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The Human Condition and ADHD as an *Assemblages* between Experiment and Education:

A genealogy of the idea of the “normal human condition” in the history of psychophysics, experimental and industrial psychology, its dissemination in public, science and laymen-expert discourses on behavioral disorders and the quality of life, and an exploration of the potential of translations between the languages of different scientific cultures on normalcy, pathology, experiment and treatment.

(An anthropological study of ADHD as an *assemblage* for the 21st century in the history of the life sciences, sociology of knowledge production, medical sociology, neuroethics, neurophenomenology and physical behavior treatment (PBT)).

Proposal

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Outline

The research project I propose is comprised of three interrelated parts. The project involves a science-history dimension, a sociological dimension in a medical-psychological context and a pilot study towards practical application.

What I am proposing to investigate is outlined in the following paragraphs:

At the turn of the nineteenth to the twentieth century, an idea of the human condition emerged from the contexts of Experimental and Industrial Psychology. An idea that constructs the concept of the human being under the constraints of a functioning, industrious organism. Initially emerging as an image or a semantic that was treated within an expert discourse exclusively this concept disseminated via the translation of popular science discourses over the course of the twentieth century into what we may tentatively call *Collective Memory* or the “semantic households” of ordinary people, which we know as laymen discourse. Thus, even today such a historic concept of normalcy is an actual guiding metaphor for discourses between laymen and experts, which I eventually seek to illustrate on the problem of diagnosing and treating children with ADHD (Attention Deficit and Hyperactivity Disorder). By exposing the history and semantic mechanisms of this idea of the human psycho-physiological normal state I not only hope to contribute to open avenues of translation between both laymen and experts but between different cultures of treatment also, engaging in practical application and research.

The goal of this study is to reveal the genealogy of the practices that are the *assemblage* ADHD and how to work productively with this *assemblage*.

In the first part of the project I want to elucidate the genealogy of the idea of the human condition that has paved the way for this *assemblage* to come into existence at all; reconstructing it from extensive research into archive materials, revealing its emergence between “experiment and education” exemplified in the Northeast of the United States in the late nineteenth and early twentieth century

(roughly 1880 – 1950). I want to expose how the way of speaking and thinking about life and organism in relation to a succeeding biography of psyche and biology as the normal human condition was created and has informed laboratory, clinical and therapeutic discourses. I want to show, which avenues of development of research and therapy were thereby enabled and which have been constrained. I will therein also show that some of the constraints put in place in the early twentieth century have closed off avenues of translation with other medical or psychological “cultures” on the one hand, and on the other how these constraints have pre-structured laymen-expert discourses for decades and are reaching even into the beginning twenty-first century. While current developments in the biological sciences that are being reflected in the social sciences with great care certainly have begun to reshape these discourses actively, certain constraints are naturally still implicitly upheld and exposing them will yield fertile ground for further research and debate.

In the second part of the project, I seek to explore the actual dissemination of this scientific idea of what it means to be an industrious human towards the twentieth century in regard to the discursive structures, these *leitmotifs* currently shape laymen-expert dialogues. The current American context with its high density of diagnosed behavioral disorders and subsequent pharmaceutical treatment in children (such as ADHD diagnosis and Ritalin treatment) is treated as an example wherein I seek to show that these *leitmotifs* occur in patient/parent-doctor conversations and shape these in the form of power structures in correlation with institutional contexts. Subsequently, these *leitmotifs* or *semantics* shape the construction of phenomena like ADHD and the options for treatments not so much on the expert side but on the parent’s side thereby strongly influencing parents’ choices. In this regard I hope to employ an international/intercultural comparative dimension for the project by engaging colleagues and peers.

It is vital for the success of the project that the historical and the empirical part are fully executed to show both the inception and the functioning of the *leitmotif* in question and enable from this point an intercultural comparative perspective. If undertaken that way I will be able to show first of all that diagnosis and treatment,

as well as institutional structures differ in national and cultural traditions of fatigue research at the turn of the nineteenth to the twentieth century. Secondly, I will be able to show that in uncovering the history of the emergence of the modern psycho-medical concept of the human condition there still lie potentials for translating different medical cultures in a fashion that proves beneficial for the exploration and proliferation of treatment options of behavioral diseases.

I suggest that in a pilot study in the course of the fellowship and in cooperation with partners in psychology departments, the effect of using soft physical motion sports (aka internal martial arts), such as Aikido or TaiChi, aiding in the treatment of behavioral disorders such as ADHD is to be investigated. I advise cooperating with existing initiatives such as Aiki Extensions, which was co-created and is spearheaded by the renowned Chicago sociologist and former Dean Donald Levine. I have also begun to explore connections with scholars from Harvard Medical School and Osher Center, as well as with projects at Northeastern University and other Massachusetts Universities.

In summary, I suggest undertaking a project that can show that making explicit the historical genealogy of theories and concepts that implicitly underlie expert and public discourse on psychological and neurological states of normalcy and pathology, will first of all open up avenues for critical appraisal of actual situations of diagnosis and therapy. Secondly, it will help to account for differences in international and intercultural diagnosis and therapy of said states, thirdly translations into different cultures of socially integrating and/or treating pathological states may be fashioned and enable a fertile exchange of ideas under conditions of modern scientific criteria, and last but not least, first results of new practical applications and study are attainable within the confines of this project.

Proposal

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Proposal Text

I. Genealogy of the Discourse of Experimental and Industrial Psychology

This project involves a progress in the new methodological approach I have assembled for the research on my PhD Project and subsequent publication of (Stingl 2008), and recently refined (Stingl 2009). Applying a combined package of Discourse-analysis, Constellation-Research, Objective Hermeneutics and Actor-Network Analysis, I seek to reconstruct a significant chapter in the history of the life sciences in the first part of this project; a chapter which is as of yet partially in the dark. Previous research has lifted the veil in regard to the mere recognition of the fact that around the turn of the nineteenth to the twentieth century (Rabinbach 1990; Sarasin/Tanner 1998; Sarasin 2001; Roberts 2000; Stingl 2008e,) a new *problematization*¹ has emerged within the scientific discourse – respectively the life sciences. However, both the *thickness* of the circumstances and prerequisites, and a rich description of their potential and actual corollaries, both in their respective era as well as on a scale of the *longue durée*², have to this point not been explored towards generating a historically and/or sociologically satisfying account. Since this *problematization* has effected the public discourse on life sciences throughout the entire twentieth century understanding its prerequisites would prove to be a vital exercise to evaluate what possible fertile alternatives it has excluded and which failings we may be about to repeat in current discourses in and about science³, due to historical blind spots. I will now elaborate both the methodological and the historical prerequisites.

¹ I understand this term, that was coined by Michel Foucault with regard to Paul Rabinow (1997, 2003). *Problematization* describes a historical and social situation, that constructs potential outcomes of truth/ and false in a web of possible solutions. This *problematization* is described as a “historical space of conditioned contingency” (Rabinow) or a “thought-scape within constellations” (Dieter Henrich).

² The concept of *longue durée* was prominently used by French scholars (Lucien Febvre, Marc Bloch) in the first half of the twentieth century. But certainly, scholars like Max Weber or Georg Simmel (who must be considered a teacher of Bloch) were no strangers to the general idea. The concept is being reinvigorated repeatedly in the last two decades (see Braudel/Matthews 1982; Flyvbjerg 1998; Putnam et al 1993)

³ It can be demonstrated, for example, that current debates on Attention-Deficit/Hyperactivity-Disorder (ADHD), in popular science, amongst laymen and between laymen and experts run in patterns, similar to the discourse on dementia praecox or schizophrenia in the late nineteenth and early twentieth century (see Roelcke 2000), from Emil Kraepelin (1883, 1899) to Walter Gruhle (1913, 1929), involving even Max Weber (see Frommer 1990). Kraepelin who approached dementia praecox with a fixed idea of an “illness unit” (*Krankheitseinheit*) in mind, was an instrumental force in fatigue research (Kraepelin 1895, 1896, 1902, 1903). His misconceptions were eventually corrected by philosophically trained psychiatrists like Gruhle or Jaspers.

a. Productive and constraining factors

In accordance with the method laid out in my previous work (Stingl 2009, 2008, 2008a,e, 2004), I make a clear distinction between productive and constraining factors in scientific discourse.

A sphere of scientific discourse can be understood as being regulated by a *regime of truth*, which is subject to politics that serve to mediate, negotiate and strategize between productive forces and constraining agents⁴.

The major productive forces can be studied in the semantics of the scientific language or rather the specific scientific dialect. The productive aspect for the *truth regime* can consequently be described as an *epistemological vernacular*⁵, the semantic or conceptual frame in which implicit problems, explicit themes and questions, and possible answers and solutions can be addressed and enunciated.

The constraining agents are found in institutions (such as universities, laboratories, clinics, institutional/social roles), networks (professional and personal) and bureaucracies (administrative, legal and ethical obligations). These we can sum up under the concept *Constellations* (Henrich 1991; Mulsow/Stamm 2005).

Productive Forces open up thought-scapes or *Denkräume* (Henrich in: Mulsow/Stamm 2005) and positively pre-structure the contingent field of possible connections, translations and enunciations. An *epistemological vernacular* therefore opens such a field through concepts and semantics it creates and applies.

Constraining agents pre-structure such a field negatively by setting up boundaries for a) possible enunciations within a discourse, b) for potential translations between different vernaculars and cultures, c) for potential connections between disciplines and other networks and institutions.

