Educational Research 6

Paul Smeyers
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Educational Research: The Attraction of Psychology

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Educational Research: The Attraction of Psychology

Educational Research

VOLUME 6

Aims & Scope

Freedom of inquiry in educational research can no longer be taken for granted. Narrow definitions of what constitutes 'scientific' research, funding criteria that enforce particular research methods, and policy decision processes that ignore any research that is not narrowly utilitarian, in many countries, create a context that discourages scholarship of a more speculative, exploratory, or critical sort.

In this series, internationally leading scholars in *philosophy and history of education* engage in discourse that is sophisticated and nuanced for understanding contemporary debates. Thus social research, and therefore educational research, is again focused on the distinctive nature of what it studies: a social activity where questions of meaning and value must be addressed, and where interpretation and judgment play a crucial role.

This educational research takes into account the historical and cultural context and brings clarity to what actually constitutes science in this area. The timely issues that are addressed in this series bear witness to the belief that educational theory cannot help but go beyond a limited conception of empirical educational research to provide a real understanding of education as a human practice. They surpass the rather simple cause-and effect rhetoric and thus transgress the picture of performativity that currently keeps much of the talk about education captive. The authors are united in the belief that 'there is a place within the social sciences in general', and within the discipline of education in particular, for 'foundational' approaches that enable the systematic study of educational practice from a discipline-orientated approach.

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Chapter 1
Making Sense of the Attraction of Psychology: On the Strengths and Weaknesses for Education and Educational Research

Paul Smeyers and Marc Depaepe

Psychology studies a great variety of processes (e.g. conflict, aggression, frustration, memory, learning) and is used in different fields or areas (e.g. labour relations, mental health, advertising, human resources management, the courts, people's private life). Among these, one also finds education and child-rearing. Psychology not only carries with it the promise that it will deliver insights into human behaviour, it is also believed that it can help to address the problems human beings are confronted with in the situations they find themselves in. The number of psychology researchers is growing and so is the number of job opportunities requiring this type of qualification or areas in which those who studied psychology are employed. It is an understatement to claim that psychology nowadays favours a particular methodology and the use of certain methods. Though it loves to refer to itself as embracing 'post-positivism', it can be asked whether it really has parted from logical empiricism characterized by the invariance of perception, meaning and methodology. Randomized field trials and (quasi-)experiments are paradigmatically recognized as the preferred way to proceed. It is true that parts of the discipline are no longer wary of the use of qualitative methods and are sometimes even interested in 'the particular', but it can be questioned whether this is more than the use of qualitative data within a design that is foremost aimed at explanation (whether causal, quasi-causal or probabilistic) and which is looking for the general, i.e. to be able to generalize insights. The discipline thrives in the present climate of research output that almost exclusively values publications in 'Web of Knowledge' journals. It has penetrated many domains of society,

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and its vocabulary and discourse have become part of our everyday conversations. Such a success story is likely to attract researchers working in other areas who gladly take the lead from those who work in a booming field. Educational researchers are no exception to this, but in their case, more needs to be said.

Obviously, the study of education involves other theoretical approaches as well such as those of sociology, ethics, history, etc. As all of these aspects come together at the level of the practitioner and the policymaker in the educational field, all of them should have a place in educational research conducted to inform practitioners and policymakers and should also be part of the academic discipline of education, a field of study in its own right. But this is not the end of the story. By studying phenomena from different angles, methods are also 'borrowed' from other disciplines. And thus, a new debate is given ammunition: Which are the proper methods to study education? Though it may not be easy to determine all the relevant aspects of an educational problem (in fact opinions differ considerably concerning this), surely, all of these aspects have to be given a place in educational research. From this, it follows that educational research not only has to accommodate various interests but as well various methods or methodologies. For some scholars, either in the field of educational research or more general in academia, this is a bridge too far. Answering the question why psychology is particularly relevant (and attractive) for the field of education and educational research therefore does not suffice with an answer in general terms; of course in general, its attraction and relevance for education and educational research are straightforward. Instead, what should be highlighted is the attractiveness of particular kinds of psychological research and such as well in terms of content as of method. And it is to these that this collection of essays turns. It considers this specific attractiveness in the context of education as well in its historical underpinnings as in its philosophical and educational presuppositions.

Traditionally, education had deep roots in philosophy, religion and more generally in values and in what it means to lead a life that is worth living. For various reasons, this is no longer the case even to the extent that some scholars will claim that it is now all about means and that ends are shifted into oblivion and no longer part of a rational debate. Here education is seen as something that has value only in so far as it aids to acquire a good (or a better) job, as it prepares for society. It is of course not just understandable but common sense that one tries to have as much knowledge as possible of whatever kind, but it is nonetheless important to identify the kinds of knowledge which have a special relevance for a certain area or field. One can see the attraction of studies in laboratory conditions investigating the relation between independent and dependent variables hoping to achieve general insights and conclusions based on statistical reasoning. Yet, in social sciences, much more than in natural sciences, its laws (or quasi-laws) or regularities can only be applied *ceteris paribus* (everything being equal). They are in desperate need of contextualization. And thus, an alternative approach presses itself forward. To this, it should be added that many take their lead from meaning and intention, from what something means for us as the material out of which our decisions are composed (and which should therefore be taken up by the academic discipline).

Quantitative empirical research belongs to the paradigm of causality, which cannot give a place for the reasons human beings invoke for doing what they are doing (or only at great pains and by changing the meaning of causality to incorporate 'reasons'). It may battle to include interaction effects; yet, it is in danger of falling short because it starts from the idea that variables can be studied in isolation and put together later again with other variables. Moreover, it presupposes too much homogeneity. And different from a holistic approach where the full picture is the starting point (and the meaning of the parts is defined in terms of their contribution to the full image), it is often also too piecemeal. Together with the prominence it gives to neuroscience, so fashionable nowadays, it prioritizes the natural over the social world. Though psychology and the particular kind of educational research that developed in its vein may pursue a legitimate interest, its utilitarian value, one that is celebrated so highly in its embracing of the means-end reasoning, seems to be rather limited in the field of education. In that context, it may be in danger to implode, to melt down, once it is realized that such educational research thus divorces itself from what is really at stake in that area. There is incidentally a remarkable parallel between educational research and psychology and the discontent psychologists themselves express in relation to neuroscience. Identifying a worldwide movement in favour of more brain research and less psychology in the traditional sense, i.e. as a behavioural science which studies the functioning of human beings in all its dimensions, Wagemans (2011) recently complains that some scientists are of the opinion that they can enhance their prestige by adding 'neuro' as a quality label to their subdiscipline. Instead of installing a hierarchical relationship between neurosciences and psychology, he argues, it may be better to consider these disciplines as only partly overlapping, and against a reductionism (in the direction of one or other kind of physics), he reserves a place for psychology as a select discipline. There are many elements (such as education, the sociocultural context, previous experiences), he argues, which determine human behaviour and which cannot adequately be addressed when limiting oneself to brain processes. Though it cannot be denied, so he continues, that these too are mediated by brain processes, this does not equal to explaining behaviour exclusively on the basis of these. May we add that when educational research is at stake, these, in our opinion valid arguments, are easily overlooked (possibly deferred) in favour of the dominant psychological approach—although it must be said that perhaps even more damage is done by educational researchers themselves who have shifted their own research and are all too eager to embrace the above-mentioned 'shortcomings'.

A more balanced approach that addresses other aspects as well and which pays attention to the particularities of the situation one is studying may be more apt for the educational field. Here it is accepted that social science does not give us fixed and universal knowledge of the social world as such but, rather, that it contributes to the task of improving upon our practical knowledge of ongoing social life. Here one does not go along to address the existential condition one finds oneself in characterized and undermined increasingly by uncertainty and doubt by looking for another normative background (based on laws, regularities, statistical reasoning). It is accepted that such would break down the existential meaning and only offer the

illusion of certainty. Thus, the tendency is resisted to look for expert advice which would bracket the personal commitment of those involved abandoning their responsibility in favour of what is neutral and 'objectively true'. That the development of a particular child can be given a place within what is normally to be expected may give us some confidence that nothing is going wrong. Yet, the alternative should not necessarily invoke all kinds of measures but start with a more inclusive appreciation of her behaviour which may or may not lead to specific interventions. Psychology and educational research that put itself in the nowadays dominant tradition presuppose too much that the normal development administers a normative background and generates aims which have to be observed and aspired at any cost. It goes without saying that there are many psychologists and educational researchers who apply their insights wisely and who do rely in their advice not exclusively on the limited insights particular research has to offer. But it seems that when they refer to their specific expertise (*as psychologists or as educational experts*) or when they talk about what their subject should address, they invoke a particular concept of science (laws and regularities) and use what is 'scientifically established' thus putting themselves in danger of ignoring other relevant aspects as well as the particularities of the problem they want to address. Their approach carries a promise they cannot live up to. Of course, the illusion of certainty that they uphold is very attractive, almost irresistible to all those who struggle to decide what to do. Yet, their help, often well intended, cannot do away with the responsibility and the requirement to offer a justification for the way we interact on behalf of those who are put in our trust. It cannot do away with the normative stance they themselves are necessarily embracing as researchers.

The attraction for education and the mimicking of educational research based on the success of psychology (a track on the way to a full-fledged evidence-based science) come down to embracing a particular methodology and methods which create the illusion of the possibility of expert advice (and thus of certainty) by offering an answer that 'works' but which brackets each and everyone's responsibility. Here, the isolated meritocratic individual replaces the person or subject whose home is a social practice that can be understood to a large extent by focusing on reasons and intentions which explain the alternative ways in which human beings can take part. The simple generalizations that are offered ignore the particularities of the situation the teacher or parent finds herself in but do also away with the child and her possible commitment and indeed possible contribution to what is passed on. Though all of that may be attractive and even successful, an analysis of the presuppositions which are embraced shows that it needs to be resisted or, to put this more precise, appreciated in terms of its strengths and weaknesses. Thus, it will also become clear how much historical and cultural contextualization is required to make sense of what parents, teachers, policymakers and educational researchers really have to focus on.

Proponents of the approach that we have characterized of psychology and particularly of educational research in its vein may find the above criticism just another illustration of sweeping generalizations educational theorists come up with not helpful at all neither for theory nor for practice in the educational field. It will thus be matter to substantiate these claims and such will be offered by this collection of

essays. The chapters address issues which are high on the agenda nowadays. In one or other way, all of them contribute to the idea that educational research should reclaim its territory instead of indulging itself in what is rightfully psychology's own. And it is tempting to add that psychology itself would not do bad when it revived in its own approach a certain anthropological, philosophical and historical dimension. But, surely, that must be left to them.

This is not the first time that the *Research Community* 'Philosophy and History of the Discipline of Education',[1] established by the Research Foundation Flanders (FWO), Belgium (Fonds voor Wetenschappelijk Onderzoek—Vlaanderen), addresses an area that is central for educational research. In both the first (1999–2003) and second (2000–2008) periods, which focused on 'evaluation and evolution of the criteria for educational research', various positions were scrutinized (see Smeyers & Depaepe, 2003, 2006). In the present (third) 5-year period of this *Research Community* (2009–2013), the overall interest is 'faces and spaces of educational research', which is divided into four subthemes (respectively addressed during the conference in 2009, 2010, 2011 and 2012): the ethics and aesthetics of statistics, the attraction of psychology, institutional space, designs and material culture, and finally the representation of educational research. The papers published in this volume were first presented at the 2010 *Research Community* conference in Leuven. Scholars from philosophy and history of education (some of whom are particularly interested in history and philosophy of science) combine their efforts to study psychology as part of both the academic discipline of education and the broader educational context. Starting from some chapters which address first of all the historical situatedness of the development and contribution of psychology to education, child-rearing and educational research, the relevance and presuppositions of neuroscience are discussed by several authors. Then, a contribution is offered which discusses the relation with educational theory and what it may lack nowadays. Turning to what we should expect from psychology and highlighting how it narrowed down education to learning, the issue is raised what we need most in education and whether this could be identified as 'a theology of education to come'.

The collection[2] opens with a chapter by Marc Depaepe (Chap. 2) who addresses the historical attractiveness of psychology for educational research which he illustrates with the case of Nazi Germany. He argues that it is quite easy to formulate a number of hypotheses on the attractiveness of psychology for educational research on the basis of the existing literature. Generally spoken, one may assume that there has been a growing interest during the twentieth century for psychology in educational research. The takeover of 'experimental pedagogy' by 'educational psychology' in the United States as well as in the United Kingdom, even before the Second World War, may be a good example in this respect. He warns for the simplicity of that kind of conclusions. He considers it essential that a historian of science tries to historicise his findings not only against the temporal and spatial backgrounds of the studied developments but also against the specific life stories of the individual researchers. It is hardly possible, so he argues, to understand the concrete relationship between psychology and educational research without such a contextualization. This is illustrated with the development of educational psychology

in Nazi Germany. Offering an analysis of the *Zeitschrift für Pädagogische Psychologie*, he turns to the work of Gerhard Pfahler (who was granted clemency after the war) one of the key figures. He shows that the search for structural processes in history must always be supplemented (and even corrected) by smaller-scale stories of everyday reality.

The next chapter by Jean-Claude Croizet (Chap. 3) discusses the fatal attractiveness of psychology and addresses more in particular the racism of intelligence that can be observed in its use in educational contexts. He starts from the observation that psychology has penetrated many domains of society and can be considered as a very successful social science. It is widely present in education, in the workplace, in court and not to mention in people's private life. This success, he argues, is to a large extent due to the fact that psychology offers a scientific credit to an important and key cultural principle in our Western societies: the belief of the primacy of the individual over the situation as a cause of behaviour. Psychology has played a key role in substantiating this cultural frame by proposing an 'objective' measure of intelligence and by repeatedly fuelling the idea that in a democratic society and a competitive educational system, the winners are those who are the more intelligent. Hand in hand, education and psychology have contributed to a powerful illusion that hides the impact of power and privilege in the schools and recycle them into individual merit. The chapter focuses on the love story between social domination and the psychology of intelligence. It discusses the development of intelligence testing and shows how research in psychology has served the domination and expropriation of the haves over the have-nots. He labels this form of social control 'the racism of intelligence' and deals with its presuppositions and the main characteristics.

