An ongoing productive crisis with a rich historical heritage

Important phases and transitions in the history of science and the human sciences since the constitution of the modern university and the reorganization of Western knowledge institutions at the beginning of the 19th century

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# Contents

Overview................................................................................................................................. 6

I. An alleged crisis of the humanities .................................................................................. 12
   1. A defense of the humanities in dire times ................................................................. 13
   2. An inadequate defense .............................................................................................. 15
   3. The historical heritage of the humanities ................................................................. 16
   4. A decisive turning point ......................................................................................... 17

II. The historic constitution of the modern university and the heritage of the humanities .... 20
   1. An acute crisis for the traditional university of the Middle Ages and Renaissance .... 21
      The reorganization of the university ................................................................. 23
      The Faculty of Philosophy as an independent centre of the university .......... 24
   2. The study of the particularly and emphatically human as a precondition for science ... 26
      The role of the human sciences ........................................................................... 28
      The human subject ................................................................................................. 28

III. The division between the different sciences on the uniquely human and new branches of science ............................................................................................................. 30
   1. The Faculty of Philosophy as a hotbed for the development of new kinds of professional, specialized and useful knowledge in demand .................................................... 31
   2. The declaration of independence of natural philosophy and natural history .......... 32
   3. The rise of biology and the health sciences ......................................................... 33
   4. The fostering of a third culture ............................................................................ 34
   5. New fundamental distinctions and internal relations ............................................. 36
      The natural history of human and animal species ............................................ 36
      A clear-cut distinction between letters and science ........................................ 37
      From moral science of man to social science and Geisteswissenschaft .......... 38
      Clefts, clashes and competition between cultures ........................................... 40
   6. Scientific investigations of the human ................................................................. 41
Academic diversification as a shift in relation to the historical heritage of the human sciences.................................................................43

The human and its modes of being as a decisive addition and perpetual interstitial point ........................................................................44

IV. New overlaps and reciprocities between the faculties.................................................................51

1. Knowledge resituated.............................................................................................................51

Knowledge leaving the ivory tower.......................................................................................52

Knowledge as performativity......................................................................................................53

2. New, transversally situated forms of science........................................................................55

The emergence of area studies................................................................................................56

Triple-helix-relations between academia-industry-governmental institutions ....................57

The emergence of a situated, transversal human science: cultural studies ......................58

4. Inter- and transdisciplinarity..................................................................................................61

5. Post-disciplinarity.....................................................................................................................62

IV. The current turn.......................................................................................................................66

1. A problematisation of the division and polarity between faculties ...............................................................67

2. A problematisation of the modern division between the humane and the inhumane

71

3. A turn beyond the dichotomy of the human and the inhuman ............................................73

4. Scientific humanities.............................................................................................................77

5. A human turn in the history of knowledge .........................................................................81

The reformation of the humanities..........................................................................................83

A productive crisis....................................................................................................................85
Alle Übergänge sind Krisen.

Johann Wolfgang von Goethe:

*Wilhelm Meisters Lehrjahre*

I want to question the self-presentation of the Humanities as an ongoing, integral, integrated exercise.

Stuart Hall:

‘The Emergence of Cultural Studies and the Crisis of the Humanities’
List of Illustrations

1. The university of the Middle Ages ............... 25
2. The Humboldtian University .......................... 27
3. The late 1800s ........................................ 42
4. The human being of anthropology ................ 50
5. The human turn ....................................... 91
Overview

This study provides a general overview of the crucial and critical stages in the history, organization and production of knowledge in Western societies since the establishment of the modern university around 1800.

A recurring subject of examination, forming a guiding and unifying theme, is the momentous influence of the human sciences as well as their decisive, yet also unstable and shifting role and position within this context. The study claims that the position and decisive role of the human sciences within the larger edifice have often been neglected or played down due to the very instability and fluctuation of their status and influence and the difficulty in grasping and describing their role. As a consequence, there is no alternative to forming a comprehensive overview of the development of the historical landscape while also paying close attention to shifting positions and the development of the human sciences within this landscape if one aims to write a different story that compensates for both current and historical oversights. Thus, the study aims to write a new and alternative history of the human sciences from the point where they assumed their distinctive modern shape and became recognizable as what we today perceive as the humanities. Countering received ideas of the humanities as a superfluous pastime, the account of the human sciences and their historical development given here seeks to accord due recognition to their ongoing significant and decisive influence.

Whereas the first part of the study starts out by shortly discussing the character of a presently perceived grave and acute crisis of the humanities and presenting suggestions to overcome it, the historical development described in the
following parts falls into four distinct, consecutive phases. The second part of this study, ‘The historic constitution of the modern university and heritage of the humanities’, describes the decisive development towards the end of the 18th century and at the beginning of the 19th century. While the second phase, described in the third part, ‘The division between the different sciences on the uniquely human and new branches of science’, begins towards the end of the 18th century and ends towards the end of the 19th century, the third phase, described in the fourth part, ‘New overlaps between the faculties’, starts at this point and lasts until the interwar period. Starting around the time of WW2, the fourth phase, described in the fifth part, ‘The current turn’, leads into the present.

Since the succeeding stages do not erase the preceding phases but are added to and grafted upon what earlier came to pass, all stages continue to make themselves felt today and to exert a decisive influence on the ways in which knowledge is produced and understood, perceived and organized.

The historical examination in the second main part, ‘The historic constitution of the modern university and heritage of the humanities’, sets out by describing the major re-establishment and re-organization of Western knowledge institutions and disciplines that laid the foundations of the modern university roughly 200 years ago. With the establishment of the Humboldtian university around the turn of the 19th century, the human sciences, for the first time in history, assume their modern shape and become recognizable as what we conceive as humanities today. Concomitantly, the retrieval of knowledge concerning the human and its development, a core and defining issue for the disciplines located at the Philosophical Faculty or the Faculty of Arts, is granted a central and unifying role for the university in general, as well as the understanding and organization of knowledge it incorporates. Within this organization, the philosophical faculty and the study and development of the distinctively human is given a decisive and
unifying role for science and for the knowledge production of the university as a whole.

From this outset, the remaining parts of the study articulate the development of our organization of knowledge and its central disciplines up to the present. Focusing on the development of the human sciences and the establishment of knowledge of the human, the study describes the decisive changes and major phases in the history of the humanities following their modern constitution.

Since the point in time where the acquisition of knowledge concerning the essentially human, as well as the latter’s refinement and cultivation, acquired an over-arching role and assumed a crucial position for the organization of the modern university, a decisive and dynamic development of the university has subsequently taken place and decisively questioned the initial organization of the university and the classical heritage of the humanities.

The third part, ‘The division between the different sciences on the uniquely human and new branches of science’, examines how the Humboldtian university model and the decisive role of the humanities permitted an ongoing and growing establishment of new specialized disciplines and subject areas which continually challenged the initial organization. Already during the course of 19th century, a number of new disciplines and faculties, such as the natural sciences, the life and health sciences, and the social sciences, began to establish themselves and assert their independence from the Faculty of Arts, also often denominated the Philosophical Faculty. Often originating in the Faculty of Arts but also establishing alternative faculties, these disciplines began to offer all sorts of specific empirical and pragmatic knowledge and know-how.

Insofar as they investigate human behaviour and the modes of being of human beings, these disciplines also offer empirical and pragmatic knowledge that add to and may begin to compete with the knowledge and mapping of the human
provided by the traditional humanities. A result of this development is the establishment of new clear-cut distinction between letters and science and the conception of the humanities as a distinct activity in the shape of ‘Geisteswissenschaft’. The cleft between forms of knowledge that concern themselves with nature and culture not only leads to competition but also confrontation and clashes between scientific cultures and science wars. If the humanities are to assert themselves in this competitive environment, however, they can hardly remain self-centered and ignore and dismiss these ‘newfangled’, important corpora of knowledge and their implications, but are rather forced to study, relate to and interact with them.

As a result of this development from the mid-19th century to the mid-20th century, a relatively clear and widely accepted division between faculties and differing types of knowledge is established. Since WWII, however, these divisions have been decisively questioned, as described below in the fourth part, ‘New overlaps and reciprocities between the faculties’. While the university institution and the forms of knowledge connected to it expand drastically, the conception of knowledge is altered. To an increasing extent, knowledge is produced and perceived as a form of know-how of considerable relevance for the surroundings. Whereas the withdrawal to the purely and emphatically human space of the ivory tower where the human cognition could be intensively developed in isolation from the rest of the (social and lucrative) world was still highly appreciated and positively connotated in Humboldt’s time, the expression ‘ivory tower’ gains a predominantly pejorative connotation in the 1900s. Concomitantly, knowledge is increasingly understood and evaluated in terms of performativity as know-how that enables to do or to produce something new.

Coincidentally with this development, new forms of transversal, situated and interdisciplinary scholarly knowledge are established. Among these emerging
transversal disciplines of science are area studies. With cultural studies, however, new situated and interdisciplinary forms of science equally emerge within the human sciences themselves. Questioning and traversing the divisions between the faculties of science, these new forms of scientific knowledge and a number of similar fields concomitantly affirm the fact that they are situated within specific larger contexts and assert themselves as contributions to their environment. In the time that has passed since WWII, thus, a number of scientific disciplines emerge that establish and build up a decisively different relationship not only between the scientific faculties but also science and its objects, as well as between humankind and its surroundings.

Making use of the analysis of the historical backdrop established in the four preceding main parts, the fifth part, ‘The current turn’, examines the contemporary organization of knowledge. The fifth and last part specifies how all the historical layers previously described do not belong in the distant past, but are very much present and still exert a significant influence.

At the same time, a new remarkable turn makes itself felt today. Drawing on discussions in contemporary science studies, in particular outlined by Bruno Latour, this part describes how the unbridgeable gulf between the human and the non-human, man and nature, established in Modernity and accepted as crucial for the organization of knowledge with the foundation of the modern university, has become increasingly questioned.

In parallel, the divisions between scientific faculties and disciplines are being increasingly questioned. This questioning of the divisions that have so far been taken for granted does not entail a disappearance or dissolution of the human and the human sciences; but neither does it entail that the study of human existence has become irrelevant, a pastime or even a waste of time. Quite the contrary. It leads to the emergence of types of scientific knowledge studying and mapping different
forms of situated human existence, even as it leads to the distribution of humanities and situated forms of human existence of decisive importance.

Considered in its contemporary and historical crisis, the present alleged crisis of the humanities is to be considered as a decisive turning point. Contrary to common perception, however, it is not to be conceived as a critical and acute experience, thus indicating that the humanities and the human sciences have become superfluous and are threatened with distinction. Quite the opposite. The crisis is to a large extent the logical outcome of an ongoing and productive crisis that has lasted for more than 200 years and that has been continuously unfolding since Modern university was established and the human sciences were constituted in a form that is still recognizable today. It is an ongoing crisis in which the humanities and the human sciences have played a vital and most productive part.
I. An alleged crisis of the humanities

In the present time, it has become common adage to highlight that the humanities are undergoing a severe and acute, decisive crisis. Generally, the claim is not only that the human sciences are facing a decisive transitional phase taking the form of a severe midwinter, but also that the crisis is a final result of a longstanding and still ongoing development taking the form of a continuous decay and decline. Moreover, the perception is that this long-lasting development is presently coming to a head. The humanities are facing time of intense difficulty and danger, threatening their very existence and affecting their very subsistence.

In prolongation of a long and continuous development, the sciences examining and developing the particularly human have come to constitute an educational time-out beyond the real world that is of only limited value since it seems to add only marginal value to the real world. Whereas some of the contributors to the human sciences may still conceive of themselves as critical players in the mid-field, the human sciences, at the end of the day are presently to be considered as players that necessarily find themselves on the sideline, at least if one takes a broader perspective. Since this has even happened to such an extent that humanities risk being considered a mere superfluous past time, it forces the proponents of the humanities to consider and flesh out the essence of the humanities as well as their core contribution.
1. **A defense of the humanities in dire times**

This perception is presently voiced by a number of proponents and defenders of the traditional values of the humanities, among others philosopher and classical scholar Martha Nussbaum. As ‘surrounding society’ as well as theoretical models and approaches to policy-making to an increasing extent come to focus ‘on profit and success’¹ and other forms of societal and economic value creation, the humanities have according to Nussbaum been sidelined.

Faced with such experienced challenges, contributors and partisans of the humanities often try to re-assert the significance of the humanities by returning to and examining a bygone past in which they enjoyed a more central position in order to resuscitate the classical virtues of the humanities.² A leading humanistic scholar such as Martha Nussbaum, thus argues that education and research within the humanities should return to, revive and cultivate a ‘noble ideal’ that has played a guiding role as an ‘idea of “liberal education”’ in modernity and in modern knowledge institution. ‘Taken up most fully in the United States’, though never ‘fully realized in (...) colleges and universities’, this noble ideal lists an ancestry that reaches back to Antiquity. This ‘idea of “liberal education”’ as ‘a higher education’, implies and involves ‘a cultivation of the whole human being for the functions of citizenship and life generally’.³ Starting in Antiquity with in particular Seneca and further expressed in European Enlightenment thought as it was developed by Hume, Smith and Kant, this conception of research and education has according to Nussbaum traditionally had a ‘formative influence’ on ‘Thomas Paine and other

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Founding Fathers in the American tradition.’ It ‘is liberal, insofar as it liberates the mind from the bondage to habit and custom, producing people who can function with sensitivity and alertness as citizens of the whole world’. This kind of ‘higher education’ is characterized by Nussbaum as ‘a cultivation of the whole human being for the functions of citizenship and life generally’.4

This kind of humanistic education formed on the basis of the humanities is conceived by Nussbaum as a form of development that cultivates citizenship; not only in the local community but also globally, insofar as it leads the individual to recognise ‘the value of human life’ in all its forms and interconnectedness with human abilities and problems, even if they are far away from us. Furthermore, such a higher form of education is also considered to empower the learner to live and contribute to a better life.5 At the same time, while such education is thought of as being centred on the human (or even the particularly humane in the human) and as being particularly inclusive of different human life forms, it ends up being highly exclusive. The education of the human defines itself as a privileged space or an outstanding sphere where, in stark contrast to ‘a surrounding society that focuses on profit and success’,6 as is also evident in its dominant theoretical models and policies, higher values are placed at the centre that, at first, are ‘not for profit’, but which we can profit from later and in the long run insofar as it cultivates a higher humanity and prepares the educated for meaningful lives and work in a broader sense.7

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4 Ibid., pp. 8-9.
5 Ibid., pp. 9, 112.
2. **An inadequate defense**

A defence of the human sciences through a withdrawal to and reactive repetition of what has been determined historically as the humanities’ traditional virtues or values in a new situation that challenges the humanities is, however, problematic, and it may appear inadequate for several reasons. Because such a ‘re-traditionalising’ re-actualisation claims the supremacy of the humanities in certain respects, such a basis for the human sciences merely affirms a historically well-established division of labour; and such an affirmation risks contributing towards deepening precisely the claimed ‘clefts’ between cultures that make it difficult for the human sciences to validate themselves – not only in relation to other fields of knowledge but also in relation to society.