⁴ I am cautious about employing the distinction between discursive and non-discursive practices here, for I see non-discursive with productive capabilities and additionally the question would have to be addressed if non-discursivity comprises semiotic and/or asemiotic practices. Ilja Srubar (FAU Erlangen/Nuremberg) has recently begun exploring this new conception of practices of asemiotic communication.

⁵ The related concept of *vernacular epistemology* is a guiding tool of the Rutgers Centre for Historical Analysis run by Lynn Shanko. The difference between this concept and *epistemological vernaculars* is discussed at length in Stingl 2009.

In other words, the *vernacular* enables an interlocutor, such as a scientist, to make a certain statement (e.g. enunciate a hypothesis or a conclusion) in a certain way by using certain conceptual references, about what she/he construes to be a scientific truth. While *constellations*, on the other hand, disable the possibility or greatly diminish the likelihood of a certain statement being made in a certain fashion. Constellations are coming close to cutting off or dissolving the potentiality of that enunciation throughout a discourse.

The task of the historical part of the project I propose lies in the reconstruction of the productive and the constraining factors of late nineteenth and early twentieth century experimental/industrial psychology, psychophysics and fatigue research in regard of how they constructed a concept/semantic of what it means to be human. I want to show how this concept was constructed and *problematized*, in order to be able to understand the function it had for the *assemblage* we know as ADHD by showing which avenues of *problematization* this semantic allowed and denied to explore.

b. The human condition according to industrial psychology

I have previously (Stingl 2009, 2008, 2008e) studied the *biological vernacular* as a productive force in the scientific discourse from Immanuel Kant to Talcott Parsons.

I have shown (Stingl 2008) that the emergence of the so-called *teleo-mechanist program* that has run from Kant to the physiology of Rudolf Hermann Lotze and Karl Ernst von Baer (see: Larson 1979; Lenoir 1980, 1981, 1981a, as well as critical: Richards 2000), which has been instrumental in the creation of *biology* as a discipline (see: Allen 2005, Barsch/Hejl 2000; Coleman 1977, critical Cunningham 2002/3), can be found in semantics used by Harvard sociologist Talcott Parsons (1902 -1979) and among his teachers (such as Alexander Meiklejohn, Otto Manthey-Zorn, Karl Jaspers to name a few) , colleagues and friends (Chester Barnard, James Olds, Lawrence Henderson, Carl J. Friedrich, Edward Hartshorne), and sources (Immanuel Kant, Ralph Waldo Emerson, William James, Charles Cooley, Max Weber, Georg Simmel, Emile Durkheim).

My previous research (specifically Stingl 2008) was focused on the discourse between philosophy and physiology in the 19th century⁶, yet merely hinting at the role this development has played in the discourse of experimental and industrial psychology, psychophysics and fatigue research⁷. I now plan to shift my “historical gaze” onto that latter area. I make the case that, while Timothy Lenoir has claimed (1981) that the *teleo-mechanist program* had ended after the era of von Baer, I can show that it merely changed its address, so to speak. In the discourse of the life sciences, between philosophy and physiology/biology, the fields of experimental psychology (and attached) and the social sciences emerged in the latter half of the nineteenth century in the form of unique problematizations, that were indeed phrased in the conceptual frame of reference of the *teleo-mechanist program*. This development is partially opaque today due to the emergence of another way of thinking and speaking about problems in the life sciences. This language we can heuristically call “physical reductionism”. This new *vernacular* began to take shape at the end of the nineteenth century, however from a similar background (see my argument in Stingl 2008 and 2008e, additionally Servos 1986). It began to negate several avenues in the scientific discourse, while adopting only a few concepts from the biological vernacular. In biology it is most prevalent today in genetics

⁶ see also the insightful study on the concept “regulation” by Canguilhem 1974

⁷ for some introductory aspects see: Abisetti et al 1989, Boring 1950, Clarke/Jacyna 1987, Coleman 1985, Hansen 1998, Murphy 1949, Smith 2005; Sturm /Ash 2007

and neurology. However, in discourses of popular sciences and among laymen semantics from both *vernaculars* have become meddled over the last fifty years.

I therefore think it is necessary to acutely and meticulously uncover the conditions and prerequisites of the creation of this specific idea of the human condition, the answer to the question “What does it mean to be human?”. An idea that was created and shaped between roughly 1850 and 1950, and then disseminated into the cultural memory of Western society, where it still works as a powerful semantic and plays a vital part in the *assemblage* ADHD.

Previous research and specifically the exceptional study by Anson Rabinbach (1990) has revealed that psychological research and concepts of labor and energy have been instrumental in the creation of the industrial programs of Taylorism and Fordism and therefore modernity at large. But the actual perquisites and consequences for the scientific discourse, its truth regimes and politics, as well as the *longue durée* effect on public discourse on science have been left largely unexplored. Reconstructing the productive factors at play will enrich our historic understanding of the era, as well as offer valuable insights into processes of knowledge production. The reconstruction of the constraining factors will not only proliferate historical and sociological understanding, but also elucidate the background and structure of several current debates and politics, and in revealing “fertile paths not taken”, open up avenues of research and scientific debate previously forgotten – this I seek to illustrate on the example of diagnosis and treatment of behavioral disorders, specifically ADHD.(see Part II and III of this proposal).

c. Constellations

I propose to restrict my research in this project largely to the Northeast of the United States⁸.

This has several practical as well as theoretical reasons.

Certainly, the discourse surrounding experimental and industrial psychology, fatigue research and psychophysics was not restricted to the Northeast of the US.

However, I do make the case, that the specific idea of the human condition in question – the idea of the functioning, normal human organism primed for labour performance – emerged and disseminated differently in countries with a strong tie to fatigue research and psychophysics (for example: Italy, USA), than it did in countries with a very different psychological tradition (for example: Great Britain).

Specifically the USA and particularly the traditional institutions of higher education in the North-East were a nexus for nearly uninterrupted international and interdisciplinary dialogue. Next to their home-grown scholars and programs, German (Hugo Münsterberg, Carl Friedrich), Italian (Angelo Mosso) and French (Jules Marey) scholars left their mark on these constellations and within the discourse. At the same time American students (William James, G. Stanley Hall, Edmund Burke Delabarre, Lawrence Henderson, Talcott Parsons) travelled to Europe and above all to Germany to learn from men like Rudolf Hermann Lotze, Ernst Mach, Hermann von Helmholtz, Wilhelm Wundt or Karl Jaspers (to name merely the most famous).

The American discourse in this field and its constellations, in other words the productive and constraining factors, therefore are the result of international and interdisciplinary discourse and migration. Specifically the Northeast around the Massachusetts area with its high density of education and research institutions⁹, harbors a wealth of archival material that allow for the thorough reconstruction of both the discourse and the constellations.

And above that, it circumvents a problem that the German situation does present.

Since there were two grave ruptures in the medical/psychological discourse, first with the Nazi-takeover in 1933 and with the end of World War II in 1945.

⁸ Some occasional travelling, concerning leads, archives and related projects aside – as specifically referenced in either this proposal or the attached draft of the research schedule.

⁹ Not to mention the density of clinics and research facilities in the field of behavioral disorders, that will allow for exceptional operational access to research opportunities in the practical part of this project.

While the American discourse in these fields was left with a coherent development supplemented with an influx of ideas by German Refugees, large sections of the German discourse were just cut off in 1933 (see for example: Friedman 2000) and in light of the events of the Third Reich, the new scientific discourse unfolding after 1945 was deeply shaped by the problematic and traumatic rupture of the Nazi era on the one hand, and by an influx of outside sources.

To reconstruct the German discourse in regard of a *longue durée*, it is actually profitable to reconstruct the American discourse first. For in the American discourse, the German influences prior to 1933 can be properly reconstructed and serve as a *tertium comparationis* for evaluating the difference after 1945.

This evidently should begin at the most influential center of the American constellation: Harvard University (see Kuklick 1977).

Beginning with William James – a vivid reader of Lotze, Wundt and Mach (see Cumming 1917, Kraushaar 1938,1939,1940; Holton 1992; Pester 1997) - and his fertile relationships with Hugo Münsterberg, G. Stanley, Edmund Burke Delabarre and many notable others I seek to reconstruct the threads that lead from these teachers to lesser known students, scholars and administrators throughout New England from around 1880 to 1950.

I seek to investigate the networks, institutional structures and bureaucracies that connected and guided the scholars engaged in the psychological discourse of this time. My focus will not so much be on the accomplishments of the “great men” or geniuses like a William James or a Edward Titchener (for such productive enterprise see: Bordogna 2003), but rather the administrators, students, researchers and teachers that worked in the same settings and created the social and scientific world of this time.

It is in their acts of governance, syllabus creation, experiments, their letters and lectures, etc.; in other words it is in between this “time and place of Experiment and Education” that the idea of the human condition emerged, which is the problematization I hope to elucidate.

d. Archives and Objects

Massachusetts (and specifically Boston) provides itself exceptional research opportunities, besides being a perfect base of operations for travels in the research I am suggesting. (Including initial supportive contact and dialogue I have had with the Harvard History of Science Department Chair Anne Harrington, Ted Kaptchuk of the Osher Centre, options of collaborating with an NSF project in regard to constructions normalcy and pathology at Northeastern University as facilitated by Ron Sandler, cooperation with the sociological department at Boston University negotiated by Patricia Rieker, and several other opportunities of interdisciplinary, international cooperation I have thus far managed to enable – all realization pending on my attaining a position and affiliation such as a Junior Fellowship with the Society.)