Psychology is heavily relied upon in teacher education. In her chapter, Lynn Fendler (Chap. 4) looks at it through the lenses of efficacy, professionalization, management and habit. Educational psychology is a required element in the curriculum for all accredited teacher preparation programmes in the United States, and background knowledge in educational psychology is assessed on examinations for teacher licensure in most jurisdictions. Traditional university-based teacher certification is under attack from various sectors, and the curriculum for teacher preparation is among the most contested issues. In this chapter, she examines four possible hypotheses that might be offered to explain the continued presence of educational psychology in the curriculum of US teacher education. *Efficacy:* Educational psychology is a requirement in teacher education curricula because the study of psychology makes better teachers (regardless of how one might define 'better'). *Professionalization:* Educational psychology is included in the curriculum of teacher education because the affiliation with a scientific discipline helps to raise the professional status of teaching and teacher education. *Policy/management:* Educational psychology remains in the curriculum of teacher education because psychological research renders the unruly practices of teaching more predictable, rational and manageable; the language of psychology gives teacher educators a voice in educational policymaking. *Habit:* Educational psychology continues to be included in the curriculum of teacher education out of habit. Each of these hypotheses,

she argues, calls for a different investigative approach. Specifically, in order to examine the efficacy perspective, she does a survey of recent literature and synthesized the findings of scientific research reports addressing the relationship of educational psychology to the quality of teaching. Second, to investigate the plausibility of the professionalization perspective, she draws on histories of psychology and histories of teacher education as well as professionalization theories in order to assess the historical role educational psychology has played in professionalization. Third, in order to examine the policy/management explanation, a genealogical approach is taken to the relationship of psychology and teacher education as disciplines in the epistemological context of modern social sciences. Finally, in order to examine the role and function of habit, the chapter turns to John Dewey's (1922) philosophy in *Human Nature and Conduct*.

But not only in a context of schooling and of education generally psychology is attractive. In their chapter, Stefan Ramaekers and Judith Suissa (Chap. 5) discuss the area of child-rearing and focus more particularly on developmental psychology. They argue that the language of developmental psychology shapes our conceptualizations and understandings of child-rearing and of the parent–child relationship. First, they show how developmental psychology, in Burman's succinct phrasing, both contributes to and reflects normative assumptions about parenthood and upbringing, both in structuring research agendas and in informing practice. They analyze recent prominent research and popular literature on parenting and policies on parent support, in both the UK and Flanders. Second, the chapter addresses the ways in which developmental psychology in the area of parenting and upbringing holds a particular attraction in our current cultural context. In a post-Enlightenment society, the traditional frameworks through which humans face and understand their existential condition are increasingly undermined by uncertainty and doubt. Drawing on the work of (among others) Zygmunt Bauman, it is shown how developmental psychology is one of the instruments that contribute to breaking down our existential condition into a series of well-defined, and thus apparently manageable, tasks and categories. In so doing, it displaces rather than confronts the possibly limitless depth of the enormity of the reality of 'being a parent'.

Turning to an area that is fashionable nowadays, i.e. neuroscience, Kathleen Coessens, Karen François and Jean Paul Van Bendegem (Chap. 6) deal with the so-called discovery of the social. Their telling title 'Mirror neuron, mirror neuron in the brain, who's the cleverest in your reign? From the attraction of psychology to the discovery of the social' says it all. It is a rather safe statement, so they claim that the social dimensions of the scientific process are accepted in a fair share of studies in the philosophy of science. It is a somewhat safe statement to claim that the social dimensions are now seen as an essential element in the understanding of what human cognition is and how it functions. But it would be a rather unsafe statement to claim that the social is fully accepted in the philosophy of mathematics. And they are not quite sure what kind of statement it is to claim that the social dimensions in theories of mathematics education are becoming more prominent, compared to the psychological dimensions. In their contribution, they focus, after a brief presentation of the above claims, on this particular domain to understand the

successes and failures of the development of theories of mathematics education which concentrate on the social and not primarily on the psychological.

The discussion of neuroscience continues with a contribution by Paul Standish (Chap. 7) who writes about the vocabulary of acts as this is found in neuroscience, phenomenology and where the concept of the mirror neuron is used. He considers the ground-breaking work in neuroscience of Giacomo Rizzolatti, whose identification of the 'mirror neuron' has been referred to as a minor Copernican revolution with extensive implications for educational and rehabilitative practices. Rizzolatti and his colleagues draw attention to the influences of phenomenology on their work, especially from Husserl and Merleau-Ponty, and it is in this light that he ponders some presuppositions and implications of their research. His discussion relates these to Samuel Todes' richly rewarding *Body and World*, a text whose argument and conclusions and whose theoretical 'architecture' are in significant respects consonant with the holistic nature of mirror neuron theory. While the achievements of Todes are highlighted, his work is, however, also criticized for the priority it gives to the natural philosophy of the body—a priority of the natural over the social world. Standish's criticism, which draws on Wittgensteinian and Heideggerian insights, is shown to apply similarly to the work of Rizzolatti. The consequence of this, however, is not to undermine that work: On the contrary, it provides it with a stronger basis and shows that its consequences for neuroscience are potentially more far-reaching than have been claimed.

The debate concerning neuroscience and its relevance for educational thinking is taken up by Volker Kraft (Chap. 8) in the next chapter who highlights feeling, emotion and relationship, thus identifying blind sports in educational theory. The chapter—mainly referring to the situation in Germany—consists of three parts. In the first section, the current presence of neurosciences in the public discourse will be described in order to illuminate the background which is relevant for contemporary educational thinking. The prefix 'neuro-' is ubiquitous today, and, therefore, concepts such as 'neuropedagogy' or 'neurodidactics' seem to be in the mainstream of modern thinking. In the second part of the chapter, the perspective changes from the public discourse to the disciplinary discourse; a brief excursus into developmental psychiatry, neuropsychology and modern psychoanalysis is used in order to demonstrate how results of neuroscientific research are integrated in their theoretical frameworks. These three disciplines have no difficulty to integrate neuroscientific findings because each of them possesses a systematic core composed of 'native concepts'. In contrast to them, educational theory has much more integration problems as is shown in the third part. On the one hand, neuroscientific thinking seems to be able to conquer education rather easily and without great resistance especially in the fields of early childhood education, instruction and learning mainly by simplifying educational processes and by reducing the complexity of the educational task to a mere 'relationship problem'. On the other hand, this attraction of neuroscience in education could be understood as the reflection of a theoretical deficit in educational theory itself with the significance of affect and emotion not receiving proper attention.

Turning to the exaggerated pretensions of 'scientific' psychology, David Bridges (Chap. 9) asks what kind of psychology we are in need of which takes him to a defence of the humanities. One of the central claims or aspirations of modern psychology, he argues, is to place the study of the human mind and behaviour on a properly scientific basis. This chapter proposes that while such scientific study of human beings might reveal all sorts of interesting things about them, 'the proper study of mankind' requires a different intellectual and imaginative apparatus rooted in the humanities and the more humanistic end of the social sciences. This is pursued via William James (often regarded as one of the founding figures of modern psychology and especially educational psychology) and via Isaiah Berlin to the early eighteenth-century philosopher Giambattista Vico whose reaction to Enlightenment science and mathematics led him to articulate a vision of a *scienza nuova* or new science essentially rooted in the humanities. Berlin's and Vico's work is joined in this paper to Winch's advocacy of the centrality of philosophy to an understanding of human and social being. The result is to put a new emphasis on human self-consciousness and intentionality, on imagination or *fantasia*, on moral responsibility and self-questioning, on human experiencing of the natural and social world and human understanding of the rules which they live by as well as on the cultural and historical framing of all these. In so far as these things are what constitute our humanity and in so far as these provide the very stuff of the subjects we roughly group together as the humanities, then this provides a case for valuing the contribution of the humanities to 'the proper study of mankind' above the scientific pretensions of psychology.

Claiming that psychology has achieved hegemonic status as virtually the default discipline in the study of education, Richard Smith (Chap. 10) changes gear and forefronts the importance of a 'theology of education to come'. The achievements of psychology, so he writes, are not always as impressive as its claims. Crucially, as it is generally conceived and practised, it does not offer us much help in making sense of what may be called our 'mindedness', the logic of our souls: how we turn away from life and from plenitude. Although some philosophers have addressed this, there is a case for saying that the vital discipline for education is less philosophy, especially philosophy of the Anglophone tradition, than a kind of theology. Negative theology, as it is called, gives us ways of understanding education's aporias, its idealistic longings and how we are to think of cultivating responsibility to other people. It helps us to see that education is always and rightly bound never to be good enough always destined to fail.

It will come as no surprise that psychology has addressed 'learning', one of the central concepts of education. But learning is not education, Nick Burbules (Chap. 11) claims in his contribution. Researchers and policymakers speak more often now about 'learning' than they do about 'teaching'. He explores what is beneficial and what is problematic concerning the shift of focus from the teacher's perspective to the learner's perspective. However, a theory of learning, so he argues, is not sufficient to support a wider conception of education because learning must be enacted to be worthwhile and because the factors that go into shaping when learning is enacted

go beyond matters that can be said to have been *learned* themselves. A wider conception of education therefore needs to consider these other factors. This examination has implications for questions of teaching and how to evaluate it, for thinking about learning outcomes and whether and how they can be 'measured' and for the normative elements and judgments that must go into any wider conception of 'education'.

In the final chapter, Stijn Mus (Chap. 12) offers some conclusions concerning the current appeal of psychology in education and educational research and bases this on the different angles taken by the chapters. The attractions that have been identified, he argues, offer a varied picture. He pays attention to the idea of psychology as a default science of education and to educational research on the track of a full-fledged evidence-based science. The particular idea of truth and of means-end reasoning is scrutinized together with the disappearance of rich concepts. It may be too easy, he argues, to see the attractiveness of psychology in its prestige or professionalization in society being both external factors, but this ignores the importance of the fact that an answer is offered in terms of 'what works'. In a rapidly changing time that is undermined by uncertainty by breaking down the existential condition, it will not be easy to recover in educational theory what has been lost. It has yet to be seen whether the scientism that is embraced by psychology and its counterpart in educational research can convincingly be refuted.

Notes

1. For further information about previous work of the *Research Community,* see Smeyers (2008).
2. For details about the mentioned publications, see the respective chapters in this collection.

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Chapter 2
Struggling with the Historical Attractiveness of Psychology for Educational Research Illustrated by the Case of Nazi Germany

Marc Depaepe

2.1 Far Too Easy Hypotheses?

La ciencia (…) consiste en un 'prurito' de plantear problemas[1]

(José Ortega y Gasset, 1930/2001, p. 16)

A few years ago, when we determined the themes for the upcoming meetings of the Leuven *Research Community*, I thought that there could be no easier task than that which lays before me at the moment: reporting on the history of the attractiveness of psychology for educational research. On the basis of my work in the history of educational science on the development of the empirical-analytical paradigm (Depaepe, 1993), it seemed that one could quite easily formulate a number of hypotheses with regard to the increasing role of psychology in educational research. Even before the outbreak of the Second World War, efforts to develop an independently conceived 'experimental pedagogy' (as a counterpart to the earlier existing experimental psychology) had, to a large extent, been merged with the further development of (an equally independently conceived) 'educational psychology' in, among others, the United States, England and Germany.

This very same hypothesis of a growing interest in psychology within the field of educational theory could also be derived, without much effort, from the general history of science (see, e.g., Depaepe, 2010; Porter & Ross, 2003). As we know, the emergence of the discipline of education (*Pädagogik*) as a science was closely connected with the rise of the Enlightenment and, more specifically, with the idea of the manipulability of mankind and society. As a result, educational theory was considered to have a highly normative character. It was imbued with social values

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and standards which had to be realised with its help. As shown by, among others, Fritz Osterwalder (2006), it served as a kind of secularised theology from the eighteenth century onwards. This could be established not only on the basis of its content but also based on its language. Its language remained, in a sense, 'evangelical': the educationalist brought, in keeping with the winged words of Immanuel Kant, the liberating message of (self-)education to maturity (and autonomy). Afterwards, educational theory and/or educational sciences developed increasingly in the direction of positivism and experimental science and have been shaped further, from the end of the nineteenth century onwards, by child study, pedology (and pedotechnics) and, to some extent, reform pedagogy (or 'new' education) (see Depaepe, 1993, 2010). However, this dominant and heterogeneous direction was not a solitary trend. Numerous 'new' substantive research areas as well as methodological 'paradigms' led to the 'educational sciences' manifesting themselves increasingly 'in the plural' from the end of the 1960s. Besides the empirical-analytical approaches, also critical-emancipatory ideas took root. These 'pedagogies' were generally based on all kinds of 'humanistic' psychologies (like those of Rogers, Maslow and the like; see, e.g., Beatty, Cahan, & Grant, 2006; Stauffer, 2009). It was certainly notable that the 'aim of education'—the normative excuse par excellence of traditional educational theory—was determined less and less on the basis of one or other ideology but rather from the standpoint of the optimal development of the 'self'.

With this, the normativity of the past does not completely disappear, but it has certainly been exchanged for a different perspective. Educational correctness is defined less and less on the basis of the ideological and/or moral frameworks within which a person has to be educated. Instead, it is based on one's own opportunities for optimal development. Here, (developmental) psychology seems to have definitively displaced theology (philosophy and ideology) as a legitimising science (see, e.g., Ottavi, 2001). Educational interventions are primarily justified by the criterion that they should not damage the individual or cause her any frustrations.

In addition to these more intra-scientific causes, there are, at first sight, several extra-scientific elements from the history of educational science that reinforce the hypothesis that during the twentieth century, educationalists seemed to be increasingly driven into the arms of psychology for their scientific work. One can first of all refer to the growing professionalisation of the field, where the hunger for status has undoubtedly been a decisive motive. Desire for social recognition and professional prestige were by no means foreign to the scientism movement which, from the end of the nineteenth century onwards, revealed a methodological preference for experimental studies and quantitative approaches in psychology and afterwards in educational sciences. This, incidentally, takes us back to the topic 'ethics and aesthetics of statistics', which was the theme of the meeting of the *Research Community* in 2009. Very likely, the implicit hierarchy of pure science as compared to the applied science(s) also played a role here, although it is not immediately clear in what way this has influenced the relationship between psychology and pedagogy. On the one hand, one can assume that the discipline of education had every reason to become, as far as possible, an empirical-analytical science (in terms of the formulation of inductive laws) on its own, while on the other hand, the linear

application of a successful, generally accepted psychological theory could be just as prestigious.

Prototypes of both 'approaches' can be found, respectively, in the German efforts, following the much-debated 'realistic turn' (*realistische Wende*) of the 1960s, to finally establish an empirical science of education (*Erziehungswissenschaft*) and in the North American applications of the start of the twentieth century which introduced the large-scale learning theories of connectionism and behaviourism in education (Depaepe, 1997; Reuben, 2003). Although it would be rash to extract such processes from their historical-cultural context by comparing them to each other—we will come back to this later—it nevertheless appears as though the second example carried more weight in relation to the history of science than the first. It is not for nothing that Edward Lee Thorndike, considered to be the founder of 'educational psychology' in the United States, has also gone down in history as the standard bearer of educational research. The much-quoted phrase "Thorndike won, Dewey lost" (Lagemann, 2000, p. xi) speaks volumes in this respect. On the other hand, it is questioned today whether or not the German *realistische Wende*, for which Wolfgang Brezinka was later identified as the most popular spokesperson, actually took place. In any case, it has been argued that Brezinka himself did not make a very significant contribution to this research (Von Saldern, 2010).

