²⁸ The original contribution was Potts et al. (2008). My extension is presented in Herrmann-Pillath (2013a). There is a close affinity with the French 'economics of conventions' see Orlean (2013).

²⁹ For an excellent survey, see Malhi (2017).

and the philosophy of technology. This blocks the view on technology as an emergent autonomous ontological domain. Specifically, most people maintain the erroneous belief that technology can be designed and controlled at human will, a conviction that is especially strong in economics.³⁰ In fact, we should approach technology in the same way as the biosphere, which motivates the term 'technosphere'. Technosphere science would attain a similar place as biology in the study of the biosphere. Evidently, we diagnose a cross-disciplinary convergence in methodology, since evolutionary theory in the biosciences would be invoked by the two new disciplines that I consider here.

Indeed, there are many cross-connections between the two emerging disciplines, the most obvious being digitalisation and the World Wide Web. This also applies to the role that economics may assume. In the context of Technosphere Science, the consequences would be even more radical. This is salient if we consider markets as *technologies*, a change of perspective that is motivated by the recent 'material turn' in economic sociology.³¹ Whereas standard economics tends to treat markets as immaterial systems that process information and coordinate action, the material view highlights the technologies in which market actions are embodied. A price is not an abstract entity, but a price tag. Consider a central institution in the economy, money. The material view would focus on the *artefact* of money and the technologies of money *use*. Interestingly, this corresponds to the perspective already taken by the sociologist Georg Simmel more than a century ago, and leads us to consider the effects of money use on human cognition and emotions, thus eventually leading us to analyse money as a cultural phenomenon. Therefore, in the end, we might reach the conclusion that economics turns into a sub-discipline of Technosphere Science, dealing with the material technologies of economic exchange, and tying up with Cultural Science in analysing the cultural functions and consequences of money. Economics would lose its alleged status as a 'queen of the social sciences', certainly as a source of a universal explanation of human behaviour, eventually to become a 'auxiliary science' of the *Geisteswissenschaften*.

As we see, redefining disciplines would trigger fundamental performative shifts. There are core phenomena in global developments where risks of misperception are very high if we think in the traditional disciplinary boxes. The most important example is urbanisation and understanding the role of cities in 21st century human development, which is a core topic in Cultural Science, as defined by Hartley and Potts. In economics, geography was only re-discovered as a subject since the 1980s, and meanwhile the central role of cities in economic growth and development has been recognised more systematically.³² Yet, 'the city' has not been elevated to a fundamental theoretical concept, and economics still tends to overlook essential aspects of urban dynamics, both in the field of cultural creativity and in the specific patterns of technological networks and their dynamics.³³ Hence, I think that in the study of urbanisation, the new disciplines would set new priorities in research, would generate new theories and, last but not least, would define new policy agendas. Just think of the recent stalemate in post-Trumpian climate politics: American *cities* become part of an inter-urban (and not: inter-*national*) network of concerned urban policymakers who wish to maintain the drive in fighting global warming. Since adapting to global warming is not just a matter of engineering design, but of most complex institutional and cultural changes of 21st century societies, we need the new disciplines to reflect adequately about such developments.

Following Dilthey, the two disciplines would be part and parcel of *Geisteswissenschaften*, with urbanity being an essential embodiment of 'objective spirit'. The traditional disciplinary pattern is a legacy of the 19th century, when industrialisation and the rise of the nation state were shaping historical evolutions. They contributed to *performing* 20th century societies for better or worse. In the 21st century, we need to shift to new performative paradigms.

5. Conclusion

In this paper, I have argued that Cultural Science can get much inspiration by going back to the roots and re-reading Dilthey, which eventually guides us even further back in intellectual history to Hegel. But I also present a modern and advanced interpretation of *Geisteswissenschaften*: I define them as being *the sciences which have performative functions* in the societies we live in. This clearly assigns economics to the status of a

³⁰ This aspect has been most systematically analysed by a scientist, Peter Haff (2014, 2016), who was also the first to introduce the term into scientific approaches to the Anthropocene.

³¹ Founding collections of papers are Callon et al. (2007) and Pinch and Swedberg (2008). Herrmann-Pillath (2013a) adopts this view.

³² See Fujita et al. (1999) and Glaeser (2011).

³³ West (2017) summarises the relevant research which has mostly been done in the context of physics and biology: He suggests another new discipline, the 'science of cities'. Compare Batty (2012). This view is also supported by Hartley and Potts (2014) in the context of Cultural Science.

Geisteswissenschaft, thus refuting the naïve naturalism that permeates recent economic adaptations of the natural sciences, such as in behavioural economics.

This view can reconcile tensions between Cultural Science and Cultural Studies. The *Geisteswissenschaften* are fundamentally normative, since performativity is a normative action, 'legislative' in Hegel's sense. The specific claims on the status of a 'science' can be clarified by the methodological principles of *Geisteswissenschaften* as elucidated by Dilthey. Cultural Science would be defined as *the science of meaning and identity as complex evolutionary phenomena*, building *methodological bridges* between the sciences and what is currently defined as humanities, with social sciences assuming roles as supporting neighbouring disciplines. In aiming at active *design* of culture in our modern societies, Cultural Science retains the critical potential of Cultural Studies. At the same time, as Hartley (2012) has pointed out, the early empirical claims of Cultural Studies against simplistic positivistic reductionism in the social sciences can be maintained, in a similar way to the relationship between taxonomy/natural history and evolutionary theory. The *Geisteswissenschaften* build on thorough empirical investigations into the ways of sense-making and identity-formation in human groups, shaped by complex institutions of power and economic interaction, as elucidated in Cultural Studies. As Cultural Science of the 21st century, they combine with cutting edge evolutionary theories and methods. In a nutshell, Cultural Science is Dilthey and Darwin combined.

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Competing Interests

The author has no competing interests to declare.

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