In regard to archives: Boston, Cambridge, Amherst and Providence (RI) offer rich material in the history of American experimental psychology, social science and education. So do archives in Philadelphia, Chicago, Washington, etc..

Harvard Archives alone certainly offer opportunities to spend a lifetime researching. At this stage, the History of Science Department holds a collection of 20,000 objects, such as instruments used in experiments and in class from various eras in the history of psychology. This collection is still in part largely undocumented. Therefore my project would benefit the currently planned effort to provide such documentation and making the archive accessible to a wider public. Having undertaken some research in archives, including a brief stint at Harvard's Pusey Library and the Business School Library, I have a good understanding of the potential discoveries waiting in regard of the project. I seek to explore correspondence, diaries, schedules, curricula, seminar and lecture notes, research proposals, administrative regulation, etc. (for a list of the archives I want to investigate, including a preliminary assessment of material according to a review of available listings, see the draft of the research schedule).

In applying my methodological canon, which has previously proven its value as a research toolbox, I will reconstruct consistencies and inconsistencies in the use of certain ways of communicating in regard to the *problematization* of the human condition and the human

organism, including research and education programs within this *problematization*. Thereby I will reconstruct the productive factors and reveal unexplored contingencies, while redrawing the web of constraints.

Additionally, the inclusion of laboratory instruments will offer a previously unexplored dimension.

Heeding the lessons of the work of Lorraine Daston and Peter Galison (Daston 1995, Daston&Galison 2007) and of Actor-Network Theory (Latour 2006), I try to account for the effect that these material objects have on the researcher and the research. Assuming that laboratory instruments as well as the objects that they are applied to are not merely the result of human ingenuity and agency, but that on the other hand the instrument and the object can be seen as affecting the research, they are not simply either part of the productive or the constraining factors – dimensions they surely also incorporate. Instruments and objects are in themselves a form of politics or political agents between production and constraint, and thereby must be treated as an independent variable (see also: Harman forthcoming). This approach and toolbox I seek to utilize is consequently very original and will yield unique results, but these “tools” and the results are most certainly in line with recent progress in the history of science (Peter Galison, Anne Harrington, Lorraine Daston, Timothy Lenoir), sociology of knowledge (Bruno Latour), philosophy of science (Peter F. Gordon, Michael Friedman, Ian Hacking) and anthropology (Paul Rabinow).

e. Constraints of translation into other medical cultures

Part of the reconstruction will be guided by the problem of “translatability” between scientific languages and cultures.

In previous statements (Stingl 2008, 2008a), I have voiced doubts, concerning the possibility of such translations, assuming the divergence between scientific *vernaculars* has progressed too far¹⁰.

However, I find myself increasingly convinced by three arguments:

- a) Thorough genealogical reconstruction can reveal common roots between different *vernaculars* that can indeed enable translatability.
- b) Translatability between different scientific cultures can be enabled by revealing analogous conceptions within the historical developments of these cultures.
- c) Since *vernaculars* themselves are a productive factor, in this theoretical perspective, these *vernaculars* are understood as intrinsically equipped with convertibility – similar to the very way that analytic philosophy assumes a *principle of charity*¹¹. Therefore the possibility of translation can be enabled by making explicit the historical constraining factors that currently disable or have denied avenues of connecting with another *vernacular*.

The reconstruction I propose to pursue will therefore enable translations with different approaches concerning current problems within psychological/medical discourses.

I will argue specifically, that in the context of behavioral disorders, a dialogue with Asian medical cultures may be fertile. The actual point is that if we do find an actual scientific conceptual frame of reference under which to translate traditional Asian medical science, we have a possibility of evaluating diagnostic and therapeutic strategies by distinguishing “esoterical” from scientific components.

¹⁰ Specifically in regard to German and American sociology, I have argued that this fragmentation within the discipline has led a state of *Babel*, where the different branches of sociology have left common ground (see Stingl 2009). In regard to my PhD research, I have tried to illustrate that the work of Talcott Parsons at Harvard occurred under a similar threat of fragmentation within the social sciences and that Parsons’ work must not be viewed as a “grand theory”, but instead as the offer of a common ground in the form of a translation matrix for basic concepts within the social sciences; a matrix derived from the *biological vernacular*. (Stingl 2008, 2008a). Even if the better part of this matrix, with a few exceptions, is now inapplicable, the effort in itself is a valuable lesson.

¹¹ A *principle of charity* was first introduced by Neil Wilson in the late 1950s and made popular by W.V.O. Quine and Donald Davidson. It states that if a person A *wants* to understand a statement of a person B, A will have to minimally assume that B is making a statement that is in some way rational by B’s standards and thereby intended to be understood by A.

In other words, we currently lack a proper translation and as can be seen in the discourses in popular science and among laymen, Asian medicine culture is usually either discarded as “esoterical non-sense” or embraced as if it was a salvation.

At the same time, several expert discourses run on the empirical success of certain techniques – such as the use of acupuncture in treating allergies. But they often lack proper description and explanation of how and why these are working. In those cases, scientific evaluation and description is often disabled by constraining factors in the history of western sciences. The goal however must be to find criteria of evaluating what is an actually effective treatment, and isolating the factors that make it work; while at the same time unmasking ineffective practices, that are employed on promises that cannot be kept.

Empirical evidence shows that there is a connection between brain/mind and body/mind targeted therapy (see: Harrington 1987, 2008; Harrington/Davidson 2001), that is common on Asian medical culture (unparalleled in scope: Kaptchuk 2000) and has a history in Western culture that was constrained around the early twentieth century.

This coincides with the “coronation of the *vernacular* of physical reductionism” over the *biological vernacular*.

f. Genealogy as reopening

I do make the case here, that with the genealogical approach, a reopening of possibilities can be enabled. In that regard, I am in agreement with David Owen (2002), who proposes the usage of Foucault in such a fashion, preferring it over claims made by the members of the *Frankfurter Schule* of the potentiality of what they thought is *immanent critics*.

The latter kind of critical approach issues a general doubt toward every social or scientific fact of thought, thinking it part of a *total ideology*, that must be wrong and therefore blinding people to the true condition of society. *Immanent critics* supposedly takes apart concepts from the inside, unmasking them “for the *fraud* they are” in the perspective of the *Frankfurt School*.

This attitude can be found among many current Neo-marxist scholars, as well as active members in popular science and laymen discourses, who consider themselves Leftist or Critical – e.g. the infamous author duo Hardt/Negri.

In regard to medicine and psychology, the picture that is often painted lies in their “unmasking” an evil pharma-industry that invents diseases and disorders and helps to keep people docile by putting them under the influence of tranquilizing drugs

This is of course an over-dramatic, simplified and misconstrued perception that is being propagated by certain critics.

Non-withstanding the fact that there is an increase in the amount of diagnoses of behavioral disorders, that exceeds the limit of those to be expected neuro-physiologically; non-withstanding the fact that in some countries like the USA the amount of drugs prescribed to curb such behavioral disorders is by far higher than in some other (even Western) countries – the reason for these developments owes itself to a multitude of factors the least of which, if at all, is the – by the way perfectly legitimate – interest in making a profit on a free and competitive market for medical/psychological treatment¹². It is actually a historic combination of constraining factors that has fostered this

¹² The perquisites for navigating on modern markets, lie in knowledge and information, which is in itself increasingly an ethical subject also (see Stehr 2007). The control of access to information for different interest groups is the crucial variable. This control is actually not in the hand of pharma-companies, but distributed and constantly (and above all freely) negotiated between governmental agencies, private consumer interest groups and industry interest groups. While there are naturally conflicts of interest, there are also dialogical solutions available and are usual the pursued course of action (see Stingl 2008b,d)

development. And in general, it does not negate the fact that there are behavioral disorders and that pharmacological treatment is a viable and rational option.

The question is whether the diagnosis or the treatment is always indicated or fitting the case. And also whether current research encompasses possible alternatives and what the actual goals of research, treatment and diagnoses are, which climax in the result as the semantics of the *vernacular* they are enunciated in.

It is at this point that David Owen's appreciation of Foucault makes the crucial difference. Genealogy does not seek to destroy a concept from within or unmask an ideology. Genealogy is helping to understand, where our concepts are coming from and how and why they came to be the way they are. In doing so, genealogy has the potential of opening up the conceptual frame to allow for new ideas or old ideas that have not been pursued. Genealogy can help "correct the picture" and enable constructive dialogue.

Take the case of introspection in psychology

Introspection or Self-Scrutiny was once an established technique in 19th century experimental psychology (see Kroker 2002, also Cronbach 1957; Breidbach 1997, Carson 1999). At some point, it seems to have disappeared. It stands to reason that objective methods, as promoted within the *physical reductionist vernacular*, would shun the subjective perspective.

Yet, this was neither a clear cut (as Kroker shows) nor was it necessarily an eventually fertile development.

Edward Titchener (1867 – 1927) had initially promoted self-centered experiments in psychology, and on another front Edmund Jacobson (1888 – 1983) used introspection as a therapeutic device. Both men were products of the laboratory tradition in experimental psychology, and Jacobson was well-versed in fatigue research. Jacobson was also good friends with many "heroes of science" like Walter Cannon or Norbert Wiener, both of whom appear as transitional characters in the switch of scientific *vernaculars* and the "discovery" of DNA and Cybernetics (Kay 2000).