Whatever it may be, it is not difficult to find occasional examples in the historiography which subscribes to the idea of psychology increasingly becoming dominant (and, therefore, indirectly also attractive) in educational research. Without laying any claim to being systematic, let alone exhaustive, I am listing here a number of them: reportedly, in the United States, when the craze of the connectionist S/R bond theories was over, the educationalists simply continued scrounging off from psychologists. From the 1950s, it was primarily Piaget's cognitive developmental theory that regained popularity within educational circles—the Swiss psychologist was a real 'God' in the United States in the 1970s—after which his influence began to wane and he was replaced by Vygotsky (Beatty, 2009). As a general rule, educational innovations, and not in the least the progressive, child-centred reforms—which appeared to make up *sui generis* the core of reform pedagogy or 'new' education—were based on a psychological theory, even though the psychology of educational reformers was not necessarily that of the psychologists. This was not just the case in North and South America (Goodchild, 2006; Stauffer, 2009) but also in Western Europe, even in Germany where several voices were raised in support of conducting educational research in the psychological laboratory despite the exceptionalism (*Sonderweg*) of the relatively autonomous *geisteswissenschaftliche Pädagogik* (Schubeius, 1990). This resulted in high expectations in Austria (and, more specifically, in Vienna) which were not necessarily fulfilled (Benetka, 2004).

Perhaps even more illuminating with regard to the possible attractiveness of psychology on pedagogy is the fact that the term 'experimental pedagogy'—for which Wundt's old student Ernst Meumann had already set up the most well-known research programme in the German-speaking region before the First World War—disappeared from the professional journal with the same name during the *interbellum*

period. This journal had been merged with that for educational psychology, but the title of the latter was retained as the banner of the merged journal. As already mentioned, an analogous development can be seen in the United Kingdom (see also Wooldridge, 1994). Here, too, educational psychology, with its extensive array of tests and measurements, ultimately proved to be a more powerful concept and term than experimental pedagogy (for which the professional journal would likewise be merged with that for educational psychology before the Second World War). In France, where the rise of the late nineteenth-century 'science of education' (*science de l'éducation*) cannot be viewed separately from the political programme of the Third Republic (Gautherin, 2002), 'psycho-pedagogy' (*psycho-pédagogie*) also developed after the Second World War to become the core of the—by then renamed in the plural—'sciences' of education. That was *a fortiori* the case in Geneva, Switzerland, where the Piagetian tradition had been nurtured for a long time already by, among others, Edouard Claparède, whose orientation was also, if not more, psychological than educational.

One can hardly underestimate the importance of the Geneva school in the international perspective, which is proved by, among others, the numerous studies devoted to this topic by Rita Hofstetter (whether or not in collaboration with Bernard Schneuwly: see, e.g., Hofstetter, 2010; Hofstetter & Schneuwly, 1999, 2004, 2006, 2009, 2002; Hofstetter & Schneuwly [with the collaboration of Lussi, Cicchini & Späni], 2007; Lussi, Muller, & Kiciman, 2002). In one of my first articles on the history of educational sciences (Depaepe, 1987), I also underlined the importance of Claparède within the institutionalisation and internationalisation of psycho-pedagogical thought. Even before the outbreak of the First World War, he acted as a mediator between two rivalling scientific organisations. What was noteworthy was that this rivalry seemed to be partly determined by the scientific background of its players (in this case, the pedologist from Antwerp and the former teacher Médard Schuyten versus the psychologists Jean Jules Van Biervliet and Alfred Binet, from Ghent and Paris, respectively). Personal rivalries such as these (which could develop into real feuds) were far from uncommon in the world of psychologists and educationalists of the time. One also came across such rivalries in Germany during the first half of the twentieth century, between Meumann and Wilhelm August Lay (a former teacher trainer who also called himself an experimental educationalist; see also Hopf, 2004) in Great Britain, between the educational psychologist Cyril Burt and the experimental educationalist William Winch in the Netherlands and between the psychologist Hendrik Brugmans and the pedologist Hendrik Gerard Hamaker. As a matter of fact, there are yet other Belgian examples which could be cited: the conflict in Brussels between the pedologist Josepha Ioteyko and the experimental educationalist (also a former teacher) Tobie Jonckheere and the tensions between the (educational) psychologist Arthur Fauville and the experimental educationalist Raymond Buyse (also a former teacher) in Leuven.

With a little goodwill, one can perceive a certain pattern in these rivalries. The more scientifically (usually psychologically) skilled researchers almost always got the long end of the stick as compared to those who stood closest to the educational practice (often through their pre-training as a teacher). This might again point to the

fact that the difference in status (and consequently, the greater attractiveness of one field for the other) can be validated with biographical data. Nevertheless, by doing so, we risk jumping to conclusions. Biographical research itself proves that one must be very careful with such generalisations. For example, Meumann was himself involved in a controversy with his teacher Wundt, precisely with regard to the expansion of experimental psychology into the field of education (see also Hopf, 2004, pp. 52–58; Herzog, 1999, p. 281). Binet, who missed out twice on obtaining a prestigious chair in experimental psychology in Paris (Nicolas, 2009, pp. 171–173; pp. 217–237), ultimately appeared to sympathise with the teachers rather than with the psychologists (see also Avanzini, 1969). While Piaget, who had studied malacology (the study of molluscs), joked about the fact that he had never taken a single examination in 'his field' psychology and, therefore, did not seem to belong there (Xypas, 2001, p. 175). In short, these biographical details appear to be, to paraphrase Mollenhauer, an 'ironic counterpoint' to 'scientific knowledge production' (cit. in Cloer, 2006, p. 172). It not only supplements the structural, process-oriented and therefore often-depersonalised approach seen in history but also problematises this.

2.2 Far Too Easy Phrasing of the Questions?

There is no such thing as 'normal' science in history

(Jan Vansina, 1994, p. 249)

Anyone who delves into the biography of individual scientists indeed finds that simple questions asked of history (of science) often result in a complex answer, full of ambiguities and paradoxes. Take, for example, the case of Ovide Decroly, on whose biography our research group has been working for a long time now. In our view (Depaepe, Simon, & Van Gorp, 2011), his scientific expertise was not primarily based on pedagogy or psychology but on medical science. It was the medical standpoint (and all the extra-scientific aspects related to that—usually respect and prestige) that made him a specialist, even with regard to education. Undoubtedly, such a *dritten im Bunde* played a role (although probably not always in the same way; see, e.g., Stroß, 2002) in the lives of Claparède, Wundt, Hamaker and also Maria Montessori, who, just like so many other trendsetters in the fields of psychology, pedology and/or pedagogy of the time, were also doctors.

This *ménage à trois* (Friedrich, 1999) was not always caused by medicine. As always, philosophy was also a key player and, in fact, a spoilsport. On the one hand, it very clearly influenced the interpersonal controversies between educationalists and psychologists. On the other hand, the fact that chairs were linked to philosophy was one of the main factors of the German *Sonderweg* in psychology as well as in educational theory. This not only explained why Germany seemed to lag behind in the field of empirical research as compared to other countries, and in particular, the Anglo-American scene, but also why the Germans devoted more attention to the

philosophical (i.e. *geisteswissenschaftliche*) component in these fields (see, e.g., Drewek, 2010; Schubeius, 1990, 2002; Tröhler, 2010).

That is why, from a historical point of view, it remains difficult to discuss the fields of 'psychology' and 'pedagogy' as such. Under no circumstances have these ever been supra-historical entities. Their contours were definitely shaped within a historical context. Their development was subject to scientific trends and changing paradigmatic waves, not only in time but also in various cultural areas (which were usually language-related and could be split up geographically), not to mention the often wide gap between what was intended to be done programmatically or paradigmatically, and the research actually carried out and/or described. Moreover, all these paradigms maturing over time—the metaphor of a *bouillon de culture* (Cicchini, 2004) is appropriate here—were far from comprehensive. Within each discipline, as well as in clearly defined spatial-temporal contexts, there was a great deal of disagreement and conflict regarding the way forward. Many forms of research existed side by side, conflicting with each other and mixed up, both in terms of methodology and content.

The basic disciplines mentioned here were, therefore, far from being a monolithic whole. All kinds of sub-fields and intermediate fields developed simultaneously within psychology as well as educational theory/educational sciences, such as developmental psychology, child and/or youth psychology, educational psychology, psycho-pedagogy (within which, of course, diverse and oppositional paradigms again managed to take root). Such sub-fields were usually categorised as a 'sub'-discipline of either psychology or educational sciences. This possibly had more to do with the longing for a Cartesian order than with the reality of the research. In any case, it shows that rigid conclusions like those of the Dutch philosopher of science Van Strien on psychology and educational theory—which, he argues, are like water and oil and therefore cannot be combined in any way (cit. in Depaepe, 1993, p. 357)—are difficult to sustain once the relevant arguments are effectively contextualised and historicised.

Moreover, what exactly did all those people who called themselves psychologists and/or educationalists have in common? Their education? Evidently, educational curricula differed just as much depending on where and when they were organised. Moreover, the character and history of the individual concerned played an important role. Some scientists (such as Piaget) were autodidacts; others had received an 'academic' education. Some of them had finished a professional career in education; others had become 'lectern educationalists' or 'laboratory psychologists' (although the latter were less common among educationalists) after their university education. And still, others were mainly 'would-be'. Using a term from Karl Bühler, Ivo van Hilvoorde (2002, 119) refers in this context to *Auch-psychologen*, by which he means those who were 'hobby educationalists', barred from the scientific field by the 'full-blooded' psychologists. Nonetheless, the same van Hilvoorde comes to the conclusion that one can hardly speak of a humble attitude among educationalists with respect to psychologists in the Netherlands in the period before the 1960s. Rather, the opposite was true according to him. At the

editorial offices of *Pedagogische Studiën*, for example, the already mentioned psychologist Brugmans had to give in time and again to educationalists like Philip Kohnstamm and Martinus Langeveld.

2.3 Far Too Superficial Conclusions?

> *Il y a plus d'une sagesse, et toutes sont nécessaires au monde; il n'est pas mauvais quelles alternent*[2]
>
> (Marguerite Yourcenar, 1951/1958, p. 283)

What was discussed in the previous paragraph regarding the historicity of the (due to the search for a disciplinary identity) usually strongly professed demarcations between scientific areas may appear to be so obvious that it does not even need to be mentioned. Nonetheless, there is every indication that researchers—even renowned ones—pressurised by questions at colloquia such as this, cannot do much else than distance themselves occasionally from the concrete, chaotic dynamics involved in the development of science. If not, it would be completely impossible to make general statements regarding, for example, the historical relationship of psychology with respect to educational sciences/educational theory (and vice versa). Interesting for the further development of our argument is that their findings do not necessarily point in the same direction as suggested by our hypothetical considerations in the first paragraph.

At a colloquium organised almost 10 years ago in Fribourg (Switzerland) (see Reichenbach & Oser, 2002), none other than Jürgen Oelkers (2002), starting from a historical perspective, took the edge off the basic question (or rather the basic fears of the organisers) to a possible 'psychologising' (and therefore also, the possible end) of educational theory. In his view, the educationalists did not need to be concerned as yet with a possible takeover by psychology. According to him, the dependence of educational theory on psychology is, certainly as far as educational resources are concerned, a structural fact that has played a part in the continuity of the history of the discipline of education. Therefore, the idea of an increased dependence is out of the question for Oelkers. Instead, such is, according to him, the 'normal' relationship—a constant which has unfolded throughout history. Oelkers illustrated this view with several historical examples: the sensory psychology adopted as the basis for education in the eighteenth century, the role of Herbartian psychology and, in particular, the 'mathematicising mechanics of ideas' (*mathematisierende Mechanik der Vorstellungen*) in Herbart's scheme of educational theory, Preyer's basic principles from the *Seele des Kindes* [1882] for the construction of a sort of physiological pedagogy, the role of psycho-pedagogical research in Meumann's design of experimental pedagogy and, of course, the reform pedagogy which was searching for a suitable activity principle.

Oelkers' continuity hypothesis was supported by Fritz Osterwalder (2002) who likewise concluded, at the same colloquium, that the underpinning of educational theory by psychology was certainly not a new phenomenon. This tendency was already visible from the end of the seventeenth century onwards, as the then normative, ethical and absolute notion of psychology within secular educational theory replaced the sacred heritage of the theology of piety.

But this possible continuity did not take away the fact that throughout history, there was a constant fear of a 'psychologising' of educational theory/science and that this had perhaps even increased with the passage of time (even though Oelkers argued that psychology was incapable of taking over the public role of educational theory within the context of the justification of education). That was, at any rate, the idea of Walter Bauer (2002) who—also at the same colloquium and on the basis of a historical overview of the primarily German 'pedagogical' psychology—reached the conclusion that it was mainly empirical educational science that had made use of (pedagogical) psychology (and after the *realistische Wende de facto* more or less coincided with this). Nevertheless, in his opinion, psychology and educational theory, whose collaboration via pedagogical psychology could assume various forms (ranging from advisory to applied to fundamental research), remained 'familiar strangers' (*vertraute Fremde*) after all despite the fact that this cooperation could indeed improve the status of educational theory. According to Bauer, the historical axes of conflict which emerged were dual in nature: Should 'pedagogical' psychology be developed as an applied or as a fundamental science and should it orient itself, in terms of methodology, towards the positivist, non-normative standpoint or the rather normative, *geisteswissenschaftliche* point of view?

Of course, this conclusion was far from new. Walter Herzog (1999) had also reached more or less similar conclusions based on a historical overview of the role of psychology in educational innovations. In his opinion, the aversion of the educational field was, as it were, preprogrammed because psychology continued to pledge to physicalism, elementarism, individualism, fictionality, methodolatry and positivism and, as a result, could hardly establish any interdisciplinary links with the ultimately more normatively oriented educational theory.

In order to test further these still rather general insights, I thought that it would be a good idea to focus below (based on the professional journal of the same name) on German 'educational psychology' during the National Socialist period. Although I have drawn attention to this earlier (Depaepe, 1993, 1997), this has always been, as with the above-mentioned authors, in the context of broader, more general studies. Supposedly, the ideological pressure exerted by the National Socialist dictatorship on psychological and educational sciences was so intense that—partly due to all kinds of distortions and possible aberrations—this period reveals, better than any other context, precisely which factors and processes were at stake in shaping educational theory, psychology and their mutual relationship. Furthermore, several works have meanwhile been published in Germany that adequately map the 'blind spot' of Nazism, also with respect to the history of science (see, e.g., Hartens, Neirich, & Schwerendt, 2006). One of these was even—with respect to its hypothesis—fairly provocative and therefore elicited a lot of controversial reactions. While most

researchers asserted that the ideological preoccupation of the Third Reich had a pernicious influence on the development of science, Ulfried Geuter (1992) explicitly stated that German psychology during this period was actually heading towards an increased degree of professionalisation—a process that, however, already started during the First World War, not so much in Germany but in the United States (see, in this respect, Depaepe & D'hulst, 2011)! Setting aside all Geuter's ideologising (in his opinion, the development of a Nazified typology and racial psychology were detrimental to the practical challenges accompanying the mobilisation and the war), applied psychology, through the application of its 'normal' theories and methods (in this case, tests and diagnostics), was gaining popularity. Not only did industrial psychology get a tremendous boost due to the build-up to the war and the war economy, but a specific military psychology, for the selection and recruitment of officers (e.g. pilots for the *Luftwaffe* [Air Force]), also came into being. All this resulted in 1941 in the introduction of a specific regulation for the certification of psychologists at the universities—the so-called DPO *(Diplom Prüfungsordnung)* which, again according Geuter, ushered in the definitive liberation of German psychology from philosophy.