Insofar as the human sciences thus seek, in an isolated fashion, to hold onto what is deemed essential to the humanities and that which is particular to the human, they thereby risk missing out on the knowledge gains, dynamism and societal relevance that an exchange with other sciences, with their forms of knowledge and methodologies, can provide.

This becomes all the more apparent as other fields contribute to the above-mentioned field of ‘the human’ in their own right and to such an extent that it becomes a powerless gesture to affirm privileged and exclusive access. In addition, with the withdrawal to the humanities’ ‘essential’ identity, the humanities cut themselves off from participating in and contributing towards that which currently represents the vast majority of university activity and, on top of that, diverse scientific activity which, to varying degrees and with different agendas, actually often acknowledges both the relevance and the value of the human in scientific practice.

A crucial challenge in the present turn is that it precisely problematises the idea that such emphatic notions of a special and privileged field for the consecrated to what is considered as extra-ordinarily, exceptionally or augustly human (mor
human than everything else), and the assumptions of relatively clear divisions between the particularly human and the non-human that such notions explicitly or implicitly rest upon, can form the obvious starting point for a discussion of both the role of the humanities more specifically and the wider field of knowledge more generally. Hence the present turn also problematises the humanities’ ‘heritage’ or the assumptions that the human sciences have so far been able to take for granted as self-evident since they were established when the humanities emerged in a form we can recognise today, namely with the establishment of the university in its modern form around 200 years ago.

3. The historical heritage of the humanities

As has been noted, the human sciences, through a long movement, have reached a watershed where they are in the process of leaving behind the relatively familiar landscape where prevailing notions of the human have emerged in their modern form and are moving into and orientating themselves in landscapes that have different and even more unknown contours. In a situation where the human sciences are at a crucial turning point, it is beneficial to take a look back at the journey that has brought the human sciences to such a critical juncture. In this way, one can get a sense of the historical ballast that the humanities bring to the present situation.

On closer inspection, this ‘baggage’ not only takes the form of extra weight or strain that the human sciences must carry with them and which hold them back and weigh them down. It is also extra weight that the human sciences have built up and which researchers within the human sciences can draw upon, if they leave
behind the unequivocal affirmation and continuation of the humanities’ lofty or privileged legacy that some proponents of the humanities tend to cling to.

This is all the more pertinent insofar as the legacy of the humanities, upon closer inspection, is not quite the carefully handed-down ‘silver heirlooms’ that it may first appear to be and that is often marked by the proponents of the ‘traditional’ humanities. Instead, the legacy and its handing down prove to be much more ambiguous. While the humanities can appear to be constructed in such a way, the human sciences have shown themselves, from the very beginning until now, as breaking away from and continually pointing beyond their original constitution. In fact, since the foundation of the university and the humanities in an anthropocentric structure of knowledge that gathers around the human and places it at the centre, they have shown themselves as challenging this condition just as persistently – the fundamental centripetal movement has been challenged by an opposing centrifugal one that is as at least as strong.

A history of knowledge thus shows that faith in the legacy of the humanities is not only inadequate in the wider context of knowledge; it also shows an unfaithfulness in the more complex handing down of the human sciences and their current status. The following sections will clarify this by showing how the surviving historical legacy of the human sciences has been established and further developed, and what this legacy implies.

4. *A decisive turning point*

Discussion of a crisis in the human sciences can take place as long as this is not simply understood as a problematic situation in which it is difficult to survive and find validation. Instead, we can talk about a crisis in an older and more fundamental sense of the word, where it indicates a ‘critical turning point’ (*krisis*) in which a longer course culminates and introduces a dividing line or a division (*krinein*), meaning that
there is a decision and a judgment to be made on this course.\textsuperscript{8} As a result of a lengthy chain of events, the sciences of the humanities faculties have arrived at a critical turning point. Presently, they have to stand up to the test of crossing a dividing line and a transition. This also means that they are also facing the challenge of entering into a new and still uncharted context in which they must stand the test of asserting themselves anew. They are subject to rigorous review, which means that one must turn back on them and re-examine them anew.\textsuperscript{9} The human sciences are at a turning point insofar as their environment and their relationships with this environment have changed; and they are therefore confronted with the task of getting up to speed with the situation and dealing with it. Since the human sciences’ conditions and their relations to them have changed decisively, scholars contributing to the human sciences as well as their surroundings need to look for the right criteria to assess how the human sciences can meet these challenges and find the appropriate form to assert themselves.

Insofar as the crisis first of all relates to the human sciences’ relationships with their environment and the forms of their acceptability and effect, it is at first a crisis regarding how they can assert themselves and hold their ground in wider society and its knowledge in such a way that they are positively received and judged (\textit{krinein}). However, this is also a crisis within the humanities insofar as the humanities are looking for the right criteria for how the human sciences should understand, conceptualise, legitimise and justify themselves in such a situation.

It is both a crisis for and within the humanities in that they can no longer rely on and find their purpose in the traditional notion that the human, and engaging


with the human, has a fundamental, intrinsic value. Instead, the humanities must increasingly ground and conceptualise themselves in a situation where the human is in continuous exchange with – and is continually constituted in an ongoing exchange with – the non-human.

The turn towards and the valorisation of the human within forms of knowledge and praxis thus alters the environment of the human sciences and entails new conditions for how they can give an account of themselves. These new conditions of validity provide them with new opportunities to assert themselves alongside new demands and challenges to be met. They involve a crisis and a process of transformation for the human sciences that provoke them into asserting and affirming themselves in this new context.

If humanities researchers fail to reinterpret and reposition the human sciences, they risk losing their significance insofar as their knowledge will appear to be of secondary importance and relatively irrelevant in the bigger picture. However, one can also witness this challenge in a broader context of knowledge. If the human sciences fail to assert themselves and appear as contributory, society's knowledge will be at a loss in a number of crucially deep and broad dimensions precisely because a large number of the key phenomena being investigated are fundamentally human-driven and thus cannot be articulated without an account of their crucial human component.
II. The historic constitution of the modern university and the heritage of the humanities

The re-organization and reconstitution of the university and the organization of knowledge around the turn of the 19th century.

The human sciences have, in their classical, handed-down form known as humanities, distinguished and understood themselves as an investigation and forming of the essentially and emphatically human that already in itself is of exceptional and obvious universal value. Despite the fact that such a declaration by the human sciences is sometimes projected further back in history, such a determination has only seriously been with us as something self-evident and as a challenge since, roughly 200 years ago, the human sciences stepped forward for the first time as humanities in their modern and now well-known sense. Not until then did they become separated out as a particular set of sciences distinguishing themselves from the other primary scientific areas by examining, through independent research, a particular field, namely ‘the more human things’, and thereby gaining a unique value in so doing.10

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1. An acute crisis for the traditional university of the Middle Ages and Renaissance

The human sciences did not seriously begin to establish themselves as humanities in the modern form that we know today until the turn of the 19th century. This happened after the university of the Middle Ages and Renaissance had run into an acute crisis that came to a head around the end of the 18th century. In fact, the crisis around the turn of the century radically raised the question of the meaning and justification of the universities and their production of knowledge in a broad sense. Actually, it even raised the question of whether or not the university as an institution could survive at all.11 In some ways, thus, this through-going crisis can be said to correspond to the contemporary crisis that is currently unfolding not only in breath and scope but also due to its all-decisive and conclusive character. It probably even surpasses the present crisis in radicality. As this mid-winter placed the university itself and the production of its existing knowledge on the agenda, it opened up the possibility of a radical re-establishment of the university and the organisation of existing knowledge, which significantly altered the relationship between contemporary forms of knowledge and gave the human sciences a new foundational role and purpose.

Until the end of the 1700s, studia humanitatis (history and languages, literature, poetics and ethics) was part of the more comprehensive studies at the

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11 Cf. Høyrup (1995): *Mellem gåde og videnskab: Et essay (især) om noget der blev til algebra*, and Kjærgaard et al. (eds.) (2003): *Universitet og videnskab: Universitetets idéhistorie, videnskabsteori og etik* (University and science: the university’s history of ideas, scientific theory and ethics). Of the 143 universities that existed in Europe around 1789, approximately 60 had disappeared in 1815 (cf. Rüegg (2011): *A History of the University in Europe*, vol. IV, p. 10). Of these, 24 were French, 18 German and 10 Spanish, so the number of universities had been reduced to 83 (cf. vol. III (2004a), p. 3). However, already in the mid-1800s, Europe had 98 universities, and by the beginning of the Second World War, this number had been doubled (cf. ibid).
‘lower’ faculty of the liberal arts.\textsuperscript{12} The task here was to ensure that students would come to possess a certain basic general education which prepared them for their further studies. In continuation of this role, \textit{artes liberales}, which was the general term for the studies at this lower faculty, were, in the Middle Ages, still known as \textit{ancillae theologicae} and could thereby be understood as servants for theology, which was, in the end, the highest-ranking branch of science among the ‘upper’ faculties.\textsuperscript{13}

The study and education of human proficiencies thus formed a subordinate part of a well-established hierarchy that provided meaning and (use)value as a means to something else and as a part of a higher, unified purpose.\textsuperscript{14} Overall, the aim was to communicate established knowledge and skilfulness\textsuperscript{15} that enabled the students to occupy an office in a responsible fashion, granted that they had appropriated a fundamentally scholastic familiarity with the universe in which they were to operate. In this context, the study of the merely human relations gained meaning and value as a means to other higher and, in the last instance, transcendent purposes.\textsuperscript{16}


\textsuperscript{14} Schmidt-Biggeman (2003): ‘New Structures of Knowledge’.


\textsuperscript{16} Schmidt-Biggeman (2003): ‘New Structures of Knowledge’, p. 489. Even though theology naturally plays a leading role at the university of the Middle Ages (ibid., pp. 500-09), there is a tendency during the 200 years leading up to the radical change around 1800 for law to gain importance and begin to provide its own independent response for a definition of the higher purposes with the development of the discussions of natural law, theory of sovereignty and, finally, with the study of human rights (ibid., pp. 509-17).
The university of the Middle Ages. In artes liberales (marked in red), human skills are taught as propaedeutic or as a pre-schooling to the education in the subsequently lucrative subjects and professions: medicine, law and theology. As such, studia humanitatis played a fundamental but still minor role as a means to other, higher ends. This kind of organisation of the relationship between the forms of knowledge at the different faculties can be found from the 13th century up until the end of the 18th century.

The reorganization of the university

At the end of the 1700s, in a situation where the university was contested by critique from the outside and threatened by critique from the inside, this organisation of knowledge and the position of studia humanitatis changed fundamentally in a relatively short amount of time.

A number of central writings on university policy by central thinkers such as Immanuel Kant, Friedrich Wilhelm Joseph von Schelling, Heinrich Steffens, Johann Gottlieb Fichte, Friedrich Schleiermacher and Wilhelm von Humboldt seek to reconsider, reformulate and re-substantialise the main justification of the
university and the humanities. When Humboldt succeeds in obtaining acceptance of the first modern university in Berlin in 1809-1810, he stipulates, in his organisational plan, that the university is not to be founded on and organised in relation to external purposes but rather ‘on the pure idea of science itself’, dealt with as ‘an as of yet not fully solved or answered problem (ein noch nicht aufgelöstes Problem)’. 

**The Faculty of Philosophy as an independent centre of the university**

With this re-foundation, the previously existing ranks between the faculties are turned around since the lowest arts-faculty, from then on known as the philosophical faculty, now takes on an extremely central role. In his text *Der Streit der Fakultäten* (The Conflict of the Faculties) from 1798, Kant sought to conceive the university as the central, gathering educational institution (*universitas litterarum*). Here, the upper faculties adopt their position according to their overall, immediate interest to or usefulness for the state. If one considers the university purely in terms of utility, however, this results in it being divided in a series of separated, specialised educations, and if the university is reduced to purely utilitarian purposes, it ceases to be a unified whole or a university as such, according to Kant.

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The Humboldtian University. The human sciences are established as (basic) research. The previous hierarchy between the faculties is turned on its head insofar as the disciplines at the philosophy-humanities faculty are determined as the sciences that especially incarnate independent basic research. This independent research is now seen as an activity that constitutes the unifying element at the university. The specifically human abilities to sense, cognise, reason and pass judgement, which comprise a central and unifying prerequisite for the possibility of science, are placed centrally, examined and cultivated in the humanities at the faculty of philosophy. The human takes on an overarching, fundamental and unifying role for the university at the same time as the humanities are given their modern form as the sciences in which the human being seeks knowledge of itself. As human beings begin to play a crucial part, the humanities take on a crucial position for the university and its organization of knowledge.

The professionalism at the philosophical faculty can exert a unifying influence on the higher faculties and on the university as a whole. This is possible precisely due to its greater distancing to the question of use-value in relation to the surrounding society and to the commands of the state and its corresponding offices. The independent ‘faculty of philosophy (philosophische Fakultät)’ can become the
centre of the modern university since it ‘is only concerned with the kind of doctrine that is not to be adopted as a guideline ordered by a higher authority’. In continuation thereof, the faculty of philosophy may interfere with the general education since, to the general advantage of the sciences, it makes every aspect of human knowledge ‘into an object of trial and critique for the sciences’. Setting out from the faculty of philosophy, the university institutionalises critical human reason and independent scientific knowledge. The previously subordinate faculty is thereby liberated from its former role as a servant and begins to assume a superior role insofar as it incarnates an ideal which the other faculties must live up to. Insofar as the university institutionalises a form of science that continuously subsumes itself to critical scrutiny, it may be said to rest on an idea; and this idea and this spirit is most explicitly accentuated at the faculty of philosophy. Since the faculty of philosophy is granted such a central role in the organisation of knowledge and the institutions of knowledge, what is human comes to occupy a central, albeit often unpronounced, role.

2. The study of the particularly and emphatically human as a precondition for science

Hereby, the humane, and more specifically the study and the development of the particularly and emphatically human (as incarnated in the humanities), becomes central and necessary in that the specifically and emphatically human constitutes a sometimes implicit and at other times explicitly pronounced condition for science more generally. Hence, ‘a cultivation of the human enlivened powers (Kultur der

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20 Ibid., pp. 289-90.
21 Ibid., p. 291.
22 The reorganisation therefore also implies the declaration of independence of studia humanitatis. The study of human affairs hereby begins to appear as having its proper purpose detached from the studia divinitatis, that is, from the studies of the divine affairs, such as these could occur under the auspices of theology, cf. Kjørup (1996): Menneskevidenskaberne.
Gemütskräfte) through the prior knowledge known as humanities (durch diejenigen Vorkenntnisse, welche man  humaniora nennt)\textsuperscript{24} becomes an unavoidable and, in the first instance, central purpose in and of itself since the specifically human and the specifically human abilities to sense, cognise, reason and pass critical judgement seem to constitute a central and unifying prerequisite for the possibility of practising science at all. According to Schleiermacher, the university therefore has the central task to teach so that it sets ‘in motion the beginning of a process’ which leads to ‘the idea’ that ‘cognition (die Idee des Erkennens), the highest consciousness of reason (das höchste Bewußtsein der Vernunft) will be awoken as a guiding principle in Man (als ein leitendes Prinzip in dem Menschen aufwacht)’.\textsuperscript{25} In reality, all cognition that one finds at the university is therefore also, according to Humboldt, ‘reserved for what only the human being can find in and by itself; insight into the pure science’,\textsuperscript{26} wherefore all cognition, to a deeper contemplation, also bears witness to the human being and its limitations while contributing to its development and perfection.\textsuperscript{27}

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\textsuperscript{24} Kant (1790/1978): Kritik der Urteilskraft, p. 300.