What is most striking, however, is that Jacobson's technique – aside from positive results he had with patients – in many ways is translatable to Asian meditative therapy, suggesting that a Western psychological approach based on laboratory science can be connected to an Asian medical culture.

Additionally, current developments in neuro-physiology show that previous research has reached an impasse, it cannot account for certain experimental results in the physical reductionist way of describing things.

Whether following Centor's (2007) motto "Seek first to understand", Thornton's (2006) depicting how evidence-based medicine does actually rely on *tacit knowledge*, up to the question whether the images produced by functional magnetic resonance imaging (fMRI) and PET scans (Dumit 2004) are substantial enough to infer neurophysiologically, these few examples show that the developments hint at a potential crises in medicine, psychology and neurology. A crisis that is not a result of bad science. It is merely an effect of the conceptual devices these sciences use, being not fully equipped to describe the empirical reality they face. That does not mean that they need to be replaced, it means only that the conceptual frame of reference needs to be opened up. And learning from our own past I suggest to be the most fertile strategy.

The example provided by Northoff and Heinzl (2006) as a form of neurophenomenology is extremely insightful. They re-introduce introspection because the empirical evidence resulting from fMRI scans has revealed perceptible differences between the observed neuronal state and the first person mental state, also accessible through fMRI scans. Current neurophysiological language has a hard time accounting for this phenomenon. Northoff/Heinzl can account for it drawing on the older *vernacular*¹³, and successively constructing what they call "first brain perspective", which provides a richer account by offering a conceptual link between neuronal and mental states. Not to mention that the distinction between those states has already plagued men such William James and Josiah Royce (See Kuklick 1977) and that their accounts came often pretty close to the description by Northoff/Heinzl (see additionally Harrington 1987; Kaitaro 2004)

¹³ Loyd (2002) was able to show, using fMRI, a passage of phenomenal temporality correlating neuronal and mental states in the way described by Husserl.

g. Education and Liberal Arts

I must make a special reference to higher education and specifically the tradition of Liberal Arts, Humanities and *Geisteswissenschaften*.

In the late nineteenth and early twentieth century, studying philosophy, physiology, social science or psychology meant to have a respective knowledge of the neighboring disciplines and their foothold in the science tradition. Men like William James or the less well-known Edmund Burke Delabarre who taught thousands of future business men, researchers, administrators, teachers, etc. at Brown University in Providence (RI), while running its experimental psychology laboratory for forty years; these men all combined training in philosophy with deep knowledge in biology and the physical sciences. They taught their students accordingly in interdisciplinary thinking and open-mindedness. Their students were well equipped to seek business opportunities, integrate the latest research and promote ideas to a wider public.

Of course today at the contrary, disciplinary specialization has increased, the information channels that run across the public discourse have, too.

The communication barrier between laymen and experts, the myths constructed and proliferated in many popular science circles (more pop than science) are turning into a most powerful constraining factor in times when scientific progress is required to be budgeted, managed and organized, rather than just thought of. Innovation has become a matter of *politics*. As I have argued elsewhere (Stingl 2009, also: 2007) there is a rising demand for mediators and translators between laymen and experts, within popular science and within the administration of research. Those studying to be or working as neurologists or clinical therapists, etc. have to deal with an ever increasing load of new publications, bureaucratic demands and such. And translation to the wider public requires time and effort. Strategizing how to communicate with patients requires experience and often advice from external observers, conflicts between patients and their families with doctors need solutions and in the meantime cost money and energy, and so forth. It is here that the Liberal Arts can help. It is here that future moderators and translators are educated. It is here that higher education currently seems not to do enough (see Stingl 2009; Levine 2006). But specifically in the United States, college and university programs in bioethics, history of science, anthropology and STS (science, technology and society)

have become both successful with students and in promoting their results to laymen and experts. I think it is imperative that these programs are promoted and strengthened.

The future lies in *knowledge based economies* (with reference to the vast literature, see: Stingl 2008b). But access to and translation and mediation of information are crucial. Higher Education in Europe and the US are not providing enough resources to prepare for these future demands, quite the contrary, in some countries we even face a cut-back on resources. In Germany, as I argued (2009), this is in particular the tragic case.

My present project therefore includes a dimension of studying the rise of education in New England in the late 19th and early 20th century, a product of international and interdisciplinary dialogue and an era that was undoubtedly one of the scientifically most diverse and above all productive. The success of a university like Harvard lies in a variety of factors, but one major factor is “embeddedness” into the social, educational and economic environment. As a centre for culture, for moral values, for good science and business and exchange of students and scholars in New England and the world, Harvard became the symbol for elite in education and research.

The role of Harvard’s embeddedness will be also elucidated in my research as a contributing factor to the developments in experimental psychology. Therefore, I will at the very least shed some light onto the emergence of Harvard as symbol for educational elite formation.

II. Regimes of Knowledge and Truth

a. The Archive, (re)arranged and (re)assembled.

In science, the life sciences in particular, the most important demarcation next to that of true/false is perhaps the demarcation of normal/pathological.

Both are produced, maintained and transformed by regimes of truth and knowledge production. Both effect expert and laymen discourses alike.

What is discovered and produced by experts to be true and what is excluded as false, what is defined as normal and what has to undergo *therapeutic disciplining* as a pathology, what is realized as an object, fact or entity in practice and what is forgotten, not spoken of and residual, these are subject to processes that assemble conceptual equipments, bind networks, enable and constrain discourses and eventually disseminate from expert to lay culture, which in turn effects factors that constrain expert discourses thru the allocation of public finance, attention, etc.

However, older practices, the processes of exclusion and the excluded concepts may not be and should not be lost. That is what the archive is for.

The archive is a place and a stitch in time, where we find how knowledge and truth were produced.

The archive is the place where the question arises “What problems have occupied the minds of researchers, students, administrators and those responsible for translating between discourses such as between laymen and experts that led to the construction of their practices of truth and normalcy?”

The work in the archive is problematic insofar as public discourse demands justification of the interest in the archive. What can be learned, what is its use other than the satisfaction of the mere curiosity in history.

This demand for providing reasonable legitimacy for the archive is in itself a regime of truth, of course. A regime build around the claim that the content of the archive was originally discarded because it is untrue, because it useless, dysfunctional or pathological and defect.

But we must, I suggest, reject this attitude by uncovering the factors that enabled this claim and constrained others.

Not only because the reconstruction of the history of truth production has intrinsic value, which it actually has. It tells us much about what we call the human condition.

We must also find constructive potentials that were lost in the process.

My interest lies in the construction of normalcy and pathology of the development of the individual as a child in modern society.

I want to understand how we come to think of and treat in practice certain types of behavior and psychological developments as abnormal.

I want to lift from the archive the genealogy of the regime that created the baseline concept of normalcy in modern society and the discrimination of the abnormal and dysfunctional child.

I understand the human condition in opposition to a condition that is diagnosed as ADHD (attention deficit and hyperactivity disorder).

This abnormal condition, I argue, circumscribes the crisis of the fledgling concept of the *biological citizen*. ADHD is an *assemblage* in our *modern equipment* at the beginning of the twenty first century.

Its construction and practice begins in the 19th century with history of experimental physiology and psychology. We must retrieve it from the experiments, writings, correspondence and teachings of men such as Rudolf Hermann Lotze, Wilhelm Wundt, William James, Pierre Janet, Elton Mayo and others.

The Archive is diachronic and transnational. It is made up of letters, experimental devices, curricula, lecture notes, funding proposals, laboratory design, etc.

Between Germany, France and the Northeast of the USA from the 19th into the 20th century, from libraries and reading rooms to abandoned cellars and patient blogs on the internet, ADHD emerges and is practiced as a politics of life and is in itself a therapeutically discipline, a technology of the self.

But this practice, technology and its discipline are not without alternative. But these alternatives can only be regained by understanding the emergence of the practice and its discipline. It must be regained from the Archive.

The Archive can show that earlier in the discourse of our modern sciences of life, we were much closer to realizing scientific potential of studying and translating the healing traditions of other cultures. Instead we have abandoned these potentials for a regime of *objectivity*. Now we find that this regime, its reductionist theoretical vernacular and its Aristotelian moral economy are insufficiently equipped to address the empirical realities that current research reveals. But far from finding comprehensive solutions, the pendulum merely swings in a different direction. Take for example the discussion between the usefulness of phenomenological versus operational (DSM IV) diagnostics. The Archive, I argue, allows for comprehensive solutions and enables a wider discourse. And that is, in short, what I propose to undertake.

b. A Theoretical Model

I want to elucidate a few necessary elements of a model of knowledge production. In order to understand the practices that construct a condition like ADHD in our discourses and thereby shape or *discipline* the interactions among the interlocutors of the ADHD discourse as well as their interactions with their environment, it is necessary to have a model of the regimes of truth and knowledge production that have formed and continue to constitute those practices. The model I apply is mainly a heuristic device, but one that has proven very effective in the past. I combine and extend a variety of conceptual tools into a coherent account, borrowing from Michel Foucault, Paul Rabinow, Juergen Habermas, Dieter Henrich, Ulrich Oevermann, Ted Kaptchuk and Bruno Latour. The model is not an arbitrary pastiche but the product of a long and still continuing deliberation process and successful applications on related subjects.