2.4 Far Too Broad Generalisations: The Case of Educational Psychology in Nazi Germany

Het is niet omdat iets voorbij is, dat het niet heeft bestaan[3]

(Kristien Hemmerechts, 2005, p.162)

It goes without saying that, in the context of National Socialism, educational psychology, just as much as other social sciences, was assigned a legitimising role with respect to the national ideology. This discourse has already been described several times in terms of the paradigmatic and programmatic articles published on this topic in the *Zeitschrift für Pädagogische Psychologie* of the time. But it is also important to look—as Geuter (1992) did for (applied) psychology in general—at what actually happened in the workplace under this official banner. We successively examine both levels, with the central question in mind of the interdependence of the discipline of education and psychology.

2.4.1 The Discursive Surface Layer of National Socialism

Starting from the change of power in 1933, the notion of 'totality' *(Ganzheit),* which had already made its appearance during the 1920s in German psychology in general and in juvenile studies in particular, began to be applied more and more explicitly to serve the needs of the Nazi totalitarian regime. The role of 'pedagogical' psychology

was redefined on the basis of the emerging 'revolutionary' reform of all aspects of social life (Depaepe, 1997; Oberfeld, 1996). To summarise, the social task of educational psychology was the following. Through a study of the characteristics and developmental stages of an 'organically' conceived psychological functioning of child, youth and man, pedagogical psychology was to get to the very core of the educational process (both within and outside the school). In this way, it could contribute to 'national education', that is, to giving 'organic' shape to public life in the new Germany (which had to be put into effect within the church, state, art, science, justice and education). As a result, educational psychology was described as 'ideological' *(Weltanschaulich*; see, e.g., Glaeser, 1933). It was part of a broader biological-intellectual whole that could be defined as a 'popular human science'.

The best exponent of this rhetoric was Oswald Kroh—successively Professor of Psychology and *Pädagogik* in Tübingen (1924), Munich (1938) and Berlin (1942). Almost every year, he would publish an article explaining the theoretical-methodological position of the field (see consecutively Kroh, 1933, 1934, 1937, 1938, 1940, 1943). In 1933 (when he replaced William Stern, who had immigrated to the United States as editor on the main editorial board), he pointed out that the concept of total education, in the service of the 'race' that was to be newly developed, must be imbued with the principles of the *Führeridee*—the concept of the leader (Kroh, 1933, p. 318). Five years later, he refuted the criticism that implied that applied psychology was inferior with respect to pure psychology. Rather, the opposite was true according to him. This purely hypothetical science, perceived as being divorced from reality, could finally serve the purposes of a social project. In 1940—when the realisation of this project began to take clear shape—he called for a permanent closing of the ranks. That also applied, and especially so, to the scientists whose duties were viewed in a particular light due to the social needs of the war. And in 1943, he reiterated that education was a social task in the service of the people, which implied, among other things, the *Reinhaltung des rassischen Erbguts* [preserving the purity of the racial genotype] (Kroh, 1943, p. 14).

Apart from Kroh, who was not only a member of the NSDAP (National Socialist German Workers' Party) but who also reportedly taught lessons in uniform, it was mainly Erich Rudolf Jaensch (Marburg—the President of the *Deutsche Gesellschaft für Psychologie* who died in 1941), Wilhelm Hische (Hannover) and Gerhard Pfahler (Giessen [1934], Göttingen [1938], Tübingen [1938]) who served as spokesmen for the regime, along with various epigones following in their footsteps. They repeated in various ways (Hische, 1937, 1939; Jaensch, 1938; Pfahler, 1939) the importance of a practically oriented pedagogical psychology in the service of the German people. Rooted in German mysticism, the *Sturm und Drang* and neo-humanism, this science could not be international: just as psychopathology, military psychology and vocational guidance, it had to lead to a better understanding of the German youth, bearer of the 'popular destiny' *(Schicksal)*—youth who had to commit themselves to defending the national community (an idea whose foundations had already been laid after the debacle of First World War; see, e.g., von Bühler, 1990). It goes without saying that the introduction of the DPO was used as a unique opportunity to deal with the 'unworldly' nature of the hitherto apolitical psychology.

Diplompsychologen or qualified psychologists—and more specifically *Erziehungspsychologen*—educational psychologists—had to be deployed to select the most capable people for building the Third Reich:

> *Es muß und wird der deutschen Seelenkunde gelingen, über irreführende hartnäckige Mißverständnisse hinweg, die ihr der Verdacht einer kraftlosen und lebensfremden, ja – feinden Erkenntnis – Fehlentwicklung eingebracht hatten, wieder ihre Geltung als eine gesunde und heilsame Ausprägung volksnaher Menschenforschung und Menschenführung zu gewinnen.* (Einsetzmöglichkeiten eines "Erziehungspsychologen", 1941, p. 203)[4]

The primacy of the practical over the theoretical led Hische (1939) to call for an inversion of the terms: it was better, in his opinion, to speak of 'psychological educational theory' (*Psychologische Pädagogik*) rather than of 'educational psychology', while others (like Michael Kesselring (1935, 1939), Professor of Psychology and *Pädagogik* in the Teacher Training Programme in Munich-Pasing) referred to *Erziehungspsychologen* and *-psychologie* (rather than the usual *Pädagogische Psychologie*) mostly in relation to the DPO (see quotation above). However, a negative effect of this unilateral linking to 'German' politics and issues was that the contents of the field, at least at discursive level, acquired a racist outlook. Typology and characterology came to the fore, and the 'question of biological inheritance' was never far away. According to Jaensch (1938, p. 181), the ultimate value of educational psychology, *unter Berücksichtigung typologischer und rassischer Gesichtspunkte* (taking into account typological and racial considerations), lays in its contribution to the *bevölkerungspolitischer Eugenik*—the eugenics of demographic policy. With this, the concept of 'race' was promoted to one of the most relevant categories within psychology and the educational context.

On 'Science Day' (Tübingen, 1939), Pfahler (1939, p. 221) pledged to his audience—the National Socialist student associations of the Teacher Training College of Esselingen and of the University of Tübingen—that "*nichts im Lebensvollzug eines Menschen geschieht ausserhalb des Rahmen seiner Erbwesenamt; alles ist von seiner Rasse*".[5] And in his conclusion, he compared the 'racial' nature of man to a musical instrument. The nation was the great orchestra that consisted of millions of instruments, each with its own timbre and quality:

> *Daß dem Klangkörper unseres Volks keine wertlosen Instrumente zuwachsen, dafür sorgt das Gesetz zur Verhütung erbkranken Nachwuchses. Neben wertvollen und wertlosen Instrumenten kann man in einem solchen Orchester unterscheiden solche, die harmonisch, und solche, die nicht harmonisch zum Ganzen stimmen. In einem Klangkörper, der Beethovensymphonien und Bachkantaten spielen soll, haben Saxophon und Negertrommel keinen Platz. Das Gesetz zum Schutz des deutschen Blutes schaltet solche unharmonischen Instrumente aus. Man muß wissen, daß man im Zusammenspiel all dieser Instrumente nicht die Geige den Trompetenpart und nicht den Kontrabaß die Melodie der Klarinette übernehmen lassen kann. Ein solcher Klangkörper 'Volk' kann wertvolle und wertarme Melodien spielen; das ein heißt ihn nützen, das andere ihn mißbrauchen. Und: jedem Instrumentenchor kommen seine wesenseigenen Melodien zu. Man kann auch mit einem Niggerorchester, mit Saxophon und Schlagzeug Mozarts kleine Nachtmusik spielen; nur würde, wer unserer Art ist, davonlaufen. Daß ein solches Orchester die großen und ihm eigenen Stücke findet, daß jede Teilmelodie im Ganzen von dem richtigen Instrumente gespielt wird, daß jeder Takt, Tempo und Farbe aller anderen hört und sich dem Ganzen fügt: das alles ist Sache der Erziehung und Führung. Es gibt Zeiten ohne große Dirigenten und ohne überragende*

Komponisten. Dann muß auch der besten Klangkörper mit durchschnittlichen Melodien zufrieden sein. Wo aber das Schicksal einem Volk den Führer schenkt, hat jeder sein Letztes herzugeben, aus seinem Instrument in Zucht und Fügung das Edelste herauszuholen. Dann darf man getrost hoffen, daß das große deutsche Orchester sein Schicksalslied stark und sieghaft aus dem Heute ins Morgen hinübertragen wird.[6]

It is evident that educational psychology or rather psychological educational theory had degenerated, in the discursive field and via all kinds of demagogic imagery, into pure propaganda for a humiliating regime. In this sense, it did not differ from the educational sciences in general, as the work of Harten et al. (2006) has amply demonstrated.

Yet the question remains whether we should pin the development of science in the National Socialist regime entirely to this image. As Geuter (1992, pp. 283–284), suggests, was this vigorous programmatic language not an ideological umbrella—to curry favour with the dictatorial regime—under which the research could, *de facto*, still go in any direction? One can assume that researchers, if they had to or if the situation required it, availed themselves of this discursive surface layer of varnish but underneath continued to work on what actually interested them, a possibility that is even not excluded by Harten et al. (2006, p. 38; for the complex relationship between the research praxis and the programmatic construction of an educational 'science', see also Tenorth, 2010a).

2.4.2 *"Uniform Fascist Rule Dissolved into a Chaos of Rival Responsibilities?" (Geuter, 1992, p. 18)*

My replication study with respect to my earlier work on pedagogical psychology in Germany does not enable me to formulate a clear answer to this question. What can be concluded, however, is that as far as pedagogical psychology is concerned, there is only limited evidence to substantiate Geuter's hypothesis of a possible professionalisation during the period of Nazism. Rather, the opposite appears to be true. An excerpt from the *Zeitschrift* for educational psychology from this period quickly shows that the resources needed for carrying out or continuing a proper study were, to a large extent, missing as a result of the wartime conditions—'material circumstances' which, I believe, Geuter greatly underestimated. Educational psychology was not a part of military psychology, and substantial funds would not have been available for it. As a result, I have not come across a great deal of empirical research results. The journal appeared to be more a mishmash of opinions than a channel through which research findings were being communicated. The speculative *geisteswissenschaftliche* tradition certainly played a role in this, but presumably, there was more to it. While ideologically harmless or more or less neutral topics such as 'puppet shows' were sometimes brought up for discussion, themes from the great German past were regularly raised. For example, Kroh himself referred in 1940 to Fröbel as a popular educationalist.[7] Propaganda and censorship went hand in hand, of course, but more than a cursory reading of the 'product' is required to really clarify the relationship. This would include, for instance, examining the archives with respect to the journal's policies, insofar as these documents are still to be found.

As implicitly endorsed by Geuter, under no circumstances did the tough ideological language of German pedagogical psychology led to a concrete research programme that had to be carried out in the existing laboratories in support of the regime. Perhaps this was not even necessary: the vulgar biological propaganda of 'superior' versus 'inferior' races proves to have sufficiently penetrated into the field of education (see, e.g., Pine, 2010), certainly if one examines the textbooks from this period, but that is beyond the scope of this article. Despite the occasional article that leaned towards the Nazi mentality, there was not really a question of a large-scale offensive orchestrated from above. The differential psychology between 'Jews' and 'Aryans' came up for discussion, for example, in 1935 in a study on Polish (!) gymnasiums (Bykowsky, 1935). It is true that this study argued that the memory of Jewish children was less good, that their imagination and powers of observation were less well developed and that their presence in the classroom even had a negative effect on others (!), but these findings were by no means the starting point for further systematic research. Of course, this does not mean that the 'racist' and/or 'militaristic' spirit of the time did not interfere with the research. Indications of this can be found in several articles (e.g. Ziegler, 1934). For example, in the context of graphological research—which was clearly on the rise during the National Socialist period (for assisting police interventions, see Kretzschmar, 1939)—the agitation and the rhythm of writing were related to racial categories (and *de facto* also compared to marching soldiers or gymnasts of various nationalities—the English compared to Italians, for example, with Latin origins being viewed in a pejorative sense, Krieger, 1937). A similar article was published regarding the socio-psychological functioning and pedagogical significance of a 'marching' column (Knauer, 1935), and many other examples can be cited.[8]

In short, 'educational psychology' as the headline of the journal seemed to be a type of container, the contents of which, despite the ideological control of the regime, were put together in a rather arbitrary manner. This conclusion is certainly consistent with the analysis made by Hermann Laux (1990) who studied the significance of 'pedagogical diagnostics' (*Pädagogische Diagnostik*) in the time of National Socialism. He did not find any indications of a greater degree of professionalisation either. In his opinion, the quality of the diagnosis was rather deteriorating because more subjective and arbitrary elements had entered into the picture. In addition, the focus on differentiation and individuality had disappeared at the expense of a focus on generalisation and collectivity.

2.5 The Continuing Need for Biographical Research

> *La riposta post-moderna al moderno consiste nel riconoscere che il passato,*
> *visto che non può essere distrutto, perché la sua distruzione porta al silenzio,*
> *deve essere rivisitato: con ironia, in modo non innocente.*[9]
>
> (Umberto Eco, 1983, p. 529)

However, it is significant that Laux himself paints a differentiated picture of the scientific practice under the ideological pressure of National Socialism. According to him, the psychologists and educationalists of the time could be divided into four categories (Laux, 1990, pp. 192–193). First and foremost, there were the opponents and victims of the regime, to whom Geuter (and many others as well) had already drawn attention. Let us begin with the victims. Otto Bobertag, Martha Muchow and Otto Lipmann all died in the initial phase of the Nazi dictatorship. Their deaths can possibly be interpreted as suicides (Geuter, 1992, pp. xviii and 183; Laux, 1990, p. 193), although this was proved to be true only in the case of Martha Muchow. As a loyal employee of Wilhelm Stern who because of his Jewish origins had immigrated via the Netherlands to the United States, she took her life for political reasons after the dismissal of her boss. Bobertag, who was equally critical of the regime, died under suspicious circumstances, and Lipmann reportedly died of a heart attack. One can also add the following people to this list: Erich Stern (dismissed), Erich Hylla (also dismissed, immigrated to the United States), Otto Selz (who despite his emigration was imprisoned in Auschwitz and died there) and Aloys Fischer (who was asked to retire prematurely because of his wife's Jewish origins but who remained a member of the editorial office of the *Zeitschrift für Pädagogische Psychologie* until his death in 1937). In the end, there was very little protest from their colleagues against these dismissals. In this regard, Geuter only mentions the renowned Gestalt psychologist Wolfgang Köhler (Berlin), who published a response in a newspaper article. In 1934, Wolfgang Köhler himself immigrated to the United States. The rest remained silent (Geuter, 1992, p. 55).