\textsuperscript{26} Humboldt (1809/2010b): ‘Der königsberger und der litauische Schulplan’, p. 191.

\textsuperscript{27} How the main areas of cognition all fundamentally stand in a close relationship to the human is emblematically expressed in a passage from Kant’s Logik (1800/ 1978). Here he notes that generally one operates with different fundamental questions: the question posed in knowledge, science, theory and metaphysics, namely, ‘what can I know?’, the question posed in moral and practical thought, namely, ‘what should I do?’ and, finally, the question posed in religion and in aesthetics ‘what can I hope for?’. These are the questions Kant himself usually considers as the fundamental ones and which he seeks to answer in his three critiques respectively. In a deeper inquiry, according to Kant, these three fundamental questions, however, are related to one another as are they contribute to, are clarified through, fold up in and are related to (sich beziehen auf) a fourth and decisive fundamental question: ‘what is the human being?’ Thereby, it is possible to consider them all as fundamentally ‘belonging to’ ‘anthropology’ (ibid., p. 448).
\end{flushright}
The role of the human sciences

Despite the fact that the human sciences at a first glance may appear to be a surplus activity of limited and subordinate significance, they are nonetheless ascribed a vital role in and to the organisation of the modern university. The human and the development of the human plays the central role to the idea of the university, to the organisation of the university in its modern form and to the modern organisation of knowledge. The development of the human realm does not only amount to the central presupposition for having, acquiring and developing knowledge at all, it is also that same knowledge which must contribute to improving the conditions for its further development. With this prioritisation, the human being clearly moves to the forefront not just in general terms but especially in relation to the university and its organisation of knowledge.

The human subject

Here, the human being is established as ‘the first and actual subject (dem ersten und genuinen Subjectum)’ or as the ‘foundational’ in the shape of a kind of presupposed ‘connecting middle (Bezugsmitte)’ to which all else is related and against which it must be measured.\(^{28}\) Insofar as the human is insufficient in its current form, it is not thereby necessarily always the highest purpose or being, but it does point beyond itself towards values which it must pre-empt and realise. In order to do so, the human being must develop itself; in principle infinitely.\(^{29}\) In any case, the human now becomes the central place where such values, knowledge and orientation must manifest themselves and be produced if they are to have any binding status. In the organisation of the modern university and the relation between the forms of knowledge established with it, a consistent, though oftentimes implicit, anthropocentrism becomes manifest.

Hereby, humanities are also implicitly assigned a central role as the study of the distinctively and emphatically human. What we understand by humanities today does not properly take its point of departure until the establishment of an


organisation of knowledge that is generally understood as anthropocentric, insofar as it places the mundane human being at the centre of the world, as a sometimes explicit but oftentimes implicit foundational presupposition. A particular and primary scientific area is established that distinguishes itself from other areas by virtue of its close connection to this centre, since the human being (as subject) is here studying itself (as object). With this, humanities are ascribed a concomitantly central, though oftentimes unpronounced, significance since one here studies ‘the more human things’ or the human ‘more-than’ which makes up the prerequisite for having knowledge at all. In the human sciences, one can examine and contribute to the development of the human more-than or its human nature, which is more than just nature because it, by its nature, distinguishes itself in its ability to relate to its own nature and change it. The human more-than distinguishes itself through the possibility of self-transgression, which causes the human to become equipped with a history and a culture whose character can be studied but also further developed in the human sciences.


III. The division between the different sciences on the uniquely human and new branches of science

An overview of the development of knowledge organization from the beginning of the 19th century to the mid-20th century

The fact that the human being, with the humanities, investigates the uniquely human and human-made in its development is accentuated further at a later stage. This happens by virtue of the fact that other forms of knowledge from the beginning of the 19th century are separated out from and mark a difference to those studies of the particularly human that take place in the humanities. In continuation of this separation, a conception arises of the particularly human as a specific or special area that can be studied in or by itself. This conception of the particularly and specifically human as a field separated or isolated from the rest of the world constitutes a novelty that is foreign to the founding fathers of the Humboldtian university.

Ever since the universitas litterarum was re-established at the beginning of the 19th century, due to the unification of the university in and through independent research in its modern form, and the ascription of the decisive task of incarnating this central role to the human sciences at the faculty of philosophy, this re-establishment has thus been continuously challenged.

Continuous and strong antagonistic tendencies have pulled in the opposite direction and established a tension and an indeterminate stride in relation to this initial unification. The centripetal striving to establish a unification around ‘the liberal arts’ and the cultivation of the human has been challenged by an at least equally strong antagonistic centrifugal movement.
With this centrifugal challenge to the former centre, a first step is taken towards a repositioning of the human. Later, alongside subsequent developments, this facilitates a possible turn towards the human in a new way.

1. The Faculty of Philosophy as a hotbed for the development of new kinds of professional, specialized and useful knowledge in demand

A decisive reason why the Humboldtian university model is not only founded but also increases and expands throughout the entire modern world as the most prominent institutional locus for the production of knowledge is the increasing demand for precise knowledge that can ground decisions, and for professionals that are capable of functioning as well-educated administrators, technicians and teachers in a world undergoing development. A more differentiated system of employment requires a higher and more differentiated scientific education to a wider range of academic positions.

In extension of this, the university institutions not only increase radically in size but are, at the same time, influenced by a growing differentiation of new and specialised scientific disciplines or subject areas, especially those with a point of departure in the faculty of philosophy. While the faculties of theology and law had previously been the leading ones, the faculty of philosophy now takes up that position and becomes an area of innovation within which ‘the modern structures of knowledge ‘first and foremost’ were to be built up’. While professional research autonomy is maintained through specialisation, the previously mentioned demand of utility is likewise met. The development in the 1800s is marked by a professionalisation of knowledge through specialisation based on the conception

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that systematic professional research presupposes a focus on the different areas and levels of reality.\textsuperscript{37}

The attempt to live up to specialised applicability and the appearance of new kinds of professionalism involve, in the long run, a division within the faculties and their reorganisation. This development is particularly relevant to the faculty of philosophy, which, throughout the following 200 years, becomes a hotbed for the formation of new types of professionalism.

2. \textit{The declaration of independence of natural philosophy and natural history}

A first change occurs when natural philosophy and natural history gradually become emancipated from philosophy to such an extent that they finally leave the faculty of philosophy around the middle of the 19\textsuperscript{th} century.

As they merge with mathematics, experimental physics and chemistry, which already before 1800 had developed from assisting sciences to fundamental research outside of the traditional university,\textsuperscript{38} they constitute themselves institutionally as an independent, primary research area.\textsuperscript{39}

In continuation of this difference becoming more pronounced, the significance of the term ‘science’ is narrowed down during that same period of time. Coined in analogy with the already existing ‘artist’,\textsuperscript{40} the term ‘scientist’, which finds its first serious expression in a work from 1840, is no longer intended to simply refer to any kind of generic scientist but more specifically to determine a ‘mathematician, physicist, or naturalist’\textsuperscript{41} and thereby a researcher within the natural sciences who

\textsuperscript{37} Ibid., p. 7.

\textsuperscript{38} Concerning mathematics and chemistry, this is also the case in their relation to the faculties of philosophy and medicine respectively, see Bockstaele (2004): 'The Mathematical and the Exact Sciences'.

\textsuperscript{39} Ibid.

\textsuperscript{40} Holmes (2011): \textit{The Age of Wonder: How the Romantic Generation Discovered the Beauty and Terror of Science}.

excels as a ‘cultivator of science’ to such an extent that he, on that count alone, distinguishes himself from devotees of other disciplinary areas.  

Until then, it had been possible to consider the study of human affairs in continuation of the efforts to examine the natural world to such an extent that it seemed artificial to distinguish sharply between the two activities, which did not immediately have a professional orientation and were, as such, in the first instance useless. Since they seemed to be but elements of a collective project, it had, for example, not even been deemed expedient in the central manifesto of the Enlightenment, *The French Encyclopedia* (1751-1778), to organise the exposition of existing knowledge according to a division between a science of nature and a human science. Such a division only begins to assert itself as a central and unsurmountable cleft with subsequent developments.

### 3. The rise of biology and the health sciences

Alongside the aforementioned forms of natural sciences, biology arises in the beginning of the 1800s, and over time an expansive bio-scientific area in a wider sense arises in which one is concerned with different forms of life and, thereby, also with health. In this process, medicine is reformulated as a field that still has its relatively independent areas in relation to the determination of illnesses and cures, but now finds itself under the sway of an increasing and decisive influence of disciplines such as biology, chemistry and physics. This involves a disruption of

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the medical field’s previous focus on a classification of illnesses (nosology)⁴⁸ in which it was sought to establish the nature of the disease and its consequences; to a large extent still with a point of departure in the obviously differentiating and identifying signs described by the patient in conversation with the doctor.⁴⁹ Contrary to this, medicine increasingly becomes a pathology that reveals and treats sufferings and dysfunctions of life processes which may be objectively established.⁵⁰ From this time onwards, then, traces of central importance are laid out to establishment of the sciences of life and health in shapes that are still present today.

4. The fostering of a third culture
The continuous centripetal emancipation of different disciplines from the faculty of philosophy in the 1800s is further accentuated by a slightly later, prominent separation. During the course of the century, a number of disciplinary areas are formed in relation to the faculty of philosophy that gain an increasingly independent character. Among these, particularly economy, history, sociology, political science and anthropology are accentuated at the beginning of the 20th century.⁵¹ Over time, several of these are further differentiated to such a degree that they begin to

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⁴⁸ Examples of such nosological approaches are: Boissier de Sauvages (1771/2015): Nosologie methodique, dans laquelle les maladies sont rangées par classe suivant le système de Sydenham, & l’ordre des botanistes, and Cullen (1777-84/2015): First Lines of the Practice of Physic.


⁵⁰ Prominent examples of this kind of turn towards a pathology are: Broussais (1821/2015): Examen des doctrines médicales et des systèmes de nosologie. Bernard (1865/1966): Introduction à l’étude de la médecine experimentale. Virchow (1871): Die Cellularpathologie in ihrer Begründung auf physiologische und pathologische Gewebelehre. See also Raffnsøe (2013a): ‘Pathology and human existence’ for an exposition of how the new conception of sickness in medicine is tied to a morbid human existence that finds its particular expression in relating to and mirroring its own decomposition and death as ever-present challenges.

comprise what has later been called ‘a third culture’. 52 This refers to the fact that different kinds of positive social sciences liberate themselves from the sciences at the faculty of philosophy in an ongoing movement to such an extent that they leave the faculty of philosophy during the latter half of the 19th century as they unite in an independent faculty of social science. 53 The activities of the different fields at this faculty, distinguishing themselves from both the philosophical and the natural science faculties, finally start to conjoin into a third, independent and primary area that situates itself between ‘literature and science’ 54 without being reducible to either of those. While these new forms of science are being constituted as they critically relate to artes liberales, they establish the social as their field of research and offer an alternative mapping out of the characteristics of modern society. Such a contribution becomes possible through the establishment of ‘objective’ or ‘positive’ knowledge about reality 55 on the basis of empirical investigation as opposed to mere ‘speculation’. 56

The notion of a third culture may be appropriate insofar as the disciplines in this primary area of social science mainly relate to, and mostly seem to situate themselves in a non-specific place between, the area of humanities and that of the natural sciences. In light of these differentiations, one might, however, also talk about a fourth scientific culture insofar as the social sciences’ primary area joins the areas of natural, human and bio sciences, the emancipation and constitution of which has been described above.

However, in an even longer historical perspective, it is possible to understand the emergence of the faculty of social science as yet another primary area that arises in continuation of an ongoing emergence of a number of independent primary areas of research. From this perspective, it becomes clear how,


53 Wallerstein (1999): The End of the World as We Know it.


in its becoming, the field of social science also situates itself and its positive knowledge in relation to an extensive line of formerly established disciplines whose history goes all the way back to the university of the Middle Ages. Consequently, the emerging ‘third’ culture of positive social science also forms an addition to traditionally normative fields of knowledge such as theology and law, even as the emerging field of social science, situates itself in relation to and affects medicine as knowledge of individual and social health and treatment.

5. New fundamental distinctions and internal relations
In continuation of this ongoing, reciprocal differentiation and liberation of different forms of knowledge, relations between the primary areas of research, which differ substantially from earlier ones, are likewise established over time. Whereas these were earlier considered areas that were relatively closely related, the differentiation in the course of the 1800s amounts, towards the end of the century, to a situation in which they immediately appear as defined in obvious separation from one another. Only on the basis of this differentiation do the disciplines in the different areas seem capable of entering into an exchange with each other.

The natural history of human and animal species
In 1694, for example, in its first general dictionary, L’académie française still did not distinguish between literature (lettres) and sciences, since it defined ‘literature (lettres au pluriel)’ as ‘any kind of science or teaching (toute sorte de sciences et de doctrine)’ and let the headings literature and science refer to each other.57

As late as 1842, it was still possible for the novelist Balzac, in the introduction to his collected work of novels La comedie humaine, to perceive it as an attempt to create a counterpart to the older zoologist Buffon’s Histoire naturelle that had been published some one hundred years earlier. Balzac’s sequel could only continue and complete Buffon’s project by being a natural history that was not directed towards the ‘animal kingdom (L’animalité)’ but towards ‘humanity (L’humanité), since it provided a botanising gaze into ‘the infinite variety of human

nature (l’infinie variété de la nature humaine)’, which showed that ‘depending on the environment (suivant les milieux)’ there existed ‘social species (des espèces Sociales)’ ‘in the same way as there existed zoological species (comme il y a des espèces Zoologiques)’.  

At the same time, Balzac’s work of novels, which he himself originally launched under the title of Études sociales, was still able to serve as inspiration for the dawning social sciences to such an extent that Marx and Engels were later able to claim that they, in their social-scientific analysis, were far more indebted to Balzac than to the prevalent sciences.  

A clear-cut distinction between letters and science

However, already at the beginning of the 1800s, the difference between the practitioners and scholars of sciences on the one hand and the practitioners and scholars of letters/lettres on the other hand may begin to appear more pronounced than the similarities and the connections between them.