The model is anything but rigid or a producer of closed accounts of dogmatic truths. Instead it is specifically intended to be open and opening to contingency. In my perspective, the production of rigid, closed accounts of “the truth” is arbitrary dogma. It is no better and as infertile as its opposite the dogma that “anything goes”. A pragmatic account with “truth” as only a regulative ideal is preferable, because it allows for variation and contingency within *reasonable* limits of justification and validity. Therefore it is also insightful to know that there are various levels where the model can be supplemented by other models. In regard to network and organization analysis, for example, it can easily synthesize a Bourdieu or Luhmann style approach.

a. Knowledge production

On a general level, I distinguish between two kinds of elements: *productive/enabling* and *constraining* elements. An interlocutor or actor is enabled by his *equipment* to a certain practice or to make a certain statement or enunciation. An interlocutor is constrained in his actions and statements by members of his network, by bureaucracies, or conventionalizations (Bloor) in informal institutions such as a national or regional scientific community.

The constraining side (or the *negative selection regime*) is tentatively called the *arrangement*. An *arrangement* consists of formal institutions, organizations, and bureaucracies on the one hand. These entities have their own histories, substrates (including paper work, buildings, offices, etc.), and rules (or grammar) which are explicit and can be found in manuals, guidebooks, documented legislature, etc. These entities are *collective actors*, for as analytical units they appear as an acting agent themselves.

In the analysis of a health context, we would speak of the *ministry of health* as such a collective actor (distinguished from e.g. the actual case worker Jones).

On the other hand we have constellations (Henrich). Constellations are formed by networks of people and informal institutions. Aside from the people that constitute them, they have no real world substrate. But they have, if you like, their own grammar or rules. Even if these cannot be found in an explicit form. David Bloor's conception of *conventionalization* is an exemplification of this implicit grammar. Constellations are therefore also a *collectivity of actors*. As such, a collectivity depends on individual actions. In science, a "school" or an "invisible college" are examples of such *constellations*. *Collective Actors* can therefore also be considered to be part of the *external dimension* of an analysis, while *collectivities* are part of the internal dimension, because in the situation that is analyzed there will be an actual representation of the *collectivity* by a person who is actually and internally involved in the collectivity. For the grammar of the internal dimension to be applied, a member who has internalized the grammar must be present, while this situation is different for an external entity. A doctor is not necessarily a member of the ministry of health, but he must adhere to revisions of the ethical guidelines, which he will be handed in writing or can look up in a book or online source. The difference can also be exemplified in the difference of sanction that the doctor will experience if s/he chooses to disregard the grammar.

Productive or enabling factors come together as *assemblages* .

I use Paul Rabinow's Foucault-based terminology of *assemblages* and *equipment*, but I have extended it substantially in regard to the needs of the problems I analyze. I have argued, for example, that ADHD must not only be seen as such an *assemblage*, but also that as such it represents the very crisis of current neuroscience and the ideas of biological citizenship and biopolitics (Rose 2006, 2008). The present essay is a direct result of these deliberations with special regard to the concept of "environment".

I have heuristically identified four components that constitute an *assemblage* and have found two ideal-typical dichotomies that represent them. The distinction between the dimension of the *intellectual climate* and the *equipment* on the one hand, and on the other we find the temporal dimension distinguishing between synchronic and diachronic elements.

An *intellectual climate* circumscribes the field of possible conceptual *relations* an interlocutor can make. *Relations* include analogies, metaphors, equivocations, comparisons, etc.

The intellectual climate's diachronic aspect is circumscribed by a *thought-scape* or *Denkraum* (Dieter Henrich). A *thought-scape* represents a field or sphere of cognitively possible problems and problematizations. I understand this term, that was coined by Michel Foucault in regard to Paul Rabinow (1997, 2003). *Problematization* describes a historical and social situation that constructs potential outcomes of truth-and-false selections in a web of possible solutions. This *problematization* is described as a "historical space of conditioned contingency" (Rabinow).

In the historic progress of discourses, it so happens that a chain of discoveries leads to new problems, that remain largely implicit and cannot be made explicit. They keep summing up and are implicitly present but unresolved until they are concretized and rendered explicit (and largely public) by a string of works that thereby open a new *thought-scape*. Kantianism at the turn of the eighteenth to the nineteenth century represents the opening of a new thoughtscape. It enabled a new philosophy, biology, and psychology – including historic apriori conceptions that lead to our understanding of environment, the human condition and its pathologies. Kant is the name or address of the *author* (Foucault) whom we tentatively ascribe this achievement. The achievement-ascription is a "genius" type of closed account, which is the opposite of what I propose with a discursive model of knowledge production. We are largely within the boundaries of this Kantian thoughtscape today¹⁴, even if our conceptual languages have been drastically changed and even reduced. It accounts, however, for the temporal aspect that thought-scapes are diachronic and account for long-term and historic aspects of an assemblage.

A current and actual situation on the other hand enables conceptual relations also in a synchronic aspect. These aspects come as *dispositions* and are the actually present aspects or problems discussed in the intellectual climate. The discussion of reliability over validity in studies of the effect of pharmaceuticals in ADHD treatment would represent such a *disposition*.

The *equipment* accounts for the conceptual tools that are available. *Equipment* is distinguished in *theoretical/epistemological vernaculars* (synchronic) and *conceptual frames of reference* (diachronic).

The distinction on the temporal level is very important in this instance. The diachronic conceptual frames of reference do provide a stable fundament, while *vernaculars* are dynamic (yet also not arbitrary) structures. There can be for example a Kantian frame of reference. Whether an interlocutor is applying the physicalist-reductionist type of *vernacular* or the *biological vernacular* there a common elements and concepts such as the idea of "apriorism", "historicity", or the "categorical approach"¹⁵. But these common elements are one thing, the other is the actual enunciation in the statements by an interlocutor. The interlocutor employs these forms from his enunciations in an *epistemological vernacular*.

Vernaculars have dynamic histories and often "compete" for dominance within *constellations* – since the constraining and enabling levels are not independent of each other in concrete historic reality. With Kant and the birth of biology as a scientific *discipline*, the biological *vernacular* shaped much of nineteenth century science, when in the late nineteenth century the *vernacular* of physicalist

¹⁴ Or as Foucault once said that whether we realize it or not, we are all Neo-Kantians now. (Foucault ???? quoted by Vandenberghe)

¹⁵ Vandenberghe identifies Structuralism or Relationalism (as opposed to Substantialism) as the common ground of the Kantian frame of reference.

reductionism emerged and gradually began to dominate even the life and social sciences of the twentieth century (see Stingl 2009, but also Lenoir 1981, Valsiner/van der Veer).

These elements produce *assemblages* such as ADHD. The conceptual history and current practices that constitute and are constituted by ADHD have recently become the focus of my research, because as an *assemblage* ADHD represents more than just disorder. It is a crucial focal point of the human condition and how we think of ourselves. The ADHD discourse illustrates this like few others do, because it brings together so much historical development and current conceptual crises.

In short, constraining factors are analogous to grammar or syntax and determine what is not permissible in a discourse, while productive/enabling factors are analogous to semantic and pre-structure what may be possible in discourse. The likelihood of an enunciation is equated from both factors. Progress usually occurs within a pre-existing thoughtscape and frame of reference. There are very few spaces in between that allow for degrees of freedom, where enunciations can be conceived that elude either. These occasions are historically rare, if they occur at all. In those cases they are denoted to be either madness or real ingenuity (Dilthey 18??).

According to this model, most so-called geniuses have committed to progress, but not been *real* geniuses.

The analytical subject of this model is finally the *assembly*.

In each situation that we analyze we find that *assemblages* and *arrangements* come together and produce and constrain through selections the *assembly* of a concrete entity. This entity or *assembly* requires two more analytical units or better yet points-of-view: the *network*_{ANT} and the *actor*_{ANT}.

These are, as indicated by the indexicals, different from the actors and networks of the *arrangement*. And it is not hard to guess that I include to some degree the lessons I learned from Actor-Network-Theory (ANT) and reading Bruno Latour. Although the ends of my research differ from ANT in so far that I still require ties to social aspects because that is my subject matter. But I try to leave the *social* and *society* as explanatory categories behind to the most possible extent.

The *actor*_{ANT} and the *network*_{ANT} are reference points for the analysis of *assemblies*. Such an *assembly* can be very generally a global assembly in politics (Sassen) – say a global pharmacological initiative -, or an actual child, Jones, who is diagnosed with ADHD, or the dopamine system in a physico-chemical system otherwise known as the brain of Mary and currently manipulated and analyzed under an fMRI by a Doctor Greenslit at Boston MGH.

The *actor*_{ANT} in either can be Mary or Peter but it could likewise be the fMRI, the bench Mary is lying on while being analyzed or a specimen of a complex molecule that researchers call dopamine. The *network*_{ANT} is very similar in presenting the other actors around that play there in the actual moment of assembly.

It is largely also the environment or the aspects of the environment that have an effect on and in the *assembly*. *Assembly* therefore happens all the time and all entities that are part of it have a history (most of which is hidden from us in *black boxes*) and it never leaves the entities unchanged. If read as a metaphysics this would mean that each and everything when seen as the point of view of the *actor*_{ANT}

is constantly re-assembled within the constraints of a contingent but not arbitrary sphere of possibilities.