A second group was indifferent. In this group, Laux (1990, p. 193) mentions (among others) Adolf Busemann from Greifswald who in the context of the journal did keep up his end to some extent in relation to the German nature of psychology (see Busemann, 1933), but this lip service to the regime apparently achieved very little, if anything, for him. But the largest group, still according to Laux (1990, p. 193), consisted of the hangers-on (Kießling (1929, 1939), Kesselring (1939), Ruttmann, Tumlirz, etc.). They did not have any clear political opinion around 1933 but allowed themselves, probably out of opportunism, to be willingly carried along the paths supposedly leading to the 'new' Germany. Last but not least were, of course, the 'NS apologists' who have already been discussed in detail in the preceding paragraphs: Kroh, Jaensch, Pfahler (and many others as well—to cite one example, Fischer, 1942). By way of conclusion, I would like to make a few comments about Pahler, whose biography is further elaborated in the work of Christa Kersting (2008), since the course of his life shows how strongly the post-war psycho-pedagogy in Germany, despite the fault line of the war, was marked by continuity, even in the personal domain (see, in this respect, also Hartens et al. 2006).

As a former student and assistant of Kroh, Pfahler (who obtained his doctorate under Kroh's guidance in Tübingen in 1924 and obtained his qualification in pedagogical 'typology' in 1928) enjoyed rapid successes in his career after the change of power in 1933 (see, for what follows, Kersting, 2008, pp. 253–283). From being Professor of Psychology and *Pädagogik* (firstly at the *Pädagogisches Seminar* in Rostock in 1929, then in Altona in 1930 and in Frankfurt am Main in 1934), he rose

in 1934 to the position of Full Professor of Psychology and *Pädagogik* in Giessen, where he also became the youngest rector—*Führer*—of a university. In 1938, he succeeded his teacher Kroh in Tübingen and became Director of the Institute of Psychology and Educational Science. His principal work *Warum Erziehung trotz Vererbung* [why upbringing despite heredity] (1935–1938) stated that though the basic psychological functions were hereditary, there were open opportunities within these restrictions to be completed by education. These chances had to be seized for the realisation of the new empire. Hence, the fight against inferior races and degenerates as well as 'education until death' had to be given a prominent place. That was the gist of his message to mothers, educationalists and students. The 'service of the people' was a collective act, and complete self-sacrifice for the sake of the nation by offering up one's own life was the highest good:

> *Mitten in Grauen und Tod umfange den Mann, das Tiefste, Wärmste, Heimatlichste, das ein Mensch erfahren kann: er gibt Gemeinnutz, Treue, Opfer und Hingabe und empfängt Kameradschaft und in ihr Volk.* (cit. in Kersting, 2008, p. 255)[10]

Together with his wife, he had converted to the *Gottglaubigen* who, reportedly for religious motives, had collectively abandoned the Evangelical Church. Yet, closer inspection reveals that these motives were not entirely devoid of political overtones. It is true that the group strived for a religion based on the Christian 'salvation teachings', but this religion also had to correspond to the intrinsic nature of the Germans and be separated from Jewish Christianity.

And what happened to Pfahler after the war? In June 1948, his *Entnazifizierung* [denazification] was brought up for discussion in Tübingen. It was initially proposed that he would be asked to retire early—he was almost 51 years old at that time—on account of incriminating statements in his writings, with suspension of his academic rights for 2 years. Two months later, a milder verdict followed, in that he was merely accused of being a 'hanger-on'. But the punishment itself was not reduced—on the contrary, Pfahler was forced into full retirement, lost his civil rights for 2 years and his academic rights were taken away for good! But Pfahler did not let matters rest there. In 1952, he submitted an 'application for clemency', referring to his war injuries and captivity at the end of the Second World War, the precarious financial situation of his family since 1945, his efforts at the front during the First World War and the annoyance of several important persons in West Germany because of his fate. There were, however, no traces of regret regarding his statements on racial theories or his commitment to party policies.

Nonetheless, this application for clemency was granted. During the winter semester in 1952–1953, Pfahler was allowed to return to work at the Tübingen University with a teaching assignment in developmental psychology and depth psychology—the very same branch of psychology which had been targeted so strongly in the journal for educational psychology during the National Socialist period not only because it was regarded as a Jewish discipline but also because it appeared to minimise the role of heredity and racial theory (see, in this, Oberfeld, 1996). In 1955, all of Pfahler's academic rights (including the right of supervision) and, in 1956, all his civil rights (including the right to serve as a civil servant) were

reinstated (Kersting, 2008, p. 257). In 1969, he was even offered a *Festschrift,* which made almost no reference to his war record. Pretending that there was absolutely nothing that matters, it was merely stated that the anthropological focus on the socio-economic environment of the 1920s was replaced in the 1930s by a stronger emphasis on heredity. As a result, people might wonder (like Pfahler) whether education still had a role to play and what this role was. The educationalist of the National Socialist regime, who had once based the practical applications of the gruesome policy of a humiliating regime on racial and character psychology, had once again become a normal, academic (theoretical?) psychologist, no doubt 'working for the education of the youth'. This is how an individual case study convincingly demonstrates that the complex reality of the relationship between two scientific areas can never be disassociated from the social-historical and biographical context.

2.6 Some Concluding Remarks

> *Wer sollte uns, durch besseres verstehen natürlich,*
> *von der Last der Vergangenheit befreien können,*
> *wenn nicht der Historiker*[11]
>
> (Heinz-Elmar Tenorth, 2010b, p. 49)

Based on the above, I think I can conclude that, under the strong ideological pressure from the National Socialists, there was a growing demand for the utility of educational theory, psychology and educational psychology. This was particularly the case in the discursive line of the programmatic articles, those that discussed the theory, methodology and content of the research. This increased practical orientation did not, in any way, diminish the attractiveness of psychology for pedagogy. On the contrary, it was even argued that educational psychology should be converted into a psychological 'pedagogy'! However, within the concrete reality of the stagnant, if not dwindling, research in educational psychology, one found in the same spatial-temporal segment a much greater diversity than that suggested by the theoretical and methodological 'creeds' in the *Zeitschrift für Pädagogische Psychologie*. In fact, according to other studies, this was also the case with psychology in general. The dictatorial war regime further increased the applications of psychology in business and, of course, in the army.

Such internal differentiations and divergences obviously become even greater if one does not confine oneself to a well-defined period and/or culture. This confirms the assumption that, from a historical standpoint, it is not always easy to speak in general terms about psychology, pedagogy and their mutual relationship. The shape of these sciences fluctuated depending on the characteristics of different situations. Therefore, tracing possible repetitive structures in history must be supplemented and/or corrected on the basis of the smaller, everyday stories. But this seems to be inherent in any history (and *a fortiori*, the history of science). Without a conscious combination with the ideographic approach, it is of little use to strive towards a

greater degree of theory formation within history. Under no circumstances should the nomothetic obsession to see similar patterns everywhere lead to the concrete cultural contexts, within which they have unfolded, being ignored. As we have argued with respect to educational historiography in general and the history of educational sciences in particular, the concept of 'non-contemporariness' assumes, from the epistemological perspective, the 'contemporariness' of historical situations. Both are, like text and context, inevitably related to each other. Non-contemporariness can only be conceived by abstracting from the very concrete, historical contexts within which it is anchored. However, as this abstraction increases, so does the risk of elementarisation and therefore also the negation of these complex historical backgrounds.

Notes

1. Science consists of an 'itch' to pose problems (here as well as elsewhere in the endnotes the translation by the author, M.D.).
2. There is more than one wisdom, and all are necessary in the world; it is not bad that they alternate.
3. It is not because something is over that it has not existed.
4. German psychology must and will succeed, despite misleading, stubborn misunderstandings which had earned it the suspicion—inimical realisation—of having taken a feeble wrong turning, being out of touch with life, in regaining its validity as a sound and wholesome expression of down-to-earth human research and leadership.
5. Nothing in the daily life of a human being occurs outside the framework of his hereditary essence; everything comes from his race.
6. The law on the prevention of offspring with hereditary defects ensures that no worthless instruments join the orchestra of our people. Besides valuable and worthless instruments, in an orchestra like this, one can distinguish those that are harmoniously attuned and those that are not harmoniously attuned to the whole. Saxophones and Negro drums have no place in an orchestra that is to play Beethoven's symphonies and Bach's cantatas. The law on protecting German blood excludes such inharmonious instruments. It is important to realise that as all these instruments interact, the violins cannot be given the part of the trumpets or the double bass the melody intended for the clarinet. A 'people' orchestra such as this can play melodies that are worthwhile or that are devoid of value; the one means using it, and the other misusing it. What is more, each group of instruments has its own characteristic melodies. One cannot play Mozart's *Kleine Nachtmusik* with a Negro orchestra with saxophones and percussion. Anyone like us would flee from this—that an orchestra like this finds its own great and characteristic pieces, that by and large each sub-melody is played by the right instruments, and that each bar, tempo and hue hears all the others and complies with the whole: all this is a matter of upbringing and guidance. There are times without great conductors and without great composers.

Then even the best orchestras have to be content with mediocre melodies. But where destiny gives a people a leader, everyone has to give their utmost to bring out the very noblest of their instrument in breeding and in providence. Then one may confidently hope that the great German orchestra will carry its song of destiny powerfully and victoriously from today into tomorrow.

7. In order to avoid a very long list of references, not all the titles of these articles are included.
8. Idem
9. The postmodern reply to the modern consists of recognising that the past, since it cannot really be destroyed because its destruction leads to silence, must be revisited, but with irony, not innocently.
10. In the midst of horror and death, man would be surrounded by the deepest, the warmest and the most homelike that a human being can experience: he gives public interest, loyalty, sacrifice and devotion and receives comradeship and, in this, his people.
11. Who ought to be able to free us from the burden of the past, through better understanding of course, if not the historians.
12. References to books elsewhere included in this list are in a shortened format including only the name(s) of the editor(s) and the respective pages of the chapter.

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Chapter 3
On the Fatal Attractiveness of Psychology: Racism of Intelligence in Education

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Psychology has penetrated many domains of society and can be considered as a very successful social science. It is widely present in education, in the workplace, in court and not to mention in people's private life. In the present chapter, I will argue that its success owes to a large extent to the fact that psychology offers a scientific credit to an important and key cultural principle in our Western societies: the belief of the primacy of the individual over the situation as a cause of behaviour. Research on lay psychology has widely documented that everyday people like to believe that human behaviour is caused by internal dispositions and not by the surrounding situation. Nowhere has the endorsement of this 'inside story' (Plaut & Markus, 2005) been stronger and more necessary than in education. For a more than a century, education has had the important and difficult mission of articulating the existence of a stable hierarchical society and the principle of equality among individuals. This has been achieved through a rhetoric of individual merit, with claims that variations in academic achievement among students reveal deep and stable differences in intellectual endowment, and that these differences are a legitimate criteria for assigning social standing.

Psychology has played a key role in substantiating this rhetoric by proposing an 'objective' measure of intelligence and by repeatedly arguing that in a democratic society and a competitive educational system, the more intelligent are the winners. Hand in hand, education and psychology have contributed to a powerful illusion that hides the impact of power and privilege and recycle then into individual merit. This chapter focuses on the love story between social domination and the psychology of intelligence. I will first discuss the development of intelligence testing and show how research in psychology has served throughout history the domination and expropriation of the haves over the have-nots. I will call this form of social control the racism of intelligence, of which I will in a further point expose the main characteristics.

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3.1 The Problem: Intelligence and Social Status

When Alfred Binet and Théodore Simon published their first metric scale of intelligence in 1905, their goal was to provide a device that would identify the children suffering from mental retardation to offer them remediation. They proposed a scoring procedure, which was totally innovative. Indeed, unlike most current attempt from psychometricians, Binet and Simon did not proceed to any physical measurements; instead and inspired by grading practices, they recorded the number of tasks or questions correctly answered. Binet and Simon were convinced that the best way to assess the intellectual level of children suffering from mental retardation was to compare them to the normal children. Binet's concept of age scaling constituted a critical scientific breakthrough. The American psychologist Henry Goddard, who by pure chance learned about the scale as he was visiting Belgium (Zenderland, 1998), imported it to the USA in 1908, translated it and administered it on the patients in his mental institution at Vineland in New Jersey. Goddard was first astonished by the results. It was indeed the first time that a psychological measure was 'valid' in Galton's words: "the classification of our children based on the scale agreed with the Institution experience" (Goddard, 1916). Goddard therefore proposed to redefine mental deficiency in terms of mental age. An 'idiot' was now defined as one testing below a mental age of three on the Binet scale, and an 'imbecile' as one testing between mental age of three and seven. The 'moron', term coined by Goddard, corresponded to anyone whose mental age was between 8 and 12 years inclusive.

After the intelligence scale was created, it did not take long before it became obvious that different social groups did not display the same mental age. As soon as Binet's scale was published, two Belgian educators, Decroly and Degand (1910) found, intriguing results. They tested 47 children from a privileged socio-economic neighbourhood in Brussels who showed an advantage in test level of one and a half over Binet's group of reference (Binet, 1911). This embarrassing finding led Binet to conduct a better and more controlled study comparing the mental age of children of the same age from contrasted sociological backgrounds. The study replicated Decroly and Degand's results: Children from the working class had a mental age of almost 1 year below that of their more fortunate peers; they also did not perform as well in school.

Strong, a graduate student in psychology from South Carolina, published the first reported study documenting a race gap in intelligence on the Binet-Simon, Blacks were 'mentally younger' that the Whites (Richards, 1997). In other words, results from the Binet-Simon test were providing the first 'scientific' evidence of Blacks' intellectual inferiority compared to the Whites. This was neither the first nor the last time, however, psychologists made such a statement. Already in 1897, Stetson, who administered memory tests, reached the same conclusion: Blacks were inferior to Whites. Yet, interestingly, both the Stetson (1897) and Strong (1913) studies actually demonstrated that Blacks performed *better* than Whites on memory tasks. Stetson explained that their superior mnemonic performance was 'naturally expected' since

"in both races… the memory is in decadence from primitive conditions, but …the blacks are much nearer those conditions" (Stetson, 1897; p. 288). A decade later, Cyril Burt (1909) discovered that rich children completely outperformed the sons of the working class on memory tasks, a result that led him to conclude that memory was an important characteristic of a superior intelligence. However, when later Arthur Jensen (1974) found that poor and Black children with low IQ scores displayed superior memory, he claimed that memory was not involved in intelligence. These inconsistencies pointed out by Tucker (1994) reveal an important feature of the research on race differences in mental ability: its ideological underpinning.

Early in the twentieth century, the use of intelligence scales became instrumented to demonstrate Blacks' innate intellectual inferiority and to alert on its political implications. This is illustrated by one of the first series of cross-racial studies conducted by Phillips, who administered the Binet test to a sample of White and Black children: "If the Binet tests are at all a gauge of mentality, it must follow that there is a difference in mentality between the coloured and the white children, and this raises the question: should the two groups be instructed under the same curriculum?" (quoted in Guthrie, 1976, p. 64). Such scientific facts had then obvious educational and societal consequences: "Without great ability in the processes of abstract thought, the negro is yet very capable in the sensory and motor powers which are involved in manual work. And economy would indicate that training should be concentrated upon these capacities which promise the best return for the educative effort expended" (Ferguson, 1916, p. 125).