In 1807, it is thus possible for Bonald to gradually recognise a ‘distinction’ between ‘sciences’ determined as ‘systems of knowledge (système de conoissances)’ and lettres understood as an investigation and idolisation of the formation of (human) expression and expressivity; a difference that is already accentuated to such an extent that it has the character of an ‘opposition’ and threatens to terminate in a ‘divorce’. While Buffon’s 36 volumes of Histoire naturelle, published between 1749 and 1788, gain wide recognition and are widely revered for their stylistic advances, the scientist and author’s work is already towards the end of that same century at risk of losing its status based on this decisive distinction between science and literature since he is now criticised for writing ‘scientific novels’ that are directed towards women and laymen but are of no interest to the professional scientist.

From moral science of man to social science and Geisteswissenschaft

Following this divorce between science and literature, the path is opened for the arts (Geisteswissenschaft) to appear with a self-understanding of being a much more distinct activity than the moral science of the 1700s. This kind of earlier ‘moral science of man’ could still, with relative ease, contain within it and connect the study of the human mind, its functioning and ways of relating to the world with what was subsequently classified as natural scientific analysis on the one hand, and what was understood as economic and social scientific observations on the other hand.

Parallel to and in continuation of a long line of other main scientific areas that become differentiated and independent during the 1800s, a particularly humanistic area thus also appears whose contributors can gradually begin to consider themselves in rather strong opposition to other main areas. Hereby, they also distance themselves significantly from the intentions of the founders of the Humboldtian university. Their thinking, research and praxis becomes directed towards, and concerns and contributes to, the development of the distinctively human but no longer primarily as a contribution to the unification of the knowledge of its time. Rather, it becomes a question of forming and developing knowledge of the singularly human, which also means in distinction to, and oftentimes even opposition to, its surroundings.

Only then is the specifically or particularly human conceived of as belonging to a distinct sanctuary that can be studied in and of itself, granted that this field of knowledge has a different character or ‘nature’ than what surrounds it. At the same time, only then are the humanities really separated out as a particular set of sciences that distinguish themselves from other scientific areas in that the former, through independent research, examine a distinct field, namely ‘the more human things’, and gain their proper value in so doing. Here, the distinction between nature and spirit,

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between natural sciences and the arts, manifests itself as a sharp and penetrating divide.\textsuperscript{64}

In opposition to the natural sciences’ exploration of the regularities and technical applicability of nature, the humanities mark themselves as something other and more than the study of nature’s actual conditions (realia).\textsuperscript{65} This is expressed in what Mill determines a ‘moral science’.\textsuperscript{66} In opposition to the previous, gathering moral science of the 1700s, such as it was expressed, among others, by Hume, the moral science of the 1800s distinguishes itself, such as Dilthey articulates it in discussion with Mill, as a ‘Geisteswissenschaft.’ Herein, the human being studies ‘the totality of human nature (die totalität der Menschennatur)’ with a point of departure in its own ‘self-consciousness (Selbstbewusstsein)’; and, thereby, ‘finds’ for ‘itself’ ‘an imperium in the imperium (imperium in imperio)’.\textsuperscript{67} In opposition to the social sciences’ uncovering of precise knowledge about modern society and its conditions of life, the humanities may claim to provide a constructive or critical view in relation to, or expression of, something more or particularly human that in its transgression gives direction to what Hegel, at the beginning of the 1800s,


\textsuperscript{66} Mill (1843/2011): \textit{A System of Logic Ratiocinative and Inductive: Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation}.

\textsuperscript{67} Dilthey (1883): \textit{Einleitung in die Geisteswissenschaften: Versuch einer Grundlegung für das Studium der Gesellschaft und der Geschichte}, p. 7. As Gadamer points out in \textit{Wahrheit und Methode} (1972), the human sciences are thereby ‘far removed from (weit davon entfernt) merely feeling inferior to the natural sciences (sich lediglich den naturwissenschaften unterlegen zu fühlen). In spiritual imitation of the German classicism (Klassik), they rather developed a proud auto-esteem as being the true guardians of humanism (Sachwalter des Humanismus). (…) The concept of formation (Bildung) (…) was probably the greatest thought in the 1700s, and exactly this concept describes the element in which the science of the 1800s lives’ (Gadamer 1972: 6-7).
determined ‘the prose of reality’, pointing beyond the mere reproduction of this other reality.

The late 1800s. Throughout the 1800s, a number of faculties are distilled from and marked themselves in relation to the humanities and the human. Studia humanitatis is no longer situated as a pre-study or foundation of the other scientific areas. Rather, the humanities receive the status of a peculiar knowledge reserve that can be distinguished from, but also enter into a competitive relation or an exchange with other forms of knowledge.

Clefts, clashes and competition between cultures
The distance between a science that concerns itself with culture and one that concerns itself with nature – a science that attempts to understand and one that tries

to explain – can in time develop and expand until it appears as an unsurmountable cleft between two sharply divided cultures in the middle of the 1900s. From the middle of the 1800s, the contours likewise exhibit competition between two divided societies in terms of how one in the best and most valuable fashion justifies a ‘social hope’ and contributes to the development of human culture and human society: Does the preferred road to be taken lead through scientific cognition that attempts to understand and give the human being power over ‘the natural world’ and thereby also contribute to improved human living conditions? Or is the preferred road literature, art, as well as critical and cultural sciences that permit to understand and illuminate the human being’s modern conditions of life and responses to it?

It is a question of a difference and a competition that could develop into a fundamental schism and pave the way for mutual disrespect or even animosity. The difference between a science that concerns itself with culture and a social science can, as anticipated, in time likewise result in a mutually challenging competition as to what kind of science is more apt to account for both the conditions of everyday life and the foundations of society: Is it a precise social scientific measurement or the humanities’ scrutiny of the human, human sentiment, understanding and forms of expression? Is it an exposition of the social praxis or an examination of its meaning?

6. Scientific investigations of the human
As the description of ongoing differentiations of faculties and research areas imply, a countermovement has taken effect since the university was re-established as the

modern Humboldtian university with its focus on the human, and since the human sciences at the same time took on their modern, recognisable form.

In this countermovement, the centrality of the human – understood as an explicit theme – has been abandoned in favour of investing science of the human in an exploration and shift of areas or ‘positivities’ that immediately seem foreign, or at least not present, to the human mind but which can, nonetheless, assert themselves and make themselves felt through it as they assert a decisive influence upon and affect the ways human beings behave, perceive and think.⁷⁶ In the long run, it has become clear that such a centrifugal movement has probably broken with a conception of knowledge in which other conceptual contributions are fundamentally folded back on and illuminate an underlying basic humanity. This movement has distanced itself from and problematised the idea of a human who can occupy a self-evident and central position without thereby creating a distance to the human, since the human remains a decisive factor and a central area of investigation for the emerging positivities of science.⁷⁷

In continuation of the movement described above, the approaches within the aforementioned differentiations of the scientific faculties can also be folded back upon, and become applicable to, the human self. It is characteristic of the new scientific faculties, which appear and are established during the 1800s, that the human can be taken up and made a subject of investigation, but understood as part of a more widespread logic or connection that asserts itself through the human. The human can here be investigated insofar as it partakes in and is clarified as part of the investigation of the (more general) patterns or regularities of nature, life, and the social or the economic, among other things. Insofar as the human being is, for example, a biological creature or a *homo oeconomicus*, it can be examined and its behaviour be elucidated.

Precisely in virtue of the aforementioned main research areas having moved beyond the human mind in the narrow sense as it is illuminated by research pursued

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⁷⁷ For a description of a parallel development within the aesthetic field, see Raffnsoe (2020, forthcoming) *The Aesthetic Turn*. 
at the philosophical faculty, it has been possible to contribute with other and alternative ways of understanding the human and its position at large; and these at first alternative ways have subsequently gained increasing currency and recognition to such an extent that they have become prominent contributions. Such investigations of the human and its conditions, have at the same time gained recognition insofar as they have been able to contribute decisively to an improvement of human life and its conditions of life.

As an independent form of knowledge devoted to the study of privileged field of investigation, the humanities have thus been challenged internally in the academic world with the appearance of new foundational forms of knowledge which, at first, established themselves as they gained independence from the established knowledge at the faculty of philosophy, but which subsequently have continued to contribute with fundamentally alternative descriptions of the human. These alternative descriptions may even, at times, lay claim to a kind of objectivity that the humanities traditionally struggle to live up to. In a wider sense, as noted above, the humanities are likewise challenged by the demand to show their relevance in relation to their surroundings, including their relevance to related disciplines and the new human reality the latter establish.

Academic diversification as a shift in relation to the historical heritage of the human sciences

In hindsight, the humanities are thus granted a central role in the modern organisation of knowledge by the establishment of the modern university at the beginning of the 1800s. Initially, the humanities appear as the centre of the modern university insofar as this area is instigated as the location of independent research as well as the study and development of human spirit to such a degree that the humanities in these respects can serve as a model for other areas of research. In continuation of this development, the humanities and the faculty of philosophy also become, as already described, a hotbed for new and independent disciplines and new forms of research to proliferate. However, precisely due to this productivity and the resulting diversification of independent areas of research, it nonetheless becomes clear that the faculty of philosophy and the humanities cannot in the long
run be maintained as a gathering focal-point of a general realm of knowledge. In this broader realm of knowledge, the fundamental anthropocentrism is also contested; i.e., the positioning of the human being at the centre of the perceived universe, which formed the point of departure for the reorganisation of the university.

On the other hand, the possibility of other disciplines from the various differentiated main research areas to fold back on and contribute with competing mappings of the human and the human world arises. In this sense, the human being and the human can still preserve a decisive significance. Across the different areas of knowledge, the human being can preserve a central role as a cognising or knowledge-seeking being who drives forward the process of understanding in his own interest. At the same time, human beings and their modes of being can also, transversally, be made the object of investigation and analysis.

The human and its modes of being as a decisive addition and perpetual interstitial point
The conjuncture between disciplines opens up the possibility of recurrent discussions between the humanities and other scientific areas concerning how one can best understand and describe the character and status of the human. In any case, the human plays a consistent role as an entity of vital importance: as a modifiable interstitial being that is already being developed and whose aim is to contribute to the further understanding and development of itself.

From anthropocentric study of humankind to anthropological study of human modes of being
Even if the human kind here no longer plays the central role, whether thematised or not, as a unifying reference point to and in the known world, such as it appeared in Hume’s *Treatise of Human Nature*78 and later in Kant’s epistemology, critique and

logic,\textsuperscript{79} as well as in Humboldt’s university reform,\textsuperscript{80} the human and its modes of being still subsequently takes up a central position. Now, however, it asserts itself as a being who steps forward and is present in the world in different ways.\textsuperscript{81}

In the new conjuncture of knowledge, the human and its modes of being assume the role of a decisive addendum to a still-incomplete unfolding and labour in the world whose different aspects become crucial to examine and contribute towards for the different areas of knowledge.

The possibility of what is no longer an anthropocentric but an anthropological turn and role is already outlined towards the end of Kant’s authorship in his \textit{Anthropologie in pragmatischer Hinsicht}.\textsuperscript{82} While antique authors such as Aristotle use the term \textit{anthropologos} in a pejorative sense to determine the kind of speech that is mere ‘gossip’ or ‘folk talk’,\textsuperscript{83} the term ‘anthropology’ only much later begins to refer to an interesting scientific field of research. In connection with the natural and bio-scientific reformulation of medicine and the health sciences described above, the term comes to play a role for a medical science that strives to comprehend the transformations it undergoes.\textsuperscript{84} It does so by articulating the ‘doctrine’ or the different mappings of the human – beyond the hitherto metaphysical and ethical determinations – which emerge with the new bio-

\textsuperscript{83} Aristoteles (350 f.Kr./1994): \textit{Ethikon nikomacheion α}, 1125a5.
\textsuperscript{84} Luyendijk-Elshout (2004): ‘Medicine’.
physiological approaches. In this context, medical anthropology designates both the medical sciences’ contributions to knowledge about the human and the knowledge about the human that is necessary to those that practise the medical sciences. As such, anthropology can generally be understood as a doctrine of human nature that maps out the latter situated in its context.

Leading from this, a new anthropological-psychological field of knowledge opens up to a pragmatic investigation of the human being as it appears and is experienced in relation to something else. Such ‘anthropology’ (or ‘systematically drafted’ ‘teaching about our knowledge of the human’) already appears in Kant as a two-sided activity or connection. Whereas the skill of knowing ‘human physiology’ explores ‘what nature makes of man (was die Natur aus dem Menschen macht)’, the ‘pragmatic’ investigation examines what the human being ‘as a freely acting being does or can or should make of itself (aus sich selber macht, oder machen kann und soll)’. For both sides of anthropology, it is true that it is a question of an investigation and experience of the human as it appears and unfolds in relation to the surrounding world and the latter’s ‘geography’, and thereby in time and space, with all the difficulties and possibilities of investigation that that entails.

The opening of this field of knowledge implies that during the 1800s the human being is made into an object of continuous empirical and pragmatic study of how it comes into being and is shaped by and unfolds in different contexts. The initial demarcation in Kant and Herder of the fact that philosophy, to a greater or

88 Ibid., p. 399.
89 Ibid., pp. 399-402.
lesser extent, can and should be transformed into anthropology.\textsuperscript{91} is, from the latter part of the 1800s, sedimented and institutionalised with the constitution of two empirical disciplines of knowledge, namely anthropology and psychology.\textsuperscript{92} In these disciplines, one studies human forms of existence and manifestations not in isolation and independently from their extended contexts and connections of life but precisely in them, in order to examine the contributions of the human and its modes of being to the broader context.

From this intellectual universe, the human being appears as a – and in many ways the – decisive addition to the world. The human being becomes a decisive factor also to the wider context that is investigated (or, in the words of Kant, ‘the most important object in the world’).\textsuperscript{93} For the same reason, it hereby becomes decisive to examine the human as it appears and becomes in its context. Here, knowledge about the human appears neither first and foremost as a purpose in and of itself nor as the highest purpose but, rather, as a decisive labour and contribution to a greater connectivity that the human participates in, contributes to and at the same time significantly displaces.

In this sense, it is not just the sciences at the faculty of humanities that can lay claim to investigating the human being and contribute to its development. If by human sciences one understands those sciences that preoccupy themselves with the human being and contributes with knowledge that maps, changes and contributes to its improvement, then one must recognise that the scope of the human sciences far exceeds those sciences that are located at the faculty of humanities. Here, the humanities must make themselves relevant in competition and exchange with other faculties’ forms of knowledge to the extent that the latter productively contribute to our understanding of the human.


\textsuperscript{92} Wallerstein et al. (1996): *Open the Social Sciences*, pp. 21-28.

\textsuperscript{93} Kant (1798/1978b): *Anthropologie*, p. 399.
The human being of anthropology. The designation of the universally human no longer constitutes the obvious point of departure in the anthropological realm of knowledge. Instead, anthropology is increasingly turned towards and seeks knowledge about the human as it appears and ‘asserts itself’ in relation to the surrounding world – of and to which the former comprises a (or the) decisive addition.

Drawing by Hannah Hellmann.