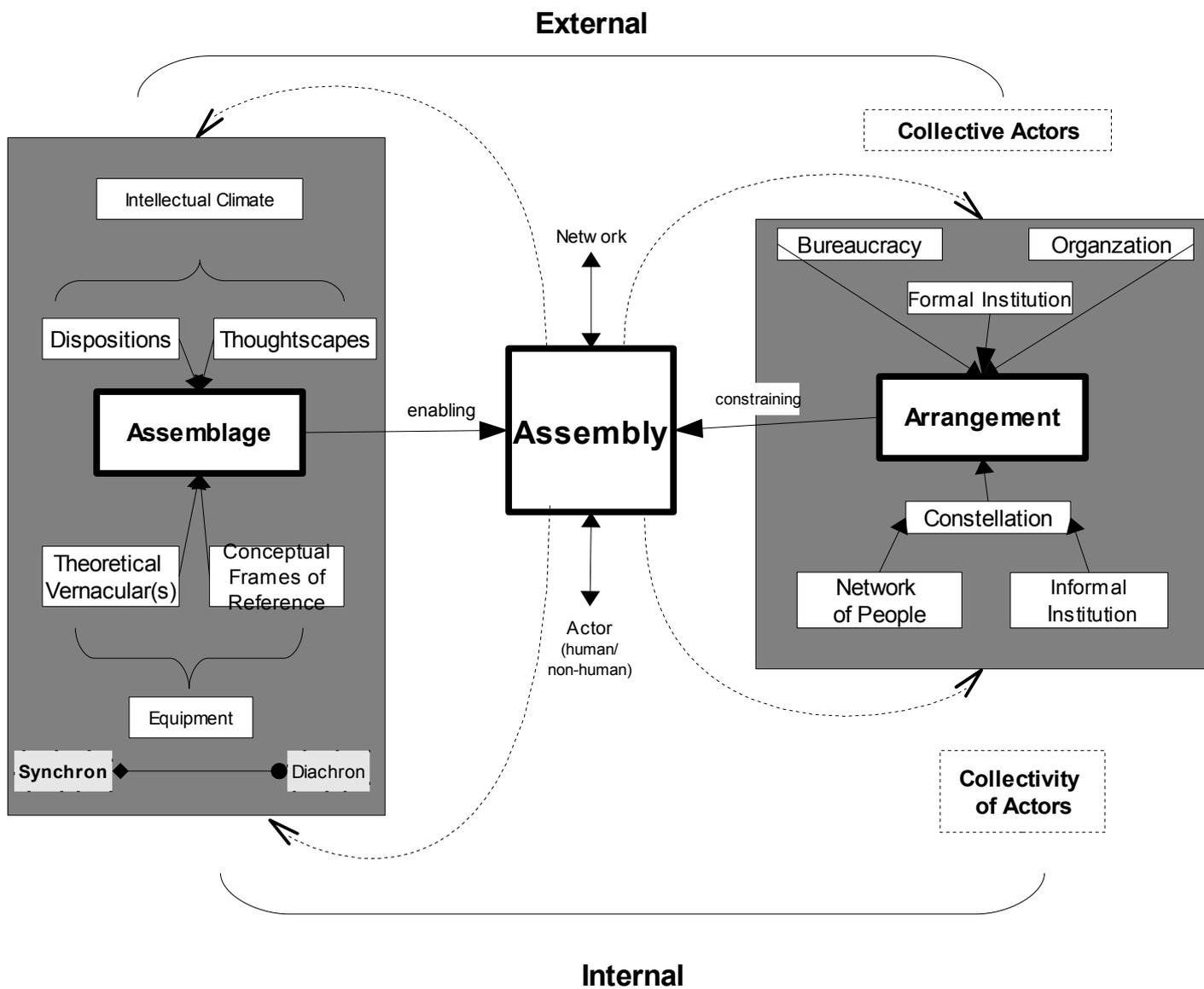


Diagramm Theoretical Model of a Truth Regime

III. Dissemination

The idea of what it means to be human, the practices, the discipline and the *regime of truth* attached to it, began to sink in from the sphere of the expert discourse between researchers and practitioners into the public discourse over the course of twentieth century. This process of dissemination that has run from science to popular science in publications, mass media and high school class rooms. The *leitmotif* or *semantic* that describes the human condition as a normal industrious organism has disseminated into the cultural memory and is still guiding discursive practices and choices that people make in life. This semantic circumscribes an idea that is related to normalcy, a functioning organism on a somatic scale and the integration into the labor market. The target of my research in this part are laymen-expert discourses between parents and therapists/clinicians in cases of assumed ADHD in children.

h. Popular Science and Public Discourse

There is a distinction between science and popular science that resonates in the distinction between laymen and experts.

Experts are of course clinicians, researchers, academic teachers and practitioners. Their discourse is in both productive and constraining factors in a much more progressed stage on the topics in question than is laymen discourse.

Even in a time of easy access to knowledge and research through the internet, this has not really changed. There is a difference between absorbing information and understanding that information. In other words, the *regime of truth* differs greatly between experts and laymen.

Popular science publications are increasingly produced by laymen, rather than experts and have been for the last fifty years. The gap between laymen and experts hereby has widened to a large degree.

Parents with children that are reported with ADHD consequently participate in laymen discourses not expert discourses. The goals that they assume for the treatment therefore are also prevalent in the public discourse. These goals differ of course in the definition and value of what is the presumed quality of life, what is self-realization, what is a happy family life, etc.

In the second part of the research project I therefore want to investigate what exactly the *semantics* are that have emerged the public and the popular science discourse, I will elucidate their historic origin, which lies in the prerequisites of the early twentieth century experimental psychology, and I will show how this leads to the arguments and reasons parents apply in regard to diagnosing and treating children with behavioral disorders like ADHD.

i. Laymen-Expert; Molar Molecular

Laymen-expert such as patient/parent-doctor discourses do suffer from a stark asymmetry between the *truth regimes* they are regulated by. In current discourses on biotechnology, these can be described as an asymmetry between a molar/somatic and a molecular “style of thought” or gaze (see Rose 2007a,b).

A molar/somatic gaze, prevalent among laymen, imagines the body as an organism of limbs, tissues, organs, hormone flows, etc. Even the public discourses on genetics and neurology are constructed from the viewpoint of the molar gaze among laymen.

The molecular style of thought shared by experts such as geneticists, neurologists, etc., constructs their subject matter as nucleotides, coding sequences, ion channels, dopamine receptors, neuronal maps, and so forth.

The dialogue between experts and laymen (such as patients and particularly parents in cases the patient is a child) becomes problematic due to this asymmetry.

The expert-goal lies in an optimization of processes, he/she constructs under the molecular regime, while parents seek to integrate the child as a “social organism” into their social environment – parents construct treatment thus as a social process aiming towards integration on a somatic level. All of these processes and entities on the parent’s side are therefore social/cultural constructions, and such is the behavioral disorder they perceive in their child. For the expert, the truth is differently constructed, namely a scientific fact perceived in the molecular gaze.

In this perspective, the dialogue parents and doctors therefore is a negotiation or a conflict between two different truth-regimes, struggling for domination over which semantic – the molar or the molecular – will gain the power of defining the meaning of the diagnosis and the subsequent treatment (goal). It is this process I want to investigate and elucidate how it works and what semantics and truth-regimes can be isolated, showing, of course, the historical roots they possess.

j. Behavioral Disorders and the exemplary case of ADHD

In recent years we have registered a significant rise in the numbers of diagnosed behavioral disorders in children and adolescents, which is concomitant with a rise in pharmaceutical treatments of such disorders.

As Frazzetto et al (2007) have shown this has sparked debates among laymen and experts, whether the phenomena observed are – at least in part – socially constructed and therefore subject to questionable validity. This argument is brought up in the case of ADHD (Attention Deficit and Hyperactivity Disorder), a group of symptoms clustered from the Hyperkinetic Disorders¹⁶. It must also be stressed that while diagnosis and treatment are generally on the rise, in some countries at least, the relative proportion is by far smaller than in others, as is the number of times, a pharmacological treatment is preferred over a psychological intervention also known as Cognitive Behavioral Therapy (CBT).

Differences in the debate style, as well as in the frequency of diagnosis and pharmacological treatment, and in particular in the way that parents (as laymen) argue amongst one another as well as with experts could be related to differences in the institutional set-up as well as the semantic household relating to differences in the tradition of industrial psychology and fatigue research.

Subsequently, the frequent diagnosis of ADHD and other behavioral disorders in Italy and the USA could be partially accounted for by the fact that parents push for this diagnosis, because it is part of their laymen culture of science to apply concepts that stem from a very strong tradition in fatigue research, which is specific for Italy and the USA but not, say, for the United Kingdom.

The exploration of these relations would comprise a core question in the second part of the study. The specific focus is on the USA, where the phenomenon is to date the strongest¹⁷. As a premise, it must be stated though, ADHD is an existing physiological condition. What is being argued is that the number of cases reported by parents does not match up with the actual neuro-physiopathological cases and it is being assumed that a

¹⁶ The definition of ADHD is according to the American expert environment, while Hyperkinetic Disorders are so called in a European context.

¹⁷ According to Frazzetto et al (2007), the estimates for ADHD in schoolchildren in the US lie around 6.7%, though some estimates go up to 16% in the US. In Europe, estimates – with grave differences among nations – lie between 2% and 5%.

major factor accounting for this is a) culture specific and b) refers back to the concept of the human condition that shapes the semantic household of laymen and popular science discourses. Exemplary we find in Frazzetto et al the statement, that “drug treatment is generally intended to grant and restore ‘normal’ functioning” (2007: 394).

This semantic difference is crucial. Typical American definitions of ADHD (such as found quoted at mentalhealth.com) refer to problems with work and classroom activities, using metaphors such as “driven by a motor”, etc. European descriptions, such as the WHO classification, refer more to child development and social skills.

k. Diagnosis and Treatment of ADHD; Parents Goals

The diagnosis of ADHD is problematic insofar that it lies with the parents and teachers to report their children/students, thus these are the parties that are actively seeking diagnosis and treatment. With the increased number of cases different standardized (self-)report tests have been made available to schools, parents and adults in the US¹⁸.