On 6 April 1917, the USA entered the war and mobilization took priority over any domestic concern, especially social movements that had shaken the country for more than a decade (Zinn, 1980). Within 1 year, the American army would grow from 200,000 professional soldiers to a massive force of 3.5 million men. It was clear for the pioneers in mental testing that psychology had a national role to play. Psychology offered its service in the selection of the recruits by proposing to identify the 'mentally unfit' soldiers. Robert Yerkes, the then president of the *American Psychological Association* and chair of the *Eugenics Research Association's Committee on Inheritance of Mental Traits*, actually was setting up the dynamic that would give a respectable status to psychology as a science. He succeeded in gathering a committee composed of all the psychologists who had an extensive experience in mental testing from vocational to medical settings: among them, Henry Goddard, expert on feeblemindedness, and Lewis Terman, expert in educational testing who just developed his own adaptation of the Binet test, which was being adopted as the main intelligence test (i.e. the Stanford-Binet, 1916). Terman played a key role in convincing the committee that an adaptation of the Stanford-Binet scale into a written 'multiple choice'—a form of test that he had already experimented in schools using children—could be easily administered to adults (Zenderland, 1998). With the help of Terman, these psychologists developed several tests, which, by 31 January 1919, were administered to 1,726,966 recruits.

Fortunately for the psychologists, these results fit well with the military hierarchical structure. The officers, who had the most years of formal education, scored the highest on the Army Alpha, and the southern Blacks, most of whom reported no

schooling, scored the lowest (Yerkes, 1921). Moreover, altogether Blacks stayed at the bottom of the scale with the lowest intelligence corresponding to a mental age of 10.41. Psychologists were also not surprised by the differences in intellectual levels between immigrants. Northern Europeans from England, Scotland, Holland, Germany and the Scandinavian countries were more intelligent that people from Greece, Italy, Russia and Poland. Of major concern was the score of the White men, who, though the highest, corresponded only to a mental age of 13.08. As mentioned by Terman, based on this scientific evidence, it was impossible to exclude the morons from the army as first encompassed because it would require discarding 47% of the Whites and 89% of the Blacks. These findings had several important implications (Gould, 1981; Tucker, 1994; Zenderland, 1998).

First, it attracted the attention of a White political elite particularly eager to find another scientific argument to account for the poverty of entire strata of the population, to contain movements for social welfare and to justify means to control the dangerous lower class 'overpopulated by genetically inferior morons'. Second, the Army tests had also a significant effect in promoting the unity of psychological professions. It convinced psychologists to see in standardized testing not merely a device to identify feeblemindedness, as initially defended by Binet and Goddard themselves (Zenderland, 1998), but the means to reorganize society, by evaluating the innate intelligence of every single individual. The man behind this change was Lewis Terman. To give to the Stanford-Binet test its full efficiency in this regard, he spent a great deal of effort standardizing the scores and adopted the intelligence quotient (IQ).

Finally, the army test adventure had also an unexpected consequence. Almost 300 men had been trained in the science of mental testing in the psychology division of the army, and this division was terminated. With the help of several fellows, Terman lobbied for a national effort to apply intelligence tests to school problems arguing that qualified experts were available to take the task at hand (Chapman, 1988).

3.2 Education in a Nation of Morons

At the turning of the century, the challenge faced by the educational system was enormous. From 1890 to 1917, the US population nearly doubled from 63 million to over 100 million. Much of this growth was caused by massive immigration of newcomers from Eastern and Southern Europe. At the same time, the school system went through important reforms leading to an expansion of schooling (compulsory school attendance laws, public high school). As a result, school enrolment exploded with educational costs and pressure on school administrators increased (Chapman, 1988). Psychologists had 'scientifically' proven with the army tests that certain people were destined for leadership roles while others were only fit for menial labour, and because the educability of such morons was impossible, any expenditure of educational resources was considered a total waste. These findings were widely

corroborated by Terman's research in the schools of California (Oakland, San Jose and Palo Alto). Children with poorest backgrounds and those of Mexican or Italian descents had the lowest intelligence. According to Terman (1919), schools were confronted to three main problems: mental age differed widely in school grades, children's intelligence varied considerably within classes and teacher's perception of children's ability was not reliable. Such problems rendered schools inefficient and also responsible for the frustration of students because expectations often exceeded children's ability. Terman even argued that such frustrations could fuel the social instability that had shaken the US society in the past decade. As Dickson (1919, p. 226), one of Terman's student at Stanford, wrote "social unrest, shame and the I. W. W[1]. spirit may easily have their beginnings in these early social problems". Terman, who chaired the *National Education Association*'s Subcommittee on Use of Intelligence Tests in Revision of Elementary Education, wrote in the committee official report that it was "of greater value to society to discover a single gifted child and aid in his proper development than to train thousand dullards to the limit of their educability" (1923, p. 28). Because a child's limits could be "fairly accurately predicted by means of mental tests given in the first school year" (Terman, 1919, p. 269), Terman recommended that vocational training and guidance be implemented as soon as possible. To contribute to social efficiency, he advocated for the implementation of a tracking system based on test scores. Such early guidance would offer several 'benefits' (Chapman, 1988; Tucker, 1994): It would eradicate any unrealistic hopes for higher education by the age of ten, it would protect children from their own ambition and avoid "the saddest as well as the most common failures in life" that happen when aspirations exceed ability, it would also ensure that bright children would not 'waste' their intellectual potential in an employment that only requires 'mediocre intelligence' (Terman, 1919, p. 204). In other words, education did not aim at favouring the development of the potential of every children; it had to become the system for matching the person to the role entitled by his level of intelligence and to prepare him for life to accept the designed position with minimal discontent (Tucker). As summarized by Frank N. Freeman, an educator from the University of Chicago (Freeman, 1924, p. 170):

> I may be conscious of the fact that my neighbor has a better house than mine; that he drives a Cadillac while I drive a Ford; that he wears better clothes; that he receives promotion in his profession or his business more rapidly than I do… I may even suffer the pain of losing my position or being forced to accept a considerably poorer one that I had expected.
>
> All these facts constitute an aspect of life to which one must adjust oneself…. It is the business of the school to help the child to acquire such an attitude toward the inequalities of life, whether in accomplishment or in reward, that he may adjust himself to its conditions with the least possible friction. (Freeman, 1924, p. 170)

After the war, intelligence tests gained an important popularity and were widely disseminated in the USA due to the marketing talent of Terman, who owned partial or total authorship in several psychometric products (e.g. the Stanford-Binet, the group-administered National Intelligence Tests, the Terman Group Tests of Mental Ability). Terman's tests were widely advertised even in official published reports (e.g. National Education Association, 1922). Besides making Terman's fortune, this

dissemination and the simplification of test administration it offered (i.e. to groups in a single setting) generated an escalation in the study of racial differences in psychology, referred as 'race psychology'. The first review of the race literature, Garth (1925) focused on the scientific production between 1916 and 1924, identified 73 investigations, 19 of which dealt specifically with White and Black differences in intelligence and mental processing and showed that Whites were more intelligent than Blacks. The available empirical evidence confirmed according to Garth "the mental superiority of the white race" (1925, p. 359). By 1940 and except for very few exceptions, the scientific study of race had completely abandoned any racism claim. Most scientists converged to the belief that differences between groups in intelligence could be explained by their cultural experience rather than by any innate differences in intellectual ability. Social problems and inequalities intensified during the early 1930s to a point where it was obvious for too many poor people that innate intelligence was not the cause of social status and again social movements exploded (Zinn, 1980).

After the second war, the atrocity of the Nazi regime committed in the name of the race supremacy had led to a deep critical consciousness towards the concept of race and its abuse. A UNESCO post-war scientific conference issued several statements on this issue. Some social scientists maintained that when races "give similar degrees of cultural opportunity to realize their potentialities, the average achievement of the members of each group is about the same" (UNESCO, 1950, quoted in Tucker, 1994, p. 138). A group of geneticists and physical anthropologists acknowledged that such innate differences might be possible but that there was no available scientific evidence. In other words, racism was almost unanimously rejected, yet intelligence testing knew a rapid growth. At the end of 1947, the *Educational Testing Service* was created, with the decisive contribution of James Bryant Conant, the then Harvard president (Lemann, 1999). A growing number of students were taking the *Scholastic Aptitude Test* designed by C. Brigham—one of the most influential scientific figure in the exploitation of the army tests results to stop immigration—ETS was about to launch within a few months the *Law School Aptitude tests* and to develop the *Medical College Aptitude Test*. Actually, the United States was becoming the world's leading user of IQ tests, and the meritocracy that Terman had dreamed about was slowly but surely being implemented. Ironically, though racism was almost unanimously banned as an ideological option, one of the very tools that had been employed to establish its scientific credit was now intensively used to offer and limit educational opportunities.

3.3 Intelligence Testing in the Court

Whereas the racism ideology was severely condemned after the atrocities committed in its name in Nazi Germany, its institutionalized form, racial segregation, was still deeply rooted in the US society. However, critics against racism intensified, the old colonies were fighting for their independence in South Asia and Africa, and the

pressure towards desegregation was growing. When the court battles began in 1950 around racial segregation, social scientists got strongly involved (Richards, 1997; Scott, 1997; Tucker, 1994). Among the psychologists who testified for the plaintiffs were many distinguished scholars (see Kluger, 1976). In September 1952, psychologists submitted the Social Science Statement written by Clark, Chein and Cook (1952/2004) and signed by 32 scientists that denounced the deleterious effect of segregation on Blacks and discussed the effects that desegregation could have on the US society. Interestingly, as reported by Tucker (1994, see also Scott, 1997), scientific evidence advocating for the psychological benefits of school desegregation was to say the least very weak.

The risk of possible racial desegregation appeared for many to be a catastrophe to be prevented by all means (Tucker, 2002). Opponents of desegregation invited the science of mental testing into the courts to defend, with scientific arguments, the advantages of racial segregation. One of the most effective opponents of desegregation was Henry Garrett (Tucker, 1994; Winston, 1998). Garrett not only was a renowned intelligence psychologist, he was also head of the psychology department at Columbia, president of the *Psychometric Society* (1943), fellow of the *American Academy for the Advancement of Science*, member of the prestigious *National Research Council*, and 1946 past president of the *American Psychological Association* (see Winston). Garrett had worked on racial and ethnic differences for almost 30 years and was a convinced hereditarian. As noted by Winston (1998, p. 183), "Garrett took up the rhetorical position that he and others would use effectively for the next 25 years in the general public arena: Environmental interpretations of racial differences in intelligence were an ideologically motivated fallacy, whereas his genetic interpretation was based purely on detached, scientific thinking, with no political agenda".

In 1952, the president of the University of Richmond asked Garrett to testify for the Commonwealth of Virginia in *Davis v. County School Board*. His testimony followed that of his former student at Columbia, Kenneth Clark, who testified on behalf of the NAACP. Garrett advocated against desegregation—arguing that Blacks were better off in a segregated world where their self-image was protected (Winston, 1998). He ignored the realities of funding in Black schools and claimed that as long as there were 'equal facilities', school segregation could cause no damage. Moreover, he argued that Blacks had their own special talents—athletics, dramatic art and music—which would be best developed in separate schools where the curriculum could be adapted to nurture these specific talents. For Garrett, such an argument was the ultimate proof that he did not believe in White superiority. The three judges ruled unanimously for the *County School Board* and favoured the status quo (Kluger, 1976, p. 184). The appeal of this decision was one of four cases that became *Brown v. Board of Education*.

On 17 May 1954, the Supreme Court sitting on the case of Brown v. *Board of Education Topeka* (1954) ruled unanimously for the plaintiff and desegregation. As commented by many scholars (Scott, 1997; Tucker, 1994), the real point at issue was not whether there was any scientific evidence that segregation had a detrimental effect on Black children but whether the plaintiff's constitutional rights had been

denied by not being allowed to attend an all-White school. Needless to say, that the Brown decision had the effect of a bombshell among the segregationists. The resistance quickly organized. Garrett even suggested that to prevent implementation of the *Brown* decision, 'our best bet' was to "make the white school so unpleasant for them that the Negroes withdraw or else boycott the school entirely" (Garrett to Wesley Critz George, 1 March 1961; quoted in Tucker, 2002, p. 197). For many years after the *Brown* decision, southern schools attempted to circumvent the Supreme Court's mandate to desegregate education. Again, mental testing played a key role in this strategy. In one major southern city, Black children were not allowed to transfer to a White school unless their test score was at least equal to the average of the classroom in the school to which transfer was requested (Bersoff, 1981; Valencia & Suzuki, 2001). Ultimately, such procedures were challenged in federal courts by minority plaintiffs and were eventually declared unconstitutional. However, as Bersoff noted, even though civil rights lawyers succeeded in demonstrating how standardized tests were purposely used against Black students to forestall the desegregation mandate of *Brown*, "in no case was the validity of the tests themselves attacked" (p. 1046). The concern of the court was that tests "were administered only to Blacks or were used to make decision solely on racial grounds" (p. 1046). As a result, such tests continued to be used in the South and elsewhere in the USA long after *Brown*.

3.4 On the Neutrality of Academic Psychology

Throughout these years, major psychological associations remained rather unwilling to examine the potentially discriminatory nature of intelligence testing, mostly because psychometrics had contributed so much to the development of the science and practice of psychology. It is then not surprising that the request to scientifically evaluate the social cost of intelligence testing for disadvantaged group members came from the outside the White establishment. In 1968, the newly formed *Association of Black Psychologists* presented to the APA at its annual convention a memorandum calling for a moratorium on psychological testing. In response to this memorandum, the APA board of scientific affairs appointed a committee of several prominent psychometricians to evaluate the educational uses of tests with regard to disadvantaged students. The conclusion of the report (Cleary, Humphreys, Kendrick, & Wesman, 1975) was uncritical of the tests themselves and reflected the standard psychometric defence of testing. According to the committee, the "intellectual deficit among Negroes" (Cleary et al., p. 15) could not be ignored. Although there might be problems associated with improper use of the test, the report stated that tests themselves were unbiased and fair at least in terms of psychometric properties. Indeed, they predict scholastic achievement equally well for both Blacks and Whites. Moreover, there was no alternative available for the evaluation of individual ability.

A similar confrontation occurred at the January 1976 meeting of the APA Council of Representatives where members of the *Clinical Psychology Division* proposed

that standardized tests used for the selection of minority students be labelled with a warning modelled after the one required for tobacco advertisements: "Uses of this test on populations other than those for which it was standardized may be harmful to the individuals being tested, and such usage is deemed contrary to the ethical standards of the American Psychological Association" (reported in Nairn, 1980, p. 118). Another APA division (*the Evaluation and Measurement Division*) responded by introducing a resolution of their own in which its members claimed that "psychological testing is one of the most important contribution of psychology to the 'practical guidance of scientific affairs' (…). Yet the science of and profession of psychology [was] damaged by the lopsided attacks which often go without correction, comment or rebuttal" and affirmed that "standardized testing … is a valuable technique in psychological and educational decision making" (see American Psychological Association, 1976). The APA Council endorsed the resolution of the *Evaluation and Measurement Division* as policy and "upon recommendation of the Board of Scientific Affairs and the Board of Directors, the council voted (…) to postpone indefinitely" the resolution submitted by the division of clinical psychologists (American Psychological Association, 1976, p. 427).