The re-assertion of the virtues of the humanities within a new context

Within this context, it is consistently understood as crucial to contribute with knowledge of the human that is capable of establishing a pragmatic-practical point of view and shed light on what human beings both already are and what they can become; yet, here, it is also perceived as problematic if researchers withdraw and claim a special prerogative and a privileged access to the human and its modes of being, as they continue to occupy themselves with the peculiarly human and place it at the centre of the world.
Nonetheless, this is what central figures in the humanities chose to do at the time. As previously demonstrated, it has also been possible to observe such self-assertion that points to the exclusive particularity of the humanities among central figures within the humanities up to this day. This is strongly expressed in places such as Nussbaum’s emphasis on the fact that the arts, and among these literary studies in particular, have a very special task that marks them out, namely to train or cultivate humanity,\(^{94}\) to produce and imagine itself to the extent that a moral orientation, perception and awareness can provide a unifying orientation to our way of life.\(^ {95}\)

An effort to return to and re-actualise the inheritance of the humanities is noticeable both in the more limited emphasis on the humanities as a particularly privileged resort in relation to the surrounding society and in Nussbaum’s more insistent and active plaidoyer for a far-reaching significance for the humanities’ praxis. In an attempt to return to the virtues that one associates with \textit{artes liberales} and in order to reapply them to current conditions, a dream emerges of re-actualising the central and fundamental significance of a form of knowledge of human conditions that existed prior to the emergence of the modern university, \textit{studia humanitatis}, in the hope that it will become normative. At the same time, this takes place in modern conditions where such knowledge of the human is no longer subordinate to other and higher purposes but, rather, immediately appears as a noble, unifying goal in and of itself, such as was the case for the founding fathers of the modern university.

As a consequence, this kind of assertion of the humanities’ particular value within the disciplines of the human sciences in the broader sense becomes possible from the time when one determines the humanities as a ‘Geisteswissenschaft’ that distinguishes itself clearly in relation to other areas of knowledge by virtue of its particular subject matter, that is, the human, which has its particular existence, namely the human spiritual life, thus distinguishing it from the rest of reality.\(^ {96}\) At the same time, this kind of assertion of the humanities’ privileged access to the ‘more

\(^{94}\) Nussbaum (2003): \textit{Cultivating Humanity}.

\(^{95}\) Nussbaum (2010): \textit{Not for Profit: Why Democracy Needs the Humanities}.

\(^{96}\) Dilthey (1883): \textit{Einleitung in die Geisteswissenschaften}.
than human’ after the anthropological turn risks becoming a relatively impotent re-assertion of the pre-rogatives of the Geisteswissenschaften at a more recent historical stage where this is hardly possible any more.

In the wider conception of knowledge that has since come into being, such a claim is no longer perceived as being contemporaneous with multiple and manifold suggestions in the field that chart the human and contribute to its understanding. The recurring actualisation of the inheritance of the humanities is thereby perceived as an arrogant attempt to position itself by withdrawing to a special, centrally autonomous sphere or province, namely the human in itself – the distinctively or particularly human – and claim a privileged monopoly of knowledge precisely in conjunction with a number of other forms of knowledge that present themselves as human sciences and contribute to mapping of human beings and their modes of being.

A recurring re-actualisation thereby risks appearing as a nostalgic and powerless gesture since it immediately reaffirms a traditional humanism as an anthropocentrism on historical terms where such an understanding has already been left behind. Insofar as such an appeal often fails to resonate with others, the latter rather experiencing it as impotent megalomania, it can often reinforce the disappointment over the inability of others to recognise the necessity of seeking such a renaissance of the humanities97 and, thereby, result in resentment.

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IV. New overlaps and reciprocities between the faculties

The development of new transversal and interdisciplinary fields of knowledge in the period following the Second War

1. Knowledge resituated

This dated inability to renew the perceived role of the humanities becomes much more pronounced through the subsequent development of the forms of knowledge that, since the turn of the 20th century, have led to our time. In the first half of that century, one can see a reinforcement of the described development and division between the main research areas, resulting in the fact that different, mutually challenging forms of knowledge of the human become possible. During the period following the Second World War, a further expansion of the entire university system and the associated forms of knowledge takes place that is unprecedented, also in relation to the earlier dissemination of the Humboldt model. Not only does the number of students and staff increase tremendously in Europe and the Western world, but, at the same time, the resources for research increase and new universities are founded.

99 Ibid., pp. 33-70.
100 Rüegg (2011): A History of the University in Europe, vol. Iv, p. 14. Already at the beginning of the Second World War, the number of students at the universities in Europe had increased by 700% compared to 1840 (from 80,000 to 600,000), while the number of professors had increased by 500%
Knowledge leaving the ivory tower

While such an expansion makes continued specialisation possible, it also raises the question of the immediate relevance or value of the knowledge produced at the university to the world outside – in an economic or social sense – both inside and outside the disciplines of knowledge. In the Middle Ages, the expression ‘ivory tower’ is still used as a positive expression of an elevated, pure and protected location to which one could withdraw and grow in order to establish a new agenda for the surrounding world.\(^{101}\)

In his 1810 description of ‘the inner and outer organisation of higher scientific institutions’, Humboldt was still able to emphasise the isolated ‘loneliness and freedom (Einsamkeit und Freiheit)’ in ‘the spiritual human life (das geistige Leben der Menschen)’ around which the singular human or humans can gather, ‘free (losgemacht)’ from the surroundings and their demands and pressures, as the ‘founding principles (vorwaltenden Prinzipien)’ of science which the individual researchers have to share, dedicate themselves to and work towards.\(^{102}\) It is a question of a purely human space, which Humboldt himself expresses a longing to

\(^{101}\) The term is used based on the *Song of Solomon* 7:4: ‘Your neck is like an ivory tower. Your eyes are pools in Heshbon, by the gate of Bath-rabbim. Your nose is like a tower of Lebanon, which looks toward Damascus. Your head crowns you like Mount Carmel. Your hair is like royal tapestry; the king is held captive by its tresses’. In continuation of this, one can determine Virgin Mary as ‘the ivory tower’ since she had protected and nourished the saviour in her bosom in secluded purity from the rest of the world until he was able to go out into the world. See Bergmann (1964): ‘Der Elfenbeinerne Turm in der deutschen Literatur.’

return to in his request to be relieved from the position of head of the ‘educational and cultural department’.\footnote{Humboldt (1810/2010): ‘Entlassungsgesuch’ (Request for a Discharge).}

In the 1900s, however, the expression ‘ivory tower’ gained a predominantly pejorative connotation in relation to the reality it is applied to. The purity and chastity connected with an existence in a special, isolated human space centred around the search for scientific or artistic truth is no longer strongly associated with higher insight. Rather, it is associated with life in another world removed from the world, which can lead to naivety and stupidity exactly because it, in its specialisation, protects against and isolates itself from worldly concerns. The isolation of the ivory tower from the rest of society is no longer perceived as a positive location that can have a value in and of itself but is first and foremost understood as a distance to and an absence from that which surrounds it. This is something that the poet or the researcher must abandon or take leave from, such as the German student organisation emphatically proclaimed with the title of its annual meeting of 1960: ‘Abschied vom Eifenbeinturm’.\footnote{Cf. Kalischer (1960): Abschied vom Eifenbeinturm: Einheit der Bildungswiße. Bergmann (1964): ‘Der elfenbeinerne Turm in der deutschen Literatur’.

Knowledge as performativity

The above-mentioned shifts may be understood as a sign of how the conception of knowledge itself and our ideas of how knowledge gains importance and relevance overall is seen as being in the process of changing.\footnote{Cf. Lyotard (1979): La condition postmoderne: Rapport sur le savoir. Johnsen & Raffinsoe (2008): ‘Om viden, socialitet og immaterialitet’ (On knowledge, sociality and immateriality).} This occurs at the same time as the university system is growing immensely in size and the significance of the different forms of knowledge associated with it is on the rise. If the knowledge that was communicated at the university of the Middle Ages had a relatively direct applicability as a relevance of purpose to relatively specific professions, then the use of knowledge in the modern re-founded university is understood as fundamental, but now in a more indirect fashion. Hereby, research is institutionalised with relative
autonomy as a fundamental search for truth. This may immediately seem completely useless but can, at a second glance, show itself to be quite useful because it makes it possible to base the practice of different professions, as well as societal leadership and stewardship, on the truth and on how things actually and fundamentally are.\(^{106}\) Knowledge achieved in this relative autonomy thereby resembles an absolute value that subsequently may show itself as having a relative value through its relevance to the surroundings.

However, in the new forms of knowledge and the new context of knowledge that have subsequently been established, knowledge is increasingly perceived as something that gains support based on the extent to which it makes a difference and enables us to make a difference, as it appears in a new context and changes it. Knowledge is increasingly understood and evaluated as a know-how\(^ {107}\) and as something that is produced and shows what it is as it is being applied in a given context.\(^ {108}\) It is increasingly understood and gains recognition and support as information that can enable us to do or produce something new.\(^ {109}\) Knowledge is thereby also gradually conceived of as a relative value that gains importance in virtue of the difference it makes to the surroundings. As information, knowledge is ascribed value as knowledge for something rather than simply as knowledge of something. An example of knowledge understood as a supplement to the world, which first and foremost allows something to be done, is the simulation of dynamic, complex and open systems of molecular biology, which combines heterogeneous

\(^{106}\) For a further development of the notion of relative autonomy that takes its point of departure in the field of aesthetics, see Raffnsøe (2020, forthcoming): *The Aesthetic Turn.*

\(^{107}\) Johnsen & Raffnsøe (2008): ‘Om viden, socialitet og immaterialitet’.


elements in order to be able to foresee future vital conditions. Big data is also a striking example of knowledge that, above all, appears to be informative.

In extension, one can also detect a tendency of decreasing patience from the scientific community and the surroundings alike in relation to the autonomous quest for knowledge. Even where a scientific search for the truth is respected as being valuable in and of itself, generally a more or less immediate relevance or applicability is expected in a societal or economic context, such as also a consciousness of the performative aspects of science is expected of the one who seeks the truth. The exploration of what the cognising subject does with what he or she does, both in relation to the object of investigation and in relation to the context from which he or she departs and into which he or she speaks, is increasingly understood as a part of the process of research. For the same reason, reflections on the ethical aspects of the research process or its consequences are likewise expected to be an active part of the research process. The increased demand for relevance cannot, therefore, be reduced to a question of a narrow instrumentalisation of the sciences; rather, it may in certain respects also be interpreted as the expression of a heightened focus on the social context and self-understanding of the sciences. This too indicates that the knowledge-society, and especially the humanities, find themselves in a critical phase of transition.

2. **New, transversally situated forms of science**

In a context where research-based knowledge has gained increasing importance while the conception of knowledge and its role has been reconfigured as information, the entire configuration of knowledge is likewise fundamentally changed. This change involves both the relationship between faculties and the individual disciplines.

While the period from the founding of the modern university is initially characterised by a continuous differentiation of forms of knowledge that are subsequently sedimented as disciplines belonging to relatively sharply divided

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faculties, the development after 1945 may be said to move in the opposite direction.\textsuperscript{111} Whereas the number of names of disciplines within, for example, the social sciences was significantly reduced in the period from 1850 to 1945 and amounted to a relatively short list of established disciplines – first and foremost, economy, political science, politology, sociology and, in some cases, psychology and anthropology as well as law – new names constantly appear in the period following the Second World War of disciplines that find new institutional bases in the shape of new institutes and new programmes.\textsuperscript{112}

The emergence of area studies

This movement is already felt with the emergence of various area studies in the late 1930s.\textsuperscript{113} Seeking to provide a coherent and diverse knowledge of specific, often alien geographical areas, such studies draw on approaches from different, specialised disciplines in order to shed light on a given field. From the 1950s onwards, such studies gain an increased prevalence and institutionalisation, also in continuation of financial support from both states and private funds, until finally they are not just a Western but a global phenomenon. These area studies can also be seen as an example of a more far-reaching trend towards research based on investigation or being problem-oriented rather than research driven by a discipline. This kind of research often connects science relatively directly to technology and industry; to political, economic and social agendas.

Such actively problem-orientated research becomes particularly evident in the Manhattan Project, directed towards the development of the nuclear bomb, and in the American and Russian space programmes.\textsuperscript{114} In a comment to this kind of development, Michael Serres remarks how the explosion of the nuclear bomb in Hiroshima ‘in one blow detonated’ a whole new set of ‘problems concerning the


\textsuperscript{112} Ibid., p. 48.


\textsuperscript{114} Klein (1990): Interdisciplinarity: History, Theory, and Practice, p. 34.
relationship between science, technology, research, society, politics, violence, morality and even religion'; problems that ‘were so global that they announced a new period and called for a new vision of the world (une vision neuve)’. With the nuclear bomb and big science as a prerequisite for this and other technological advances, scientific research began to appear as ‘a power of worldwide dimensions’.\textsuperscript{115} Since the 1970s, such large-scale problem-oriented and technological research collaborations have also directed themselves towards social problems.\textsuperscript{116}

**Triple-helix-relations between academia-industry-governmental institutions**

Furthermore, ‘triple-helix-relations’ like these between ‘academia-industry-governmental institutions’\textsuperscript{117} not only bear witness to new relationships between the disciplines and the faculties but also to a new and more directly relevant relationship between research and the surrounding world, as indicated above. The close relations between academia, industry and government give rise to the idea that they affect each other to such an extent that they engage in a mutually reinforcing trilateral spiral or thread that brings them all to another level.\textsuperscript{118} From the second half of the 20th century, such relations have ‘questioned the traditional ‘ivory tower role’ of the universities’, having ascribed to them instead a central role in the new web of connections that arises between the different research areas and between research and practise.\textsuperscript{119}

\begin{itemize}
\item\textsuperscript{115} Serres (1994): ‘Nous entrons dans une période où la morale devient objective’, p. 37.
\item\textsuperscript{116} Klein (1990): *Interdisciplinarity: History, Theory, and Practice*
\item\textsuperscript{117} Etzkowitz & Leydesdorff (2001): *Universities and the Global Knowledge Economy: A Triple Helix of University-Industry-Government Relations*, p. 3.
\end{itemize}
The emergence of a situated, transversal human science: cultural studies

While a human turn thus takes place in relation to the tasks and problems with which the sciences are broadly faced with by the society around them, new interdisciplinary areas likewise arise within the humanities themselves.

As a critical development of, and addition to, disciplines and institutes within the primarily human sciences, the field cultural studies springs forth from the beginning of the 1960s; first, primarily in an English context, to later gain global dissemination and become institutionalised in a number of different contexts. From the outset, these studies and approaches constitute themselves in programmatic opposition to the limitations and narrow-mindedness of existing disciplines.

This is already indicated when the director Richard Hoggart, in his inaugural address ‘Schools of English and Contemporary Society’ for the opening of the Centre for Contemporary Cultural Studies in Birmingham, delivers an outline of what he ‘provisionally’ determines ‘Literature and Contemporary Cultural Studies’. ‘Literature and contemporary cultural studies’ is here understood as a research area that ‘has something in common with several existing approaches’ but ‘is not identical with any of them’. It distinguishes itself by moving ‘beyond the relatively closed areas’ which the common ‘schools of English’ usually remain within, in that it ‘engages critically in the surrounding world’.