Non-withstanding it is must be noted that

- a) ADHD is a compound disorder itself. It consists of Attention¹⁹ deficit on the one hand and Hyperactivity on the other
- b) ADHD is defined from a cluster of symptoms
- c) ADHD comes in different degrees
- d) ADHD has a high comorbidity²⁰ rate between 50% and 90% in observed cases, leading to misdiagnosis and problems in (pharmacological) treatment (Faraone/Kunwar 2007)

The role of non-physiological factors in causing, increasing or hastening ADHD, such as diet, environment and social/family context is also not entirely clear, since different studies suggest different results, What we can say at this stage about the condition, diagnosis and treatment of ADHD is therefore the following (see Hunt 2006, Frazzetto 2007, Smoot et al 2007):

We have a rising number of children with behavioral problems reported to doctors and therapists by parents and teachers.

A large set of these cases is subsumed under the label ADHD by parents and teachers but not necessarily doctors.

There is a neurophysiological aberration in the brain that has been observed in studies with children suffering from ADHD, using Functional Magnetic Resonance Imaging (fMRI), PET scans and similar techniques.

¹⁸ Conversations I had with people, working in the German Day-Care and Kindergarten profession, gave me an impression that there seems to be very little standardized material and information made available to staffers. But parents increasingly seem to push staffers to watch out specifically for ADHD related symptoms.

¹⁹ It must also be pointed out that it is not neurologically clear what *attention* actually is (see Hunt 2006a).

²⁰ The term "comorbid" currently has two definitions: 1) to indicate a medical condition existing simultaneously but independently with another condition in a patient (this is the older and more "correct" definition) 2) to indicate a medical condition in a patient that causes, is caused by, or is otherwise related to another condition in the same patient (this is a newer, nonstandard definition and less well-accepted).

The number of cases reported exceeds the number of actual neuro-physiopathological cases. (Not every child reported or even diagnosed can be examined by using fMRI or similar techniques.)

In those cases where the condition was observed to be physiopathological, this condition seems related to the role of Dopamine, Serotonin and/or Norepinephrine in the brain-chemistry (see: Oades 2007, Hunt 2006b).

There are reasons to assume that in actual neuro-physiopathological cases there is a strong relation to the genetic makeup.

However, the neuro-physiopathological cases account for between 2% and 5% of the assumed, reported or even diagnosed cases.

Also, while the role of non-physiological factors as causes is unclear so is their role in accounting for the difference in severity of each case.

The actual situation of a child born seems to follow an account closer like this scenario:

2%-5% of children being born may have a genetic disposition of an ADHD *career* (!).

Complex factors play into whether and in what fashion ADHD will actually occur and progress. That stands to reason since a) epigenetic factors²¹ have to be accounted for, and b) the brain is continually developing through childhood and adolescence. One of the brain's central features is its plasticity, which is exemplified in its capacity to cope with even severe injuries²².

Therefore factors like diet (see: Colter et al 2008, Lakhan/Vieira 2008 additionally Sagduyu et al 2005), drinking water quality²³, mass media exposure (see Spitzer 2005), family relations and social interaction affect the development of the brain (see Smoot et al 2007).

We must therefore distinguish between causal and development factors.

In cases of behavioral disorders where we have no genetic predisposition for a behavioral disorder (pure psychopathological cases) or cases where a genetic predisposition increases the likelihood of the disorder emerging, but does not necessitate it, the developmental factors become causal factors.

²¹ A recent study has suggested that obesity is contagious, if one accepts "social contagion" as a cause. Given the severity of the gene expression may vary epigenetically, within family or social settings where ADHD is already present, such a concept of social contagion may apply in the form of what I call developmental factors.

²² As for example the famous Phineas Gage type injuries.

²³ Studies show that the drinking water in Western countries is often contaminated with chemical, medical and biological waste, including growth-hormones, antibiotics, lead, etc.. Each of which even in trace amounts can negatively effect specifically the development of children.

We can assume that in reported cases of ADHD, some are genetically caused, while others are cases that are not neuro-physiopathological cases, but other either a psychopathological or even completely different type of behavioral problem, caused by development factors. The same goes for the question of comorbidity.

That said, in diagnosis and treatment caution on the expert side is therefore as imperative. However, the pressure existing in the social context (including parents, teachers, as well as healthcare administration) that is brought upon doctors is often too high to work on a suitable diagnosis and solution for the actual pathology. This pressure is informed by concepts and world-views among laymen that gravely differ from the expert's understanding. But that does not mean that experts themselves are bias-free in general. While researchers and clinicians often have a keen understanding of the complexity of ADHD, many private therapists and doctors "in the field" find themselves in more difficult circumstances of running a business that must help them make a living, while they are faced with an increasing demand in various issues of health care administration, etc. Therapists consequently often ascribe to succumbing to the semantics of parents, concerning the diagnosis of ADHD.

IV. Interviews, data, Transcripts

Using existing reports, media and expert coverage and data sets on ADHD, as well as making my own interviews with doctors, researchers and parents, I want to reconstruct ADHD as a cultural phenomenon in the discourse a) among laymen, b) between laymen and experts and c) among experts to distinguish the cultural phenomenon from the scientific phenomenon. The underlying assumption is that the cultural phenomenon owes its discursive prerequisites to the much older concept of the human condition as that of a “normal, functioning participant in industrial labor society”. ADHD, I argue, can be described as a prime *assemblage* of central character in our modern societies at the beginning 21st century.

To reconstruct this assemblage aside from its genealogy, but in its current and actual enunciations, I propose the recording of initial conversations and diagnosis sessions between parents, children and doctors²⁴, I will review the transcripts of these with a specific approach that I designed from methods of sequence- and discourse-analysis. I am seeking to expose semantic power-structures, revealing how laymen (parents) and experts (doctors) in their dialogue seek to establish domination over the meaning of the diagnosis, and therefore subsequently over the goals of potential treatment strategies.

The historical ties of these semantics, their roots in older discourses should also be elucidated by this approach.

²⁴ It goes without saying that this is to be undertaken only under the condition of informed consent of the participants and institutional approval of the authorities concerned, heeding the standard guidelines of the ethics of research.

V. International Comparative study

In continually creating my network of international colleagues, I suggest to explore the opportunity of an international study, engaging interested scholars in several countries. I am currently working on these opportunities, but much hinges on securing a powerful affiliation with a university such as Harvard.

Graduate students working on thesis projects concerned with ADHD in their countries would be ideal candidates for a contribution in this study in supplementing their own research with a similar interview/diagnosis-transcript study that I am proposing. I would travel to each location for few days, if possible given my schedule and budget situation, in order to teach these students and researchers the approach and ideas I apply. Otherwise modern methods of Online-discussion and –instruction could be put to use for his purpose.

Coordinating the findings of their studies into ADHD with the transcripts of interviews, etc. will enable a publication on the international differences in ADHD as both a cultural and a scientific phenomenon.

II. Application

I suggest as a third part for my research including an application of the theoretical construct and genealogy. Behavioral disorders can have genetic and/or psychological/sociological origins.

Even if a genetic disposition exists in an individual, that does not necessitate that all disorders must occur, which recent research in epigenetics suggests. Additionally, the severity of the genetic expression is not necessarily pre-defined.

A case as ADHD is difficult, since in its neuro-pathological expression – excluding cases, where it is actually a misnomer on the reporting side (parents/teachers who have problems with a child that does not have ADHD) – it depends on a variety of processes in brain-physiology and is subject to comorbidity, and the pathological career of ADHD as well as comorbid disorders is influenced by parents/family, the social environment, nutritional diet, mass media exposure, physical engagement, intellectual stimulation.

Therefore, we can conclude that even with an existing genetic causal factor, a large number of cases of ADHD (or comorbid disorders) would be less severe, may sometimes even be prevented, if the array of developmental factors were optimized.

Additionally, it seems reasonable to suggest that treatment should not only focus on the causal factor, but also on the developmental factor.

An integrated approach of

- Pharmacological treatment (PCT)
- Cognitive Behavioral Therapy (CBT)
- Physical Behavior Therapy (PBT)
- Nutritional Diet (ND)

would seem the most reasonable course of action.

First of all, each case is individually structured, therefore therapy options must can vary in degree in each of the four dimensions (PCT, CBT, PBT; ND)

Secondly, there are differences in pharmacological strategies. Methylphenidates, such as the famous Ritalin are stimulants that have a “kind of a counter-effect” in neuro-pathological patients with ADHD, creating an ability to focus.

But stimulants can make things worse in patients diagnosed with ADHD who have no neuropathological but only a psychopathological disorder. Not to mention side effects or unintended interaction with comorbid disorders, etc.

There are new non-stimulant drugs on the market, like atomoxetine, which have proven useful, are less rigorous and seem to come with fewer side-effects. But clinical trials, that have distinguished between first/second/third line pharmacological treatments, still put methylphenidates up front and only upon their failure suggest atomoxetine as a third line strategy. However, these trials are not uncontested.

Also, it stands to reason that over a patient-career, the pharmacological strategy may change while the patient is growing up.

Also, side-effects and comorbid disorders could be mitigated through a combined approach, even lesser dosages or non-stimulant medication could be considered in cases that responded so far only to strong medication.