In both cases, the APA's resistance to the critique and its defence of standardized testing programmes has been remarkable. This appears all the more noticeable given the scientific evidence demonstrating the poor validity of test scores (e.g. SAT I and II, GRE, LSAT) in predicting students' later achievement. For example, a study conducted at the University of Pennsylvania examined the outcomes of 3,800 students admitted to the university, majoring in fields ranging from business, engineering, arts and sciences to nursing (Baron & Norman, 1992). The results revealed that standardized test scores were extremely poor at predicting college GPAs. The SAT I reasoning tests explained 4% of the variance in the academic performance of students; the SAT II subject tests were somewhat better, accounting for 6.8% in the variation in GPAs. Rank in high school was by far the best predictor, accounting for 9.3% of the variance in college grades. These findings are far from isolated results; many studies have pointed out the weakness of test scores for predicting later outcomes (e.g. Geiser & Studley, 2001; Goldberg & Alliger, 1992; Vars & Bowen, 1998).

3.5 The Pseudo Neutrality of Testing Situations

After the Brown decision, the *Society for the Psychological Study of Social Issues* charged Irwin Katz to review the scientific evidence concerning the impact that desegregation may have on the intellectual performance of Black students. Katz studied the situational factors that could either facilitate or inhibit the intellectual functioning of Black students in integrated settings. He noted that a climate of rejection from the classmates and teachers (i.e. social threat) and the apprehension that failing could generate disapproval of significant others (i.e. failure threat) would generate stress that could impair the performance of Black students. To substantiate his claim, Katz reported evidence suggesting that standardized testing situations could be

particularly detrimental for Blacks' achievement because they trigger high level of disruptive stress among them. It took 30 years for this idea to find its way into mainstream social psychology *as stereotype threat* (Steele & Aronson, 1995). Stereotype threat refers to the predicament experienced by low-status group members when in a given situation (e.g. an exam), they are at risk of confirming the allegation of inferiority associated with their group's reputation. According to Steele (1997), this additional burden can selectively disrupt the performance of low-status group members. In a now famous experiment, Steele and Aronson presented Black and White college students with a difficult reasoning task adapted from the verbal GRE. The characterization of the test was manipulated so that the test was introduced as a measure of intellectual ability for half of the participants but was described as a laboratory task aimed at studying general cognitive processes for the rest. The results showed that African-Americans underperformed on the test when they thought it measured their intellectual ability, but not when the identical test was characterized as a simple laboratory exercise. White students, in contrast, performed slightly better, though not significantly so, in the standard testing situation (i.e. when the test was characterized as ability diagnostic) than when it was characterized as a simple laboratory exercise. According to the authors, the drop in Blacks' performance under evaluative scrutiny resulted from the interference caused by the extra evaluative pressure related to the fear of confirming their group's inferiority. In other words, this research suggested that standardized test administration, by making explicit the purpose of the test, could selectively undermine Black examinees' scores.

In more than 15 years, researchers have published more than 100 peer-reviewed articles on stereotype threat, mainly in social psychology journals showing that standard testing situations by themselves contribute to the test score gap between social groups. The phenomenon has been observed among a variety of stigmatized groups not only including African-Americans but also poor students, (Croizet & Claire, 1998) Latinos (Gonzales, Blaton, & Williams, 2002) and women (Spencer, Steele, & Quinn, 1999). Congruent with earlier research by Katz, evidence suggests that standardized testing generates a psychological state among low-status group members that undermines performance though a disruptive mental workload (Croizet et al., 2004). Research has demonstrated such situational variation in the test-score gaps between social groups across a wide range of tasks from basic arithmetic tasks (Schmader & Johns, 2003) to more difficult and standardized tests like the GRE (Steele & Aronson, 1995). Recent studies have started to examine whether the pattern described above extends to IQ tests, which many proponents claim "are not demonstrably biased against social class or race" (Herrnstein & Murray, 1994, p. 23). This research has focused on the Raven Advanced Progressive Matrices test, because it is often portrayed as the most widely used and 'purest', non-verbal measure of intelligence (i.e. *g*; see Herrnstein & Murray, 1994, p. 273). Again, results confirmed the pernicious effect of standard test presentations on disadvantaged group members' performance. In one study (Croizet & Dutrévis, 2004) low-SES participants who thought the Raven test was a measure of their intelligence scored worse than did low-SES participants when the same test was presented as non-diagnostic of intellectual ability,

worse than high-SES participants in the diagnostic condition and worse than high-SES participants in the non-diagnostic condition (see also Croizet et al.). In a similar way, Brown and Day (2006) demonstrated that Black students scored higher when the Raven test was presented as being non-diagnostic of intellectual ability than when it was administered following the standard manual instructions. In brief, testing environments per se depress the level of performance of low-status group members.

While the research reviewed above has focused on the impact of a test situation on disadvantaged group members, other research suggested that the impairment of low-status group performance may only be one half of the process by which the practice of testing reproduces social inequalities. In particular, Walton and Cohen (2003) hypothesized that dominant group members may be at ease in a standard testing situation because of the positive status differential they experience in comparison to denigrated out-groups. This favourable context of comparison might in turn boost performance, a phenomenon that Walton and Cohen referred to as *stereotype lift*. In their meta-analytic review of the available literature on stereotype threat, 30 of the 43 studies reviewed (i.e. 70%) showed the expected pattern of results: Advantaged group members got higher test scores when the test was presented in a situation allowing the better downward comparison with denigrated groups (effect size $d = .10$; see Walton & Cohen). More importantly, an analysis restricted to the studies that manipulated the intellectual diagnosticity of the test ($n = 28$) yielded an even stronger lift effect (effect size $d = .24$). Thus, members of high-status groups get higher test scores when the evaluative nature of the test is known. However, when the downward comparison with a derogated group is very unlikely (i.e. when the test is characterized as non-diagnostic of intellectual ability), their performance drops. In other words, standard tests contribute to the reproduction of the social hierarchy.

3.6 Towards the Racism of Intelligence

Long-standing domination relationships require some form of institutionalization present two important features (Jackman, 1994): institutionalization and ideological control. Domination is indeed particularly effective when it relies on some form of institutionalization so that benefits are delivered to dominant group members routinely without any need for individuals to act personally. Based on the research reviewed in the previous section, I propose that the practice of standardized testing constitutes an institutionalized form of group domination in modern societies. It regulates social mobility of individuals by controlling access to the education system and does so without constant negotiation of who should climb the ladder and who should not.

Expropriative relations between race, gender and class do not only suppose some forms of institutionalization, they also require some form of ideological control. Force is a relatively inefficient instrument of social control because it makes the domination explicit (Jackman, 1994; Turner, 2005). In contrast, persuasion of the

subordinated members through appropriate ideological framework is more effective (Weber, 1914/1978). The history of mental testing reviewed in this text revealed that the notion of intelligence has served an important ideological function throughout the twentieth century in legitimating the social hierarchy and depicting it as a natural outcome. The origin of this ideological function was traced in history by the French sociologist Bisseret (1974, 1979). She compared the changes in meaning and use of the concept of *aptitude* with evolutions in the economic and political structures throughout French history.

When the word made its appearance in the fifteenth century, aptitude designated a natural disposition to something as a gift from God. However, in the society of the Ancien Régime, aptitude granted no superiority of rank. Actual power was linked to birth: Individuals were born 'nobles' or 'peasants' and remained so all their life by the will of God. Up to the middle of the eighteenth century, the word *aptitude* was rarely used in everyday language. The term came into use in the course of the second half of the eighteenth century, at a time when the relation between human beings and the world had changed with progressive control over nature made possible by the progress of science and technology. People no longer expected God to intervene in the course of events with miracles; they were taking control over them. The world, including man and woman, was governed by laws that science had to unveil. Although the bourgeoisie owned economic power, political power was still in the hands of the aristocracy legitimized as God's will. The bourgeoisie started to claim political power based on merit an individual freedom. Definitions of the word *aptitude* evolved to reflect these changes in group relations. For example, people defined aptitude in reference to actual human activities; writers made reference to the aptitude for mathematics, poetry and so forth. Although aptitude was still defined as a natural disposition, it was the environment that was its primary cause. Thus, persons owed their aptitude to perform certain tasks to the hazard of being born in a given environment. This new conception is particularly illustrated in the passionate interests for new pedagogical tendencies like Rousseau's treaty on education (Rousseau, 1762/1966), Itard's research on the educability of the Wild Boy of Aveyron (Itard, 1809/1998).

At the time of the French Revolution, it became obvious that the social organization of society was in the hands of human beings and not God and nature, because the social order that the nobles had set up for their benefit had been overthrown. A new society organized around the principle of equality was being built with a strong ambition for public education. Aptitude, which was previously a divine gift, was now considered to be the changeable product of environment and education. To overthrow the aristocracy, the bourgeoisie had called on the people whom it wanted to instruct, and many members strongly believed that they were building an egalitarian society. But this new social order generated new inequalities that were not only political (e.g. women and servants did not have the right to vote) but also economic and educational (secondary education was reserved for children of rich families). "Instead of birth and divine right, notions of equality, merit, aptitude, competence and individual responsibility rallied round a comprehensive ideology, to which 'the people' adhered as well" (Bisseret, 1979, p. 10).

After the first half of the nineteenth century, the bourgeoisie succeeded in taking political power. A new social order emerged characterized by an intensive industrialization. The ruling bourgeoisie granted voting rights based on property-linked suffrage (i.e. suffrage linked to wealth) and refused state assistance to workers in the name of the economic imperatives while widely benefiting from state assistance (e.g. to finance the construction of railways to be run by private companies). The bourgeoisie developed an ideology by which it could justify this new hierarchy and dissuade complaints that were emerging as a result of the difficulties experienced by most people. A new form of ideological control was all the more necessary now that the bourgeoisie could not deny the principle of equality in the name of which it had taken power over the noblesse. The bourgeoisie continued to proclaim that everybody was free and equal by law and that the destiny of a person no longer depended on an established social order but on individual capacity. Anthropometrical research started to explode and was looking for scientific proofs that superior aptitude, as measured by organic superiority, explained social rank (cf. Gould, 1981). The word *intelligence* started to become popular, and the connotation of the term *aptitude* came to progressively designate unchangeable, permanent, hereditary factors that determined the destiny of an individual. "In other words, the concept of aptitude lost its random connotation—both in the 18th century with the idea of human freedom and before the 18th with the idea of divine freedom" (Bisseret, 1979, p. 13). Thus, the bourgeoisie consolidated its position by denying to working classes the essential qualities of intelligence and merit (for a similar argument with regard to the reproductive function of the educational system, see Bourdieu & Passeron, 1970).

Finally, in the second half of the nineteenth century, this evolution became accentuated in an era characterized by the triumph of industry and colonization. This economic explosion created important needs for a qualified workforce, and important reforms on the educational system were implemented to prepare boys for future employment as workers and soldiers and girls for housekeeping and women's handicrafts. General education was reserved for rich students, who benefited from a specific tracking system implemented within the public schools. The set of beliefs that allowed the ruling class to justify social inequalities got reinforced from developments in biology (Darwin). Gobineau (1852) published his *Essai sur l'inégalité des races humaines*, which aimed to be a scientific demonstration that the hierarchy of societies and social classes were based on biological differentiation. According to Gobineau's theory, the domination of some classes by others was natural, inevitable and legitimate. His thesis had a profound impact on Galton who years later published his famous book *on Hereditary Genius* (1859) and Herbert Spencer (1855–1870). Finally, Binet and Simon (1905) set up the first test to measure this new important and valued property called 'intelligence'. Definitions of the word *aptitude* in the dawn of the twentieth century reveal several things. First, the term was now in common usage; second, it inherited a biological meaning; and third, it was tied to heredity and selection (a concept borrowed from agriculture). In fact, as we saw earlier in this chapter, psychology brought the technology that would permit the realization of the perfect meritocracy.

Bisseret's thesis illustrated the crucial role that ideology plays in sustaining social domination by helping individuals to make sense of existing social arrangements (Adams, Biernat, Branscombe, Crandall, & Wrightsman, 2008). It also shows that a control ideology is particularly efficient if both the dominant and subordinate groups endorse it. Following Bisseret's argument, I argue that the notion of intelligence plays today a central role in preventing social conflict between the haves and the have-nots. It entails the belief that regardless of social origin *intelligence* defines a person's objective value that can be measured via the procedure of standardized testing and education evaluations and that can be used to rank order people based on their performance on these tests. This meritocratic ideology portrays the social hierarchy as a legitimate order that complies perfectly with the egalitarian principle. In an open race, people of higher status owe their position to greater intelligence (i.e. they are superior), which legitimizes the fact that they have a better job, a better salary, and a longer life.

In a short article, the sociologist Pierre Bourdieu (1978) proposed the expression of *racism of intelligence* to characterize the conceptual framework that privileged people rely on to justify their advantage over less fortunate others. According to Bourdieu, people who are educated are inclined to believe in their superiority based on a higher intelligence. This form of racism is a particularly hidden and then efficient form of racism because it is distinct from 'vulgar' classical forms of racism towards Blacks or Arabs. Also, this racism is rarely denounced because usual denouncers of standard forms of racism (i.e. intellectuals) possess the features (the social position and legitimacy) that lend them to this form of racism.

Building on Bourdieu's analysis, I propose to redefine the racism of intelligence as based on the belief that people's social rank reflects individual differences in intelligence (i.e. their intrinsic value or merit). Like more standard forms of racism, the racism of intelligence helps to perpetuate current forms of expropriation for the profit of dominant groups, mainly White and rich, by depicting observable inequalities as mere reflections of natural differences between individuals (American Psychological Association Task Force on Socioeconomic Status, 2006; Chase, 1977). This domination is entitled by sophisticated forms of institutionalization (e.g. education and testing) and therefore enacted by people's daily practices (see Adams et al., 2008). This meritocratic ideological construction of reality pressures people to endorse the idea that in order to achieve a fairer society 'talent' and 'merit' have to be 'unleashed'. Repeated attacks on affirmative action illustrate this trend (Crosby, 2004).

The racism of intelligence works hand in hand with the *inside story* (Plaut & Markus, 2005), which is another key aspect of ideological control in modern societies (Jackman, 1994). The inside story is an existential principle that guides the interpretation of social life by affirming the primacy of the individual (see Markus & Kitayama, 2003; Plaut & Markus, 2005). This individualist stance has been largely documented in the scientific study of lay psychology (Ross & Nisbett, 1991). And psychology, as a social science, has widely substantiated this claim. The racism of intelligence, because it is about individual value, is not subjectively experienced as targeting any particular group. This constitutes an important difference with

more traditional forms of racism because it makes its expression totally compatible with anti-discrimination values and modern forms of racism. While old-fashioned forms of racism are more or less rejected, there are reasons to believe that it is not the case with the racism of intelligence (the success of the *Bell Curve*'s constituted a remarkable illustration of this aspect). As a consequence, even if the racism of intelligence is rooted in cultural and institutional practices and not the by-product of racists individuals (see Adams et al., 2008), many people who define themselves as 'non-racist', as 'liberal', can nevertheless have strong derogatory attitude towards the people that occupy the lowest positions in society (i.e. classism; see Lott, 2002).