In so doing, cultural studies involves both historical and philosophical as well as ‘literary-sociological’ work. Similarly, another founding figure, Stuart Hall, retrospectively affirms how it is a matter of a ‘becoming’ that springs from what supporters understand as a deep-seated ‘crisis’ in the humanities, which is not limited to individual disciplines but more generally challenges the disciplines at the

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123 Hall (1990): ‘The emergence of cultural studies and the crisis of the humanities’, p. 11.
faculty of humanities. It seemed inevitable to create a distance to ‘the still existing traditions of the humanities’, namely the obligation to cherish and uphold a handed-down conception of a common humanity and provide for its cultivation, including times when it seemed threatened; and in close connection to this, it seemed necessary to dissociate oneself from and to ‘de-mask’ the self-understanding of the humanities as a ‘disinterested knowledge’ about the particularly human.

In this case, the intention is not to plead for the alternative advantages of the natural sciences, such as occurs in the conflict between two cultures of knowledge. Nor is the intention to submerge into the disciplines at the faculty of social sciences. Just as it is a question of ‘fending off the defenders of the humanities tradition’, the endeavour here is ‘fending off what sociologists regarded sociology to be’ in order to penetrate and disrupt sociology. All of this is done to make it possible to examine and conceive contemporary culture – and especially the decisive displacements of contemporary mass-culture that break with the ‘high culture’ inherited from the past – as ‘a general reaction to the general and major change in the condition of our common life’ and thereby to ‘identify and articulate the relations between culture and society’.

When, in 1979, Dick Hebdige for example examines contemporaneous, marginal groups such as teddyboys, mods and rockers, skinheads and punks in *Subculture: The Meaning of Style*, he thereby analyses a conditioned and situated

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124 Ibid., p. 15.
125 Ibid, p. 15.
127 Hall (1990): ‘The emergence of cultural studies and the crisis of the humanities’, p. 16.
129 Nelson et al. (1992): ‘Cultural Studies: An Introduction’, p. 4. Accordingly, Grossberg is able to determine cultural studies in *Cultural Studies in the Future Tense* (2010) as being ‘concerned with describing and intervening in the ways cultural practices are produced within, inserted into, and operate in the everyday life of human beings and social formations, so as to produce, struggle against, and perhaps transform the existing structures of power’, p. 8
humanity and its efforts to make sense of its current conditions. Hebdige demonstrates how such subcultures can constitute themselves in opposition to the ruling conceptions of the human through a subversive utilisation of style in order to deny, all at once, that which rules and thereby establish an alternative and distinct form of self-expression; an expression of both powerlessness and an alternative form of power.

This new field, thus, expresses what one of the founders, Stuart Hall, determines ‘the ‘dirtiness’ of the semiotic game’ and a ‘worldliness’ in the scientific; something that perhaps, upon closer examination, turns out to characterise the humanities, but which cultural studies explicitly appropriate and relate to as an opportunity for knowledge.¹³⁰

This stands in opposition to a number of traditional scientific disciplines and in pointed opposition to the traditional humanities. The fact that cultural studies thereby distances itself from ‘the clear air of meaning and textuality and theory’ while turning towards ‘something nasty below¹³¹ means that this field of knowledge from the outset considers itself, and science more generally, not as a theory about something but as a situated activity that takes its point of departure in and becomes possible by way of a certain conjuncture. In the same way, this field’s perspective contributes to a theoretical practice that intervenes and asserts itself in a wider political practice, which it staggers the prevalent understanding of and tries to change.¹³²

In extension of this form of affirmed situatedness, proponents of cultural studies also understand themselves as contributing to a post-disciplinary scientific activity. It is not only possible to determine cultural studies as an ‘interdisciplinary, transdisciplinary’ field in that these studies draw on approaches of already existing disciplines, it is also a question of a ‘sometimes counter-disciplinary field’.¹³³ Cultural studies appropriates different parts of already existing disciplines, precisely with the intention of letting them participate in a scientific practice that is ‘pragmatic,


¹³¹ Ibid.


strategic and self-reflective’, also with regard to its methodology, limitations, exclusions and effects. As a result, there is also no interdisciplinarity that comes about through ‘through a kind of coalition of colleagues from different departments, each of whom brings his or her own specialisation to a kind academic smorgasbord from which students can sample each of these riches in turn’. Instead, it is a matter of interdisciplinary work that indicates what the incoming disciplines should become in order to contribute to the new field under construction and development.

4. Inter- and transdisciplinarity

The development of the field of knowledge from the latter half of the 20th century is, thereby, no longer to be understood as an increase in differentiations of separate, closed and autonomous systems that continuously define themselves in opposition to others, such as was the case with the changes of the previous 150 years. The well-defined boundaries or divisions are challenged, rather, not only between the individual disciplines but also between faculties. New areas and fields of study arise as researchers in already existing disciplines, with a point of departure in the tremendous expansion of knowledge, live up to perceptions of relevance as they penetrate the adjacent areas and disciplines and demonstrate the significance of their own approaches, including to those disciplines. At the same time, entirely new areas arise that place themselves between and across the hitherto existing divisions between disciplines and faculties.

Together, the appearance of new forms of knowledge demonstrates the explosiveness of science; not only as an ability to break with the existing organisation of the knowledge-field but also as an ability to influence and radically rethink the surrounding world more generally. At the same time, the traditional divisions between disciplines and faculties are challenged. Such a volatile state of

\[\text{134} \text{ Ibid, p. 2.}\]
\[\text{135} \text{ Hall (1990): ‘The Emergence of Cultural Studies and the Crisis of the Humanities’, p. 16.}\]
affairs concerning the boundaries between the traditional faculties of the university also becomes manifest in the different discussions concerning what faculty the different subjects actually belong to, such as psychology, philosophy, anthropology and ethnology. This undecidedness is also reflected in the more or less radical reorganisations of faculties, institutes and subject areas as well as in the boundaries between them. Finally, the new forms of knowledge indicate a close and reciprocal relationship between knowledge and its surroundings. Research appears, on the one hand, as a situated activity whose knowledge becomes and shows its character in its applicability, while, on the other hand, the knowledge that research produces has a transgressive character which appears in its ability to penetrate and change the surroundings.  

5. Post-disciplinarity

Throughout the past 50 years, such tendencies have been reinforced. The shift may be found in the appearance of scientific disciplines or modalities that are openly understood as trans- or post-disciplinary. Herein, researchers often motivate the shift beyond traditional university disciplines by referring to the transboundary nature of the field that is being examined or to the productivity of new forms of knowledge production.  

Such post-disciplinary disciplines, which often move across the established faculties, are numerous. Among the disciplines and studies that have become institutionalized are: feminist, gender and queer studies, cultural- and language-encounter studies, minority studies, post-colonial studies, ANT and STS studies, socio- and data linguistics, textile research, technology history, digital aesthetics and culture, cognitive neuroscience, health studies and health strategies.  

The change does not imply that hitherto established boundaries are annulled within the new themes and post-disciplinary disciplines. On the contrary, these

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boundaries participate in and are applied to new contexts while they, at the same time, change status and character.

The boundaries between subjects within the new themes and disciplines become like zones where collisions are felt but become fruitful differences rather than having the status of a framework that creates gulfs between, or amounts to unsurpassable distances between different or distinct subjects or faculties. It becomes possible to establish new connecting lines and to make new perceptive discoveries precisely precisely where what is immediately separated collides. Here it becomes possible to establish new relationships. Within the new post-disciplinary contexts, the boundaries between professions, including the boundaries between the human and the non-human, become like thresholds that must be overcome and transitions that must be set into motion in order to establish a new, independent relation between that which immediately seems separated. The differences begin to emerge as matters of concern that must be investigated, dealt with and balanced out in the right way in order to facilitate new forms of knowledge.

With the new types and vast variations of research interests and areas, and in the clashes between them, different forms of ‘hybridisations’ often arise. Common offspring are created between that which at first sight appear to have separate genealogies. These hybridisations can transcend and connect the boundaries between nature and culture, nature and society, science/technology and society or between ‘the exact sciences versus politics versus society’; or humans and animals, human and machine, organism and machine, the social

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143 Deleuze & Guattari (1980): *Mille plateaux*.


and material, subject and object, living and dead nature, virtuality/artefact and nature or between ‘the natural versus the artificial in the human and its environment’.

As is clear, these hybrids quite often transgress the boundaries between what we immediately perceive between the human and the non-human. Consequently, the contestation of such dichotomies also shifts around central ideas and definitions based on these divisions. This could include, for example, the idea of a human nature and its character or the definition of ‘culture as the system for mediating the nature that humanity has created.’

In extension of this, some researchers have begun to investigate the post-human and underline the necessity of establishing a cyborg theory in order to examine such things as the human, man and woman, individuality and self, and race and body as a way to develop a science of the otherness that appears in the gap between immediate contradictions; among these, especially ‘the new’ that appears in the encounter between the human organism and technologies that open the possibility of entirely new forms of cognition and sociality. The challenge and encouragement to think about the human that comes from the new ‘disciplines’ is, as such, a challenge of disciplinary, professional, focus-orientated, societal and task related changes in relation to both the external knowledge and the internal organisation of the sciences. In all of this, the scrutiny of the human is undergoing

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154 Ibid., pp. 149-81.
rapid changes; both as a point of conflict and as a common task between the traditional faculties, and between the sciences and society.
IV. The current turn

It may be an obvious move to turn towards the meta-discipline of science studies if, by taking a point of departure in the latest contemporary shifts, one wants to gain a comprehensive overview of the aforementioned development of the historical landscape of knowledge with particular attention to the position of the human and the human sciences within it.\textsuperscript{155}

Here one finds precisely such a scientific study of the sciences, their development and results in a broad sense. This is a field that does not first and foremost seek to determine what science is or should be but instead seeks to be a decisive empirical investigation of how scientific cognition actually works, becomes and functions.\textsuperscript{156} However, it usually does so with the particular aim of developing the constitutional conditions of science within a broader context. In such investigations of the actual genesis of scientific knowledge, as well as shifts within and constitutional conditions of individual disciplines,\textsuperscript{157} a certain sense is often demonstrated in terms of their place within a wider scientific and social context of knowledge and in terms of the wider scientific consequences of such investigations. Furthermore, the constitutional conditions, challenges and consequences of its own investigations are often discussed.

In science studies, one may find, then, a general and fundamental discussion of the latest decisive scientific developments and their consequences, coupled with an examination of the view and the (re)understanding of the collected scientific developments of the past 200-300 years.

\textsuperscript{155} Biagioli (1999): *The Science Studies Reader*.

\textsuperscript{156} Bernays (2011): *Crystallizing Public Opinion*, p. xii.

1. *A problematisation of the division and polarity between faculties*

Through a central character within science studies, namely Bruno Latour, one finds precisely such a striving not only to grasp the latest scientific developments within science studies but also to understand scientific developments on a much more general level. In order to be able to understand these things more fully, it nonetheless proves necessary for Latour to fundamentally rethink the more extended development of the sciences and the fundamental conditions that have led to the present time. Only in this manner is it really possible to understand the current scientific conjuncture. This must be thought alongside the development of the realm of modern knowledge, which has taken place with the foundation of the modern university and its organisation of knowledge, as described above.

This becomes evident when Latour, in his book *Enquête sur les modes d’existence (An Inquiry into Modes of Existence)* from 2012, confirms with satisfaction in a review of recent developments how science studies has, since the latter half of the 1970s and the beginning of the 1980s, been capable of providing significant contributions to studies of the nature, achievements and ‘objectivity’ of scientific knowledge within a wide range of disciplines across the different faculties.¹⁵⁸ Here, it is possible for Latour to determine how science studies have proved themselves capable of this, exactly by way of moving not only across disciplines but also across the divisions of different scientific areas. Finally, he is able to indicate how science studies is constantly in danger of losing its ability to shed light on how scientific objectivity comes to be and becomes binding, insofar as one mistakenly begins to take for granted the divisions between faculties and their respective approaches and ontologies.

Social science studies has been able to study not only the scientific practice but also the content and implications of its knowledge in a much more detailed and clarifying way than the traditional theory of science. It has done so by involving sociologists, anthropologists, philosophers, economists, literary scholars, ethnomethodologists and cultural historians, thus applying approaches that have

traditionally been ascribed to the social sciences but also to some extent to the human sciences.\cite{159}

Latour also indicates the necessity of radically moving across disciplines and the challenges involved in this when he, as early as the beginning of the 1990s in the article ‘One more turn after the social turn’, scrutinises the development of the field since the 1970s.\cite{160}

Yet, at the time of Latour’s \textit{compte rendu}, science studies seems to be on its way to ‘stagnation’ and ending up ‘at a dead end’.\cite{161} This is due to ‘falling into a trap we have built for ourselves’. Such studies end up getting themselves caught this way insofar as they understand themselves as a ‘sociology of scientific knowledge’ or as social studies so that they end up explaining the content of scientific knowledge with a point of departure in social relations. This is what one of the researchers who partook in drawing up the field, David Bloor, tended to do with his \textit{Knowledge and Social Imagery} and his ‘strong programme’, according to Latour.\cite{162} If one thereby merely ‘adds society to science’,\cite{163} one ends up ‘expecting’ ‘society to explain nature’\cite{164}.

To the extent that \textit{science studies} at this intermediate stage can be understood only as \textit{social studies of science} in the sense of applying the social and human sciences to the study and understanding of science or the practice of the natural sciences and its knowledge, Latour, in an internecine battle within the studies he had himself

\begin{itemize}
  \item \cite{160} Latour (1999): ‘One More Turn after the Social Turn’. The first version of this article is from 1992. However, I am here referring to the elaborated version published in 1999.
  \item \cite{161} Ibid., pp. 276, 278.
  \item \cite{162} Bloor (1976): \textit{Knowledge and social imagery}. Latour (1999): ‘One More Turn after the Social Turn’, pp. 280.
  \item \cite{163} Latour (1999): ‘One More Turn after the Social Turn’, pp. 277.
  \item \cite{164} Ibid, p. 280.
\end{itemize}
contributed to, can say with Marcus Antonius from Shakespeare’s drama *Julius Caesar* that he has come to bury such studies, not to praise them.\textsuperscript{165}

In order to avoid the deadlock and maintain a productive moment, it seems pressing, according to Latour, to take another turn in science studies after what in an immediate and superficial glance would seem to be a social turn.\textsuperscript{166} If science studies are to remain interesting, its contributors and others must be brought to understand that a much more fundamental reorientation is at play than a central turn towards and inclusion of social elements for the understanding of science. As in the case of Marcus Antonius, it turns out that Latour is not merely providing a funeral oration – in this case for science studies –; Latour is just as much concerned with the attempt to revitalise science studies as he seeks to show how their discoveries, when followed through, have radical consequences for a wider context.