Another point seems to be forgotten in the emphasis of the discussion of pharmacological treatment – specifically in the US with a focus in diagnosis and treatment on classroom performance:

A child²⁵ suffering from ADHD is deprived of necessary learning processes in social interaction, like learning group behavior, emotional budgeting, higher moral and logical reasoning²⁶. These have to be “relearned”, once a treatment of the ADHD condition shows success. It is here that developmental factors play a key role.

If these factors initially contributed to the ADHD condition in the patient, they will continue to work as boundaries for further intellectual and social development above all because the child may lack social and self-organizational skills appropriate for its age. This is certainly accounted for in several approaches to CBT but not in all, nor are all CBTs successful.

It is in this regard that I propose to open up the conceptual frame towards other medical cultures and ideas. However, subjecting these efforts to strict scientific criteria.

²⁵ In adolescents and young adults, ADHD careers are becoming rationalized or normalized differently. Often as legitimation for failings in youth, etc. The question could be whether these processes must be understood as the normalization pathologies, or the pathologicization of normalcy, provided ADHD is not viewed as novel disorder, but rather merely as previously normal occurrence, that has only now become a pathology, either because developmental factors have changed to a point where the severity has increased, or because of other reasons.

²⁶ While the rigidity of the scale suggested by Lawrence Kohlberg (1996) has been contested with good reason, the basic insight into a successive development of moral reasoning (and reasoning in general) must be accepted. Of course, many basic insights into child development and socialization from Piaget and Parsons to Erikson still have utmost value.

a. Opening the field for translations: The examples of Aikido and TaiChi

The case of Aikido or of TaiChi seems a fertile avenue to explore, because neither is a competitive yet individual-oriented physical practice²⁷. There are already some efforts to search for conceptual connections. There is some literature on the use of Aikido and TaiChi in therapeutic settings. And finally, there are organizational structures in existence which have already some reputation and a network that would prove beneficial.

In regard of this project, I would suggest a fairly small pilot study with a handful of select cases between 10 to 40, depending on the available budget. I am currently negotiating terms with Aikido trainers. Upon success of the study, further studies could be indicated.

²⁷ Studies on the importance of posture, balance, physical movement, fatigue and attention have recently been considered in regard to ADHD and related mental problems (See exemplary: Schmid et al 2005; Cavanaugh et al 2007; Simoneau 2006)

b. Simmel, Parsons and Aikido (Levine), and Harvard and Chinese Medicine and TaiChi

Donald Levine, a renowned sociologist from the University of Chicago, where he also served as Dean, and a long time practitioner of Aikido, has made efforts in recent years to show that the conceptual frame of reference underlying Aikido is translatable into scientific and therapeutic concepts in the Western world (Levine 1984,1991, 2006, 2007a,b) as well as into a curriculum for the Liberal Arts.

Using concepts from Georg Simmel²⁸ and Talcott Parsons, combining them with Western methods of psychology and of physical therapy (Feldenkrais), Levine included Aikido into a common conceptual frame of reference that can serve as a preliminary translation matrix (from Levine 2007 b).

With Ted Kaptchuk as a coordinator, members of Harvard Medical School and the Osher Center explore several aspects of Alternative Medicine, Physical Practices and Brain Development. If made possible with the fellowship, it may be negotiated that the project could enter the practical phase under their auspice. This would resolve the ethical and legal issues of the latest Human Subjects regulations.

²⁸ Who was a teacher of experimental psychologists Edmund Burke Delabarre, and whose works have been influential for example on Karl Jaspers.

c. Success of Aikido in other fields

It has been demonstrated that the use of Aikido in psychotherapy, working with children with Asperger's as well as ADHD has shown promising results.

However, we are yet only at the beginning of developing actual treatment strategies that integrate physical therapy into ADHD therapies on the one hand, as well as defining proper scientific criteria towards evaluating such efforts. But that is only more reason to finally do so in light of the opportunity my project proposal presents in offering translation matrices that can enable scientific criteria, as well as show that Aikido is one of those Asian disciplines that holds potential to be translatable into a Western medical canon in the therapy of behavioral disorders.

d. Aiki-Extensions

Aiki Extensions is a non-profit organization co-founded in 1998 and presided over by Donald Levine. They have helped sponsor numerous projects in the US, as well as internationally. Their focus is on conflict resolution and on physical therapy. They currently work with a high school in Holyoke, MA, with children Ethiopia and Israeli/Palestinian children, among other projects.

The factor of helping with creativity is also stressed by practitioners of Aikido.

Aikido is increasingly promoted among business managers and in organizational contexts as a discipline preparing professionals in stressful environments to deal with conflicts as well as pressure. In these contexts members of Aiki Extensions have worked to some extent. I suggest setting up two small pilot projects in the Boston area and Chicago area under the guidance of Aiki Extensions affiliates. Each observed by myself (Boston) and a medical sociologist or psychologist (Chicago).

Other organizations I am now beginning a dialogue with include Kokikai Aikido Boston, TreeOfLife in Somerville and Cambridge TaiChi.

TaiChi is another soft martial art that may be a viable PBT alternative.

If it can be made possible the selected participant children should be included in a clinical program that allows to make fMRI and PET scans to study whether there are significant changes in the brain-structure – this is currently being explored, but it is of course from

the side of any willing clinics and practitioners in the US considered to be depending on a position with an Institution such as Harvard

e. Aikido for ADHD kids – a pilot study: Aikido in CBT

Including a Physical Behavior Therapy into Cognitive Behavior Treatment will prove incredibly useful for several reasons.

Studies on the role of attention and postural stance (see recently with references to other studies: Schmid et 2005; Cavanaugh et al 2007; Simoneau et al 2006) have hinted at the fact that posture and movement are impaired by attention deficits. Patient reports also indicate that self-location in spatial contexts, as well coordination capabilities seem sub-optimal. Practicing a discipline that is focused on posture, self-location and coordination will therefore be beneficial and has in fact proven to be with Asperger patients (Levenson 2003)²⁹.

It has also been demonstrated that simple meditative techniques (Linden 2003) can help improve the attention and focus capabilities in children with behavioral disorders such as ADHD³⁰.

Additionally, a common comorbid disorder is found in ODD (oppositional defiance disorder) which necessitates a high rate of conflict with parents, teachers and peers. This of course leads to additional stress on family life, social interaction and of course the child's psychological make-up.

Soft martial arts, such as Aikido or TaiChi are oriented towards avoidance or resolution of conflict. In practicing such an art children will learn to integrate strategies to greatly reduce conflict and stress.

It would be favorable, if the practice of Aikido or TaiChi could be integrated into family life. Thereby social ties within the family, which may have been disrupted by the behavioral disorder could be strengthened. It will also be interesting to observe how the

²⁹ There are reports in internet forums by a few ADHD patients that actually do practice Aikido, that their postural and self-location capability has dramatically increased. There is a strong need for scientifically guided pilot studies to that regard.

³⁰ It could be suggested that more sophisticated techniques in meditation may be tried for treating ADHD, such as practiced in Zen-Buddhism. One the positive side here stands the fact that Buddhist practices has received more attention in science (see exemplary Harrington 2008, Harrington/Davidson 2001); while Zen practitioners have included scientific methods, as well as discussion of Western psychological concepts and history into their own tradition (see exemplary Sekida 1975). On the downside, Zen meditation (Zazen) is very demanding and will not catch the interest of a child in a way Aikido may. However, the philosophy and practice of Zen can be also translated into Aikido concepts (Novick 2003) and may therefore be a viable alternative for adults suffering from ADHD symptoms, in particular adults that have prior martial arts experience, or in a few years from now were participants progressing from studies as I suggest here into adulthood.

integration of a new conceptual frame of reference on the parents side will open their *truth regime* to other ideas and could possibly even lead to a more cooperation oriented dialogue with experts such as clinicians and therapists³¹.

³¹ Although this is a „best case scenario“ dependent on variables that would have to be controlled in the selection process.

f. Aikido supporting pharmacological treatments in combined treatment

I do not claim that practicing a martial art should be promoted as an alternative to pharmacological treatment.

The decision what form of treatment is best for the child remains case dependent.

Aikido itself is not a therapy but a tool within a combined treatment strategy.

The fallacy that specifically parents often fall for is to assume that there is a one dimension solution like a magic drug.

It rests with the experts, teachers and parents together to create circumstances that do justice to the needs of the child. This requires a combined treatment strategy that allows for an improvement of the quality of life.

Quality of life is a diverse and contingent concept itself, depending on the *truth regimes* brought to bear in discourse between laymen and experts.

Often it seems that between parents and doctors the choice is for a child's integration as a functioning element in the labor market which clashes with the idea of optimizing a neuro-physiological system. In between these alternatives, behavioral disorders emerge as a cultural and a scientific phenomenon: ADHD, it seems, is the *assemblage* on which this the current *episteme* can be based.

It is the history, the construction and practice of these phenomena, respectively the *assemblage* ADHD within the scientific and public discourse that I want to uncover in this project and subsequently open new avenues for approaching behavioral disorders combined with a pilot study in putting to practice historical and theoretical deliberation. This is a pragmatic approach, which fits the demands of good science. The project is unique and original. It will yield results that will profit our understanding of our own scientific history and of current modes of knowledge production, while it will help improve the lives of a few children suffering from a "nasty" disorder.

It is not often that a project in the *Geisteswissenschaften* has such an interdisciplinary and pragmatic potential. This is why I very much urge you to help it along and accept my project and give it your support.

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