The British sociologist Michael Young (1958), who was the first to coin the term 'meritocracy', predicted such expression of contempt towards the lower class. In a satirical science fiction novel, he imagined a perfect meritocracy where hierarchy is totally determined by standardized testing. Young actually unveiled a terrible regime, where people on the top soon despise the others, towards whom they feel righteously superior. But importantly, because "(…) stratification has been in accord with a principle of merit, generally accepted at all levels of society" (Young, 1958, p. 123), the lower class accepts its domination. In other words, without an alternative ideology to explain the social hierarchy, the lower class is permanently deprived of the capacity to challenge its oppressors (Turner, 2005). As such, the racism of intelligence and the principle of merit constitute a powerful ideological framework for social control.

3.7 Conclusion

The psychology of intelligence has known an extraordinary success. Numerous measurement tests have been developed, countless books published and several leading journals in psychology entirely devoted to it have flourished (e.g. the journal 'Intelligence'). In education, Terman's dream has been largely fulfilled. Education in many modern countries has implemented many of his recommendation for efficiency: tracking of students based on achievement and early guidance for the 'slower' students. Students who have lower grades receive minimal training and early vocational training. Students, who have the highest grades, access the best educational resources. The social hierarchy generated by the use of standardized testing and school grades is not so different than the one based on social origins. Individuals at the bottom of the hierarchy are still predominantly poor and not White. According to several psychologists, this outcome is the mere structural reflection of individual differences in cognitive ability. However, research reviewed in this chapter suggests that such an interpretation is questionable because what intelligence test measures is not an innate feature of individuals, it is a social process of domination partly embedded in the testing situation itself. Standardized testing situations per se selectively undermine the intellectual potential of low-status group members and promote the performance of high-status group. Given the poor predictive

value of test scores and the fact that they correlate with family income, it turns out that high-stakes testing mainly serves to favour better-off applicants.

Reliance on standardized testing, far from being the technology that would allow the construction of a more meritocratic society, contributes actively to the legitimatization and reproduction of inequality. As such, standardized testing constitutes an institutionalized form of domination that sustains the expropriative relationship that exists between the dominant and oppressed groups. It limits educational and professional opportunities and acts as a barrier that discriminates against poor students and low-status groups more generally. Associated with the expropriation and making it acceptable is a form of ideology that equates people's status attainment with their level of intelligence and thereby reconciles the existence of inequalities in our society with one of its most foundational principles, that of equality between individuals. The racism of intelligence is not new, but because it does not explicitly target any specific groups, it does not appear for what it is and has become more efficient.

The psychology of mental testing has always played a key role in giving a scientific credit to the social Darwinism theorized by Herbert Spencer. In the nineteenth century, the popular H. Spencer opposed all governmental programmes for charity, free meals and other benefits because the extinction of the inferiors was a biological destiny that should not be prevented. Intelligence testing has constituted a niche for proponents of scientific racism with the help of a generous donator: Wicklilffe Draper, right wing Massachusetts textile millionaire and his Pioneer Fund created in 1937 that have supported in various ways Garrett, Shuey, Bouchard, Eysenck, Rushton, Jensen, Gottfredson and Herrnstein (Tucker, 2002). Recently, a research published by Lynn and Harvey (2008) was advocating programmes of 'new eugenics' biotechnology for stopping the 'decline of the world's IQ'. This recommendation was based on the analysis of an international database and the demonstration of a strong negative correlation (–0.73) between IQ and fertility across nations. This article was published in one the leading journal of psychology, *Intelligence*, ranked 14 out of 112 in terms of impact factor among multidisciplinary journals in psychology by Thomson Scientific ©(2010).

Psychology has been and continues to be a very attractive social science. Most of this success owes to the fact that it locates the key to human activity at the individual rather than the situational or environmental levels. As a consequence, it actively contributes to the 'inside' story that has pervaded our society and which portrays human behaviour as caused by internal traits. By negating the active role of the environment on behaviour, it contributes to mask social inequality, institutionalized domination and privileges. Research on intelligence has been particularly efficient in that purpose for more than a century. There is no doubt that it will continue.

Note

1. The International Workers of the World (IWW) was a radical labour organization that was very active in the social movements that occurred in the beginning of the twentieth century in the USA (Zinn, 1980).

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Chapter 4
Psychology in Teacher Education: Efficacy, Professionalization, Management, and Habit

Lynn Fendler

> Philosophical analysis is required in any serious discussion of education and psychology and their relationships.[1]

In this chapter, I examine four possible hypotheses that might be offered to explain the continued presence of educational psychology in the curriculum of US teacher education. These days, educational psychology is a required element in the curriculum for all accredited teacher preparation programs in the United States, and background knowledge in educational psychology is assessed on examinations for teacher licensure in most jurisdictions. Traditional university-based teacher certification is under attack from various sectors, and the curriculum for teacher preparation is among the most contested issues. This chapter considers only one element of the teacher education curriculum, namely, the requirement that prospective teachers should study educational psychology.

To consider these possible explanations, I examine literature from two fields: teacher education and educational psychology. According to educational psychologists John Houtz and Carol Lewis, psychologists themselves have had long-standing debates about what ought to be the proper role for psychology with respect to teacher education. Houtz and Lewis (1994) tell us that "Both William James … and John Dewey … suggested by their writings that educational psychology was a 'middleman' between theory and practice … James considered psychology to be a science but education an art" (p. 3). They go on to explain Dewey's position, namely, the hope that psychology would help to make educational theory more easily understandable for teachers. These debates about the role of psychology in teacher education continue today in educational psychology journals; however, there is less debate among teacher educators, who seem to take for granted that prospective teachers will study psychology.

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One way to frame this chapter would have been to focus historically on the question of how educational psychology originally came to be seen as a necessary part of teacher education beginning in the 1890s.[2] However, that is not my primary focus. Rather, I am more interested in various possible explanations for why educational psychology continues today, more than a century later, as a requirement in the teacher education curriculum, regardless of the origins of the practice. To develop this study, I posit four reasonably plausible hypotheses that might be offered to explain why psychology has continued to be a required course of study in curricula for teacher preparation:

Efficacy: Educational psychology is a requirement in teacher education curricula because the study of psychology makes better teachers (regardless of how one might define 'better').
Professionalization: Educational psychology is included in the curriculum of teacher education because the affiliation with a scientific discipline helps to raise the professional status of teaching and teacher education.
Policy/Management: Educational psychology remains in the curriculum of teacher education because psychological research renders the unruly practices of teaching more predictable, rational, and manageable; the language of psychology gives teacher educators a voice in educational policy making.
Habit: Educational psychology continues to be included in the curriculum of teacher education out of habit.

Each of these hypotheses calls for a different investigative approach. Specifically, in order to examine the efficacy perspective, I did a survey of recent literature and synthesized the findings of scientific research reports addressing the relationship of educational psychology to the quality of teaching. Second, to investigate the plausibility of the professionalization perspective, I drew on histories of psychology and histories of teacher education as well as professionalization theories in order to assess the historical role educational psychology has played in professionalization. Third, in order to examine the policy/management explanation, I took a genealogical approach to the relationship of psychology and teacher education as disciplines in the epistemological context of modern social sciences. Finally, in order to examine the role and function of habit, I turned to John Dewey's (1921) philosophy in *Human Nature and Conduct*.

I hope that this investigation will provide more nuances in our perspectives in educational research on the attraction between psychology and teacher education.

4.1 Efficacy

Quite simply, there seems to be no research that substantiates—one way or another—the impact of psychology courses in teacher education. The lack of research evidence was made most forcefully by Allen's (2003) synthesis of research in education. In another review of the research, Wilson and Floden (2003) asked precisely that

question: "To what extent do knowledge of pedagogical theory, learning theory, or child development contribute significantly to a teacher's effectiveness?" (p. 14). Based on analyses of all available empirical research reports, they affirmed that "the research on the impact of pedagogical knowledge or preparation was spotty and inconclusive" (p. 16). Even since 2003, there still appears to be no research evidence that addresses the question of whether educational psychology has had any effect on teachers or the quality of teaching.

It is only fair to note here that there appears to be no conclusive scientific research of any sort that substantiates the effect of *any* courses in the teacher education curriculum. And this non-relationship holds true regardless of what you hold as the criterion of effect. According to Mary Kennedy[3] (who has done the most extensive meta-analyses of the research literature in teacher education), there is some fairly weak evidence suggesting that subject-specific pedagogy courses may bolster the confidence of beginning teachers. But even that finding is not robust, and no other parts of the curriculum are supported by research that examines the effect of any courses in the curriculum of teacher education.

Both teacher educators and educational psychologists seem to be aware of this problem; however, neither field confronts the problem directly. Rather, in both teacher education and educational psychology, the lack of evidence regarding the efficacy of psychology for teachers is treated as a kind of 'dirty little secret'; it is not something we talk about in polite company. Rather, both teacher education and educational psychology have offered various oblique justifications for the continued presence of psychology in the TE curriculum.

For example, in their *Teachers College Record* article, educational psychologists Peterson, Clark, and Dickson (1990) appealed to William James and the Report of the Holmes Group to argue that educational psychology should be used as the theoretical framework for the design of the teacher education curriculum:

> we sense a growing awareness among educational psychologists of the need to reexamine their own discipline. Such a reexamination needs to focus not only on the learning and teaching of educational psychology but also on understanding how educational psychology as a course of study influences the knowledge of candidates in teacher preparation. (Peterson et al. 1990, online version)

In other words, Peterson, Clark, and Dickson argued that the relationship between education and psychology should be rethought. Educational psychology should no longer be considered in terms of a required course for prospective teachers to study, but rather the principles and learning theories derived from psychology should form the intellectual and practical basis for the design of the entire teacher education curriculum. In these authors' views, teacher education curricula should be designed according to principles of constructivist learning theories that represent the most up-to-date research advances in educational psychology. One assumption reflected in this argument is that science can solve educational problems, and that curriculum design is a scientific enterprise that is somehow immune to political, economic, or cultural influences.

From its inception, educational psychology has made attempts to adjust the boundaries and focus of the discipline in order to become more relevant to teachers

and teacher educators (see, e.g., Anderson, et al., 1995; Norwich, 2000; Poulou, 2005; Travers, 1966). As educational psychologists have endeavored to make their discipline more relevant for education, they have emphasized primarily the contributions that psychology can make in the areas of special education and diagnostic instruments (such as IQ tests, aptitude tests, and personality tests for such things as self-esteem, self-efficacy, and motivation), which are traditional domains of psychology. Illustrative of how educational psychologists have been working to make their field more relevant, there is now an AERA Special Interest Group called 'Teaching Educational Psychology' and also a journal and a wiki by the same name. These materials provide resources for teaching educational psychology courses in ways that are relevant for teacher education. In these materials, the efficacy of educational psychology for the teacher education curriculum is never questioned. The resources do not attempt to defend the value of educational psychology as a knowledge domain for teachers; its value is assumed without evidence.

Reports from teacher education concur with those from educational psychology. Regarding research on the question of efficacy, the most recent *Handbook of Research on Teacher Education* puts it most succinctly:

> Clearly, what is still missing from the literature and the field is empirical work that seeks to better understand the role of psychology in teacher education. While there is an evolving literature on teacher emotion, the literature that brings in the psychological development of the self to bear on the effectiveness of teacher education programs is in its infancy. (Rogers & Scott, 2008, p. 752)

In any case, at this time, the inclusion of psychology in the curriculum of teacher education—either as a foundational discipline or as a pedagogical theory for curriculum design—is not warranted on the basis of efficacy. Researchers in both teacher education and educational psychology seem to acknowledge this lack of evidence; however, the absence of evidence does not appear as a vexing issue in the research reports, policy statements, program reviews, or teaching materials from either field.

4.2 Professionalization

The role of psychology in the professionalization of teacher education is complicated because there are at least two separate constituencies within teacher education to consider. In order to address the question of the role of psychology in the professionalization of teaching, we have to look from two sides: the academic/university perspective and the school/teacher perspective. Professionalization is not the same across those two contexts, and in each context psychology plays a different role vis-à-vis professionalization.

University departments of teacher education have traditionally considered psychology to be a social science that enhances the *academic* standing of departments of education in the university. Professionalization (especially in the United States) is advanced through the production of research that looks like social science

(as opposed research that looks like arts or humanities). University departments gain professional status based largely on their research productivity, and research on teaching and teacher education was established from the beginning to be in alignment with the discourses of psychology. The history of this relationship can be illustrated with two events that served to establish the role of psychology as an assumed element for the professionalization of teaching.

Both events are connected with the work of Nathaniel Lees Gage (1917–2008), president of AERA from 1963 to 1964 and one of the most eminent educational psychologists in US history. First, Gage was appointed by AERA to be the editor of the very first *Handbook of Research on Teaching* (published in 1963). Being a psychologist, Gage invited other psychologists as contributors to this volume, and the *Handbook* was shaped according to the epistemological commitments and research conventions of educational psychology. This first edition of the *Handbook of Research on Teaching* was comprised almost exclusively of studies in educational psychology. In fact, by AERA appointments, the first four editions of the handbook were edited by educational psychologists:

1. 1963: Nathaniel Gage (educational psychology)
2. 1973: Robert M.W. Travers (educational psychology)
3. 1986: Merlin Wittrock (educational psychology)
4. 2001: Virginia Richardson (philosophy and psychology)
5. 2014: Drew H. Gitomer and Courtney A. Bell (ETS policy researchers)

The *Handbook of Research on Teaching* is published as an authoritative volume by the largest professional organization for educational research in the United States, and that volume frames research on teaching in terms of psychology.[4] The tradition of appointing educational psychologists as editors of the handbook was sustained for 40 years. However, the forthcoming (2014) volume will change that tradition because, for the first time, the *Handbook* will be edited by two educational policy researchers who are not psychologists; rather, they are both affiliated with a non-university-based corporation, namely, Educational Testing Services. As an isolated event, this shift in editorial expertise would probably not amount to much; however, combined with other factors, there may be some indication that psychology is fading in prominence as an essential element in the professionalization of teacher education.

The second historical event that reinforced the role of psychology in teacher education was that Gage went on in 1965 to establish the Stanford Center for Research and Development of Teaching, the first center of its kind. With such an enthusiastic advocate as Gage at the helm of both the *Handbook* and the center, educational psychology was constituted as the foundation for professionalization of teaching and teacher education. For researchers in departments of teacher education seeking to advance their professional status through publications, the research traditions of psychology served as the primary venue for funding and publishing opportunities for most of the twentieth century.

Within this professionalization context, university-based programs of teacher education reaped some benefit in status through affiliations with psychology as a

scientific research enterprise. However, there are two recent historical developments (in addition to the change in the *Handbook* editorship) that suggest psychology may be in decline as the primary venue for professionalization in education: (1) the invention of the Learning Sciences and (2) political initiatives that deemphasize the importance of university coursework in teacher education.

4.2.1 Learning