The fundamental problem in simply transgressing the traditional scientific divisions in a narrow sense, as is the case in the social turn, is that one merely looks beyond the original research area in order to collect resources to explain what takes place inside, outside or beyond the area itself. As such, it becomes an externalistic and asymmetrical explanation that ends up reducing one core area of research to another in order to find its truth there.

For Latour, however, such an explanation is challenged by circumstances he had already pointed to in his monumental work *Pasteur: guerre et paix des microbes*,\textsuperscript{167} first published in 1984. In this work, he shows how Pasteur’s microbes, as he had studied them, ‘are obviously discovered or constructed out of natural and material actants that lie outside the control of our human wishes’\textsuperscript{168}.

A similar problem arises if one, in order to avoid focus on the human and social field and the relativity that such focus seems to opens up to, lays claim to the primacy of the opposite field. This can be done by justifying the truth of scientific knowledge in reference to the object of knowledge or nature. To this kind of approach, Pasteur’s microbes appear primarily as natural, ‘timeless objects’ whose

\textsuperscript{165} Ibid., p. 276.
\textsuperscript{166} Ibid., p. 288.
\textsuperscript{167} Latour (2001): *Pasteur: Guerre et paix des microbes; suivi de Irréductions*.
activity is determined by forces of nature. At the same time, however, it turns out not to be so simple to determine whether Pasteur’s microbes are living, chemical, physical or social entities.

Both explanatory models share the problem that they remain asymmetrical insofar as they implicitly or explicitly presuppose and respect a fundamental dichotomy between nature and society. This division means that everything that appears must basically be understood as a result of one of the poles in this tension or as constituted in a mediation between them. Whatever is the case must be explained as a result either of natural conditions or social and human conditions, of nature or culture; or it must be understood as a meeting point, as having come to be as a result of a cooperation or a distribution between these separate, autonomously fundamental factors. As clear and distinct, in themselves pure entities belonging to separate realms, these factors can, at most, partake in a relation of exchange with one another without being fundamentally confused. Such polarity between nature and society, the known and the knowing, the immediate and mediation remains constitutive in debates between social constructivists (or social realists), who, to varying degrees, claim the primacy of the human contribution, and natural realists, who, to varying degrees, claim a predominant significance of the non-humanly-affected object. The polarity also leads to a fundamental tug-of-war between such positions since they agree to jointly establish a polemic, moving back and forth in one and the same dimension – the polarity between nature and human society – in order to argue which is the right position on this axis.

The axis between nature and society/culture therefore finally becomes the fundamental measurement that can be applied when one has to explain or

169 Ibid., p. 284.
170 Ibid., p. 286.
171 Collin (2003): Konstruktivism. Often, the tension between nature and human society is overlapping with and over-determined by yet another polarity, namely the polarity between necessity and contingency, so that it becomes a question of the polarity between necessities of nature and contingent human conditions.
understand what is going on. Insofar as this is the case, any mapping of the field of knowledge becomes fundamentally one-dimensional.

If science studies is to emerge from this tug-of-war or stalemate, it is necessary to abandon this division between ‘two fundamentally ontologically different zones’, even if it has been constitutive to the modern understanding of knowledge and its organisation.

2. A problematisation of the modern division between the humane and the inhumane

As long as one takes a point of departure in and returns to the dichotomy and polarity between nature and society in this kind of understanding, one respects and affirms what Latour determines the ‘modern constitution of truth’ in his article ‘Postmodern? No, simply amodern! Steps towards an anthropology of science’. This constitution of truth stipulates, namely, that one kind of truth applies in the representation of things, while another kind of truth applies in the representation and mediation of the human. By way of this division, it is also a ‘constitution’ ‘that defines human and non-human forms of existence (les humains et les non-

175 In the same article, Latour provides the following formulation: that such a constitution of ‘our modern world’ comes to be through this kind of division: ‘a world in which the representation of things through the medium of the laboratory is forever severed from the representation of the citizens through the medium of the social contract’ (ibid., p. 155; italics in original). In the article ‘One More Turn after the Social Turn’, Latour indicates that ‘modern’ and ‘Modernity’ is characterized by ‘the complete separation of the representation of things - science and technology - from the representation of humans - politics and justice’ (p. 288; italics in original). In the same context, Latour also points out that ‘the common origin’ in such division ‘remains hidden’.
humains), their abilities, their relations, their competencies and their groupings’, as Latour points out in *Nous n'avons jamais été modernes (We Have Never Been Modern).*

According to Latour, the outline of such a frame of reference is tentatively drawn up from the beginning of early modern times (from the 1600s). A constitutive formulation is achieved with the radically critical distinction between ‘the things in themselves on the one side’ and ‘the transcendental ego on the other’ in Kant’s philosophy, which ‘has made us modern, more modern’. At the centre of such organisation, one pole has ‘dominating authority’ insofar as it is here that ‘the phenomena were formed’ so that they may appear as binding knowledge. This is a deeply asymmetrical universe insofar as the things in themselves are ‘left to their own devices’, ‘without initiative’ and revolve ‘passively shaped’ around the foundational sun; ‘the subject-pole’. Their ‘sole task is to guarantee the transcendental non-human character of our knowledge in order to avoid the terrible consequences of idealism’. It is, therefore, also a question of an ‘anthropocentric enterprise’ that subsequently may amount to a ‘sociocentric or logocentric’ one.

As outlined above, this modern cleft between the human and the non-human was not just fundamentally outlined as a general rule with Kant’s transcendental philosophy and its distinction between subject and object, between the things in themselves and the transcendental ego; it also established a significant yardstick for the subsequent conception and establishment of the total field of knowledge, and it was thoroughly institutionalised with the modern organisation of knowledge that was established with the founding of the modern Humboldtian university.

In this reassembly of the realm of knowledge, the human was granted, sometimes explicitly and sometimes implicitly, a central position as a connecting centre insofar as the human did not only appear as the authority capable of

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176 Latour (1997): *Nous n'avons jamais été modernes*, p. 26. ‘The hypothesis is’ ‘that the word ‘modern’ refers to two forms of practice (ensembles de pratiques) which are fundamentally different and must remain separate if they are to have any effect’ (ibid., p. 20).


179 Ibid.
conducting science and being the highest authority of what could be determined as science but also became the entity that science had to serve. Thereby, the study and cultivation of human spirit was awarded a central and mediating role in the organisation of knowledge, such as it could occur at the faculty of humanities.

The demarcation of such a central and particular position of the human was thematised in letters (literature and erudition) and was subsequently cemented by the establishment of science in the shape of the natural as well as life and health sciences. Henceforth, the division was instated as a fundamental separation between two branches of science or scientific faculties that each to their own focused on and represented these two areas of reality. The conception was later repeated and, as such, confirmed by the emergence of the school of social science. With this school, a mapping of the human world becomes possible that converts it into an object of investigation and represents it as a binding state of affairs.

3. A turn beyond the dichotomy of the human and the inhuman

In order for the ‘empirical science studies’ to become a real possibility, according to Latour, another turn beyond the social turn and the division between the natural world and the human world is, nonetheless, needed and necessary. This is, at the same time, a turn beyond the division that has constituted the cleft between the sciences of the factual and the sciences of the particularly human.

For Latour, such division between the human and the non-human is problematic if one wants to shed light on the production, justification and recognition of scientific knowledge. It is reductive because it leads to explaining everything that is going on based on two underlying, elementary bodies. It is one-dimensional in that such an ontology forces the localisation of everything into a crude ‘graph’ with only one axis, namely the bipolarity between nature and human society. It is also unproductive insofar as it leads to recurring futile discussions about whether and to what extent that which presents itself is the result of one thing or the other. The process and outcome of scientific cognition cannot productively be

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180 Ibid., pp. 276-289.
described and explained as half nature and half sociality/culture. On closer inspection, the social turn thus only indicates the necessity of a more extensive and fundamental revolution. This involves a departure from the critical division between nature and human society. Formerly, the division between facts and opinions, between the given and convention seemed a productive way to distinguish between knowledge and belief, and a way to reveal prejudices and illusions.\textsuperscript{181} Now, however, the dichotomy itself has become a fundamental dogma, in the eyes of Latour, that stands in the way of an adequate understanding of what takes place in scientific cognition and science studies.

Rather than considering nature and society as two different species of ontological, logically contrary or mutually exclusive types on one and the same horizontal axis, the axis must be turned 90 degrees so that it becomes possible to add a new form of measurement that allows a vertical differentiation in relation to the previous axis and, thereby, an alternative mapping of both.

Such a shift entails what Latour calls ‘a counter-Copernican revolution’\textsuperscript{182} in relation to the turn that Kant had previously suggested. Such a fundamentally Kantian ‘change of thought’\textsuperscript{183} had installed a sharp ontological distinction between the two poles, nature and human society, while it had, at the same time, defined them in their separation from and relation to each other. The subject-pole of cognition guarantees, in this context, that our knowledge is fundamentally humanmade, while the object-pole guarantees that cognition and the realm of our knowledge is not just humanmade and subjective.\textsuperscript{184} In order for this to be possible, it seems important to keep these two poles apart at each their end of the spectrum. In that case, knowledge can appear as a binding ‘fact’ insofar as it is fabricated without, however, being fabricated, and thereby distorted, by someone.


\textsuperscript{182} Latour (1999): ‘One More Turn after the Social Turn’, p. 282.

\textsuperscript{183} Kant (1781/1976a): \textit{Kritik der reinen Vernunft I}, pp. 11-13 (Vorrede AA III).

At the same time, the Kantian turn implies that the human subject-pole is basically instated as the decisive pole on the axis.\textsuperscript{185} The human being takes up the position of the sun in this universe as it becomes the entity from which light emanates and around which all else revolves; as the decisive place where phenomena first appear and bindingly take form. With the Kantian turn, a fundamentally asymmetrical universe is thus instated. In this context, the different discussions of perception and cognition repeatedly took their point of departure in perception understood as human perception.\textsuperscript{186}

Latour’s counter-Kantian turn, however, seeks to displace the yardstick by 90 degrees in relation to both the Kantian turn and the later prolongation of it within early science studies. In this displacement, nature and humanity no longer appear as two fundamentally different ontological entities that must serve as the point of departure when one wants to explain and expound empirical knowledge. With this 90-degree turn, nature and humanity begin to appear as constituted entities, rather than transcendent or transcendental entities. Instead of being two causative and justifying bodies of empirical knowledge, they become, through the movement of cognition, a result of it. They first appear as two different aspects of the joint practice of cognition that is investigated in science studies. By avoiding to consider nature and humanity as given entities that collide and superpose each other, it is thus possible to consider them at a more fundamental constitutive level as ‘two stable tectonic plates’ that are formed when the ‘hot, molten magma that erupts through the gaps between them’ cools down.\textsuperscript{187}

Whereas the origin in the modern constitution of knowledge was placed asymmetrically to an endpoint or a pole on the horizontal axis between the human and the inhuman, the starting point of measurement is displaced 90 degrees with Latour’s counter-Copernican turn towards a transversal axis in the origin between

\textsuperscript{185} Ibid., pp. 280.

\textsuperscript{186} It could, therefore, also be argued that the basic modern constitution establishes a fundamentally symmetrical polarity on the axis nature-human. Granted that it is a question of a fundamental division of the two, it simultaneously forces a fundamentally asymmetrical positioning of one or the other pole, \textit{in casu} for the human.

\textsuperscript{187} Latour (1999): ‘One More Turn after the Social Turn’, p. 284.
the two poles on the horizontal axis that indicates the joint symmetrical origin of the first axis and its division. Latour underlines that one hereby neither overcomes ‘the nonhuman origin of knowledge’ nor ‘its human origin’. The endeavour is, rather, to put an end to the modern dogma of ‘the complete separation between the two’, precisely in order to grasp the concomitant human and nonhuman origin of knowledge.

According to Latour, ‘this new generalised principle of symmetry’ is ‘the most important philosophical discovery’ that has been made by science studies. The principle of symmetry indicates that science cannot productively be understood as a meeting-point between transcendent entities, such as the human and the nonhuman. Instead, scientific knowledge and the scientific disciplines must be understood as a place where bodies that transcend what is merely a human creation and transcend that which the human being has dominion over emerge and become binding.

In continuation of this turn, it becomes problematic, according to Latour, to understand scientific objects, the constitution of which science studies examine, as hybrids. As they appear in Latour’s studies, Pasteur’s microbes are not half object, half subject or the result of a cross between human and nature. Rather, he chooses with Michel Serres to determine them as quasi-objects. They are not only timeless entities that awaited discovery by Pasteur; nor are they simply the result of a political manifestation of power in the laboratory; just as they also cannot be understood merely as a mixture between pure social elements and natural conditions. They are, rather, entities in the world that are not simply passive objects but actively form a part of and constitute a connecting link in a conversion they contribute to without having control over. Instead of history appearing as a ‘zero-sum game’ that must be explained by reference to two ingredients – nature and humanity – it becomes a plus-sum game. History becomes like an ‘experimental scene that produces and

188 Ibid., p. 282.
189 Ibid.
190 Ibid.
shapes new actants’ who are neither ‘simply things’ nor ‘human actors’,” and who add themselves to the series of things that constitute the world. Rather than ‘a science of necessary laws’ and ‘a history of contingent human events’, ‘a common history of society and things’ appears.  

4. Scientific humanities

After the counter-Kantian revolution, it becomes possible to perceive and recognise how we, in our practical creation of knowledge and our relation to knowledge in general, ‘have never been modern’, if this implies having lived up to, respected and realised this kind of fundamental constitution.

With this kind of turn, science studies maintain that the critical separation between what is real in itself and what is human, between facts and values, in the long run was not sufficiently critical; neither was it sufficiently realistic, empirical or scientific.

If one approaches the matter in an empirically less biased fashion, it becomes clear, rather, how we have consistently demonstrated disrespect towards the division between scientific knowledge of what is the case and human conditions. Much in the same way, a closer look demonstrates that in our practical relations to the scientific world, we have also never paid heed to our understanding of it as being an autonomous world in relation to the social one, the former of which demands leaving the remainder of the world behind in order to primarily recognise what is actually the case.

It is necessary to recognise that ‘reality is not defined through matters of fact’ and that ‘matters of fact are not all that are given through experience’. Rather,

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193 Ibid., pp. 288, 284.
196 Already in his work Pasteur: Guerre et paix des microbes, which was published in its first form in 1984, Latour thus also demonstrates to what extent Pasteur, also when he acts as a scientist, is very much a man of this world.
‘matters of fact are only very partial and (...) very polemical, very political renderings of matters of concern and only a subset of what could also be called states of affairs’.197 If one recognizes this, it becomes possible to discover that there are many different kinds of states of affairs in reality; in the same way, it becomes possible to have a feel for how the circumstances we encounter appear as matters that touch and move us and become ‘matters of concern’, and which are necessary to relate ourselves to before they can be reduced to matters of fact.198

If one overcomes the modern uni-dimensionality, it becomes possible to closely follow science as it develops ('la science en action'); and it becomes evident how the critical endeavour of science is not primarily ‘to debunk’ by extracting something (superfluous) from reality that prevents access to it. The endeavour is, rather, ‘to protect and to care’:199 to make something count as reality by doing everything possible and adding something in order to make it count as binding reality. Hereby, it also becomes possible to add a further dimension to the understanding of science which transgresses the uni-dimensional, namely, an investigation of how it more or less stabilises its object.200 In this manner, it likewise becomes possible to shed light on how scientific activity gradually adds dimensions to our reality as it establishes new ‘natural and social conditions’, new ‘quasi-objects’ or object-like relations, in which it is impossible to distinguish between nature and the human.201

198 Ibid.
199 Ibid., p. 232.
201 Ibid., p. 287. As Latour was early to point out in The Pasteurization of France (1988), it has become necessary with the new turn to ‘redefine’ sociology in order to avoid being ‘deaf to the lessons of the actors themselves’ (p. 40). Rather than being a ‘science of ‘social facts’”, sociology must become a science of ‘associations’ about which we cannot say that they are either natural or human (ibid., p. 40).
If it is to be possible to establish and further develop a science of knowledge on the level of the simultaneous development of knowledge, it is necessary, according to Latour, not just to turn towards already existing disciplines but, first and foremost, towards the established divisions between primary areas of research with the intention of problematising and critically rethinking the implicit preconditions for these, so that they may begin to take on a different form. It is necessary to replace the ‘either/or’ from which the modern conception of knowledge departs with a ‘both-and’ that allows following the passages and the connections of cognition \(^{202}\) through which both nature and the human is redetermined. In this kind of context, it becomes clear that there is no ‘boundary between the domains (frontière entre les domaines)’ but that there are still ‘differences’ between them.\(^{203}\)

The fact that it is necessary to practise an approach that differs from the division constitutive of modern science has, according to Latour, incrementally become clear through the scientific development that has taken place since the modern constitution 200 years ago, which stipulated that they should be kept as far apart as possible. Through the subsequent development which his work attempts to grasp, it has become increasingly difficult to ‘distinguish between facts and values’, between that which is given by nature and the human; this is connected to the fact that ‘an increasing mutual intricacy between humans and non-humans (l'intrication grandissante des humains et non-humains)’ has been accentuated through the scientific process of modernisation, which opened up with a basis in the modern constitution.\(^{204}\)

With Latour, it becomes clear that a modern constitution that stipulates ‘the non-humanity of nature’ and thereby, basically, bases itself on the division between the human and the non-human has to be replaced by a contract that establishes the humanity of nature as well as the naturalness of the social and the human. It becomes possible in the investigation of the sciences, with an approach that moves


\(^{204}\) Ibid., p. 21.
between the main research areas, to uncover how ‘the articulated language of humans (le langage articulé des humains)’ here, by ‘collecting the testimony of another collection of entities to be submitted to trials (recueillir le témoignage d’un autre ensemble d’entités soumises à des épreuves)’, ‘is filled by and takes care of the world’s articulated language (se charge du langage articulé du monde?).’\(^{205}\) What appears with this kind of approach is, thereby, ‘scientific humanities.’\(^{206}\)

The fact that the human and the non-human, through this kind of development, mutually appear enmeshed to such an extent that they seem to assume the same proportion\(^ {207}\) does not mean, in Latour’s view, that they will come to cover each other in the sense that they appear as entities that are identical and may be reduced to one another.\(^ {208}\)

According to Latour, the alternative constitution, which is still under construction, admittedly means that it will be a matter of a ‘redistributed humanity’.\(^ {209}\) With this kind of redistributed or ‘disseminated’ humanity, however, it is not a question of a humanity that is merely diffused and disappears in some greater inhuman something. Instead, it hereby becomes clear that ‘nothing is sufficiently inhuman for it to dissolve the human being and announce its death (rien n’est assez inhumain pour y dissoudre l’homme et annoncer sa mort’).\(^ {210}\)

Indeed, it becomes unmistakable how the human is to be found and emerges in this kind of redistribution in particular. The human appears precisely as that which has taken part in creating the machines, whereby it has, at the same time, put itself into them and constructed its own body with them. The human appears as


\(^{206}\) Ibid.


\(^{208}\) For a more extensive articulation of the relations between the human and the non-human, see discussion of the colossal of a human in the Anthropocene landscape in Raffinsoe (2013b): *The Human Turn. The Makings of a Contemporary Relational Topography*.


\(^{210}\) Ibid., p. 187.
that which has emerged and determined itself since it has taken part in multiplying the objects that science acknowledges.\textsuperscript{211}

In the eyes of Latour, classical humanism is \textit{reductive} insofar as it seeks to localise and find the human within some particular, limited places or faculties. At the same time, it is \textit{counter-final} insofar as it, precisely in its efforts to withdraw to the human core in order to find its particular essence, loses sight of the specific forms in which the human being gains specific contours. Despite efforts to achieve the opposite, such classical humanism therefore, ironically, often ends up making the human indistinguishable precisely by seeking to localise the human. Finally, such humanism necessarily becomes \textit{tragic} since it constructs the humanity of the human as a singular, rare and fragile existence surrounded by a foreign, greater nature or sociality that threatens to eliminate it.\textsuperscript{212}

The fact that the human being does not, in the eyes of Latour, take on a final, solid and enduring form does not in his view make it into something shapeless. Only if one leaves behind the reduced form that the human being was assigned in its modern constitution will it become possible to discern how the human is present in the very delegation of and exchange between the different forms. According to Latour, a humanism may thereby only be maintained if one abandons classical, exclusive humanism in order to disperse the human and share it with all its representatives. ‘Human nature’ must, therefore, be found in ‘the collection of its delegates and its representatives, its figures and its messengers’.\textsuperscript{213}

\textbf{5. A human turn in the history of knowledge}

In extension of its described development and science studies summary, it becomes problematic to attempt to maintain the human sciences in a central – or, perhaps, often even implicitly in \textit{the} central – position as the privileged location of a ‘cultivation of the entire human being’ that can have a gathering and guiding impact on the other activities of existence in general, such as Martha Nussbaum demands.

\textsuperscript{211} Ibid., p. 188.
\textsuperscript{212} Ibid., p. 188-189.
\textsuperscript{213} Ibid., p. 189.
Of course, it is possible for this kind of expectation and demand concerning the formation and education of the human in pure culture, and within the humanities in general, to draw on and seek to revitalise the central and gathering role assigned to the humanities 200 years ago. Nevertheless, the effort does not really take into account the fact that it was already a particular construction that responded to and had to compensate for an earlier process of knowledge and its experience of loss214 with the constitution of the modern university and the related installation of the human sciences and their cultivation of the human in a central position. It is even more problematic, however, that this kind of assertion of the humanities as having a particularly privileged access and prerogative to the specifically human does not seriously take subsequent developments into account in which the point of departure has continuously been put into question, further developed and qualified.

214 As Kant already pointed out in his time, it is possible to understand this kind of reconstitution of the realm of knowledge as a reaction to an earlier, Copernican breakthrough in relation to our understanding of the universe or as a revolution of a way of thinking. This previous Copernican turn had implied a tremendous shift of human experience, cognition and manner of thinking insofar as the human being had to experience itself as displaced from its previous central position, which it had thought to possess within the former, Aristotelian and Ptolemean geocentric realm of knowledge (Blumenberg (1981a): Die Genesis der kopernikanischen Welt 1). With the reversed Copernican turn in Kant and the realm of knowledge of that time, as well as the corresponding fundamental ‘change of the way of thinking (Umänderung der Denkart)’ (cf. Kant (1781/1976a): Kritik der reinen Vernunft 1, pp. 11-13 (aa III)) which this turn implied, the human being was nonetheless able to take up a central position; now, first and foremost as constitutive and of perpetually vital importance to the epistemic level on which knowledge of the world is obtained. In the long run, however, the significance of the human contribution was also developed on the moral, juridical and existential level. For a further investigation of this, see Raffnsøe (2016): Philosophy of the Anthropocene. 

The Human Turn.
The reformation of the humanities

Such self-justification of the humanities does not seriously take into account the fact that since the time when philosophy was established as the leading faculty, other prominent faculties have appeared and departed from it. These have been institutionalised as the faculty of science, the faculty of life sciences and the faculty of social sciences, all of which have added to knowledge in general and to knowledge about the human in particular and, concurrently, reconfigured human life-forms and human self-understanding.

If, in this situation, researchers in the humanities accentuate their privileged connection and access to the distinctively human, they will not only be incapable of living up to the new conditions of self-assertion that appear with the growth of this kind of knowledge; now, any knowledge about the human must be made relevant in relation to the human lifeforms that have been modulated by such knowledge forms. By laying claim to their own prerogatives, the human sciences miss out on the gains in knowledge concerning the human that are established within the other main research areas. Finally, this kind of self-justification does not take into consideration that, in a context where the human is ascribed vital importance as a modifying and dynamic entity, knowledge about the human built on a common or general human essence and consciousness can hardly claim credibility.

Knowledge about the human can no longer assert itself in an anthropocentric but only in an anthropological form. It can assert itself as pragmatic-practical knowledge about the human in relation to given contexts of knowledge as an irreducible contribution that sheds light on and adds to the understanding of further relationships. A traditional conception and justification of the humanities which binds it to the cultivation of the distinctively and exclusively human only risks relegating the human sciences to a distinctive and particular sphere of letters or Geisteswissenschaft set aside in a particularly limited reserve at the edges of society and, thereby, only of limited and secondary importance to wider society. Such justification of the humanities neither takes into account nor manages to assert the human sciences in the face of the challenges that have ensued.

Firstly, the justification fails to keep step with a fundamental and general shift in the conception of the role and relevance of knowledge that takes place
alongside the creation and expansion of the various primary scientific research areas as they grow tremendously in scale and turn out to have decisive consequences as to how we can understand and act in the world that they reconfigure. In extension of this, knowledge of the human, like other forms of knowledge, is expected to be able to leave the ivory tower by demonstrating its performative aspects, its importance and significance, and its value and consequences for the world quite directly; including showing itself capable of making a difference to other areas of knowledge and other disciplines.

Secondly, the traditional (self-)edifying and exclusive cultivation of the humanities also fails to take into account the emergence of new forms of knowledge that meet the requirements of relevance and demonstrate an ability to ‘perform’ in relation to the surrounding world by showing an ability to engage in new networks of interdisciplinary collaborations.

Thirdly, this kind of self-assertion turns its back on prominent new developments that are already progressing at the faculty of philosophy. Within a string of new trends within the human sciences, of which only a few have been described here, there has been an attempt to take into account and relate productively to a deeper crisis in the traditional humanities and their attachment to the cultivation of a common humanity. This attempt has been made by drawing on approaches from different disciplines across the existing main research areas and by allowing these to collaborate with new fields under construction in order to contribute to new, concrete ways of understanding situated and engaged human existence.

Considered from the perspective of the classical self-justification of the humanities, the human sciences, including the main research area of the humanities, may, then, be said to have found themselves in continuous crisis since their foundation in their modern form as a central study of the universally human. From the beginning, the apparently secure foundation of the humanities, established with the founding of the modern university, seems to have been sliding; while the task of studying and cultivating the uniquely human that gives sense and direction to the field has been challenged. With the differentiation of other head scientific areas, alongside the establishment of science as a new, transversal, extremely performative-
oriented and productive force, connections of knowledge are created that challenge the human sciences. Not only is the field of knowledge generally changed, the new fields of knowledge also contribute with new knowledge about the human and its conditions which radically changes the context of the human and the traditional sciences concerned with the human being.

The traditional humanities, therefore, appear to have been constantly in crisis insofar as both the framework of the exercise of the disciplines within the field and the conditions for justification and gaining recognition have changed throughout. This has happened to such an extent and with such speed that the practitioners of the humanities have continually struggled to keep up and have continually been forced to revise their own disciplines, arguments and justification.

Since the founding of the humanities in their classical form with the modern university, subsequent developments have, from the very beginning, shown disrespect for the divisions of the field of knowledge that were established with its modern constitution and which established the framework for the classical self-understanding and self-justification of the humanities. This has only been reinforced by a later development within the human sciences in which an active response has been taken concerning what is seen as a deep crisis of the humanities, caused by the field being bound to representing and safeguarding a universal model of humanity, by establishing different inter- and post-disciplinary forms of human science. These include knowledge and methods from other head research areas in the attempt to establish self-reflective and pragmatic knowledge about the human as it appears and relates itself in and to different contexts. The desire to maintain and re-actualise the classical inheritance of the humanities against this overwhelming movement can thus easily be felt as an impotent one.

A productive crisis
A very different historical landscape appears, however, if one leaves behind an arrangement of the history of knowledge with a point of departure in its modern constitution at the beginning of its development in order, instead, to gain an overview that takes its point of departure in later developments within the
humanities and science studies. In this kind of retrospect, the human sciences certainly seem to have been in continuous crisis insofar as they have persistently been in transition and at a threshold on the way to a new and relatively unknown land in which a new and not quite predictable judgement on them and their previous form and starting point will be passed. The human sciences have also persistently been in crisis since they have constantly found themselves at a turning-point in which their previous point of departure and justification have been problematised. At the same time, it is important to note that it has been a consistently productive crisis since the human sciences, in this transitive situation, have been challenged to reinvent themselves anew. As a result, the human sciences have continuously had to stand trial for being up to date towards a new and greater connectivity of knowledge and, consequently, have had to relate critically to themselves in order to live up to this demand. In a long-term perspective of knowledge, the crisis appears to have been a productive state of normality to the human sciences, which has meant that they have not only retrospectively redefined themselves but have also been decisive in setting new agendas for others. At the same time, the human sciences have been able to supply new, situated suggestions towards an understanding of the human in its historical context.

With a point of departure in a constitutive division between the human and the non-human, the development in the field of knowledge in general, but also in decisive aspects of the human sciences in particular, has led us towards an ever-closer connectedness between the human and the non-human. Such a close connectedness that weaves together the human and the non-human and complicates an ontological and epistemological divide between facts given by nature and human culture/values does not result in the disappearance of the significance and relevance of the human; on the contrary, it makes the human ubiquitous.

In this redistributed humanity, the human being is not only consistently present on a mundane level, insofar as human activity operates as a decisive ‘force
of nature’ on a number of fundamental conditions on the planet. On an epistemological level, the situated human likewise bursts forward as a decisive force that one must take into account in a wider range of contexts of knowledge, as indicated in the present examination of the history of the overall organisation of knowledge and the human sciences since 1800. As an irreducible, decisive element, the human turns out to have an implicitly decisive significance to, and a decisive influence on the human sciences.

In the context of a shared history of knowledge, the human appears as already redistributed in perceived objects and in organised society. As such, the human emerges as having decisive influence on the way in which it can continue to be invoked as a binding force; just as the human raises the question of how one most adequately takes this into account and takes care of it – in thought as well as in action. Finally, the human likewise has a decisive influence on how new connections that are underway may be articulated.

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The human turn. With the human turn, human beings re-emerge as existentially diverse fields of investigation. The study of these fields of investigation may elucidate how human beings are affected by, relate to and re-create various parts of the Earth system.

Drawing Hannah Heilmann.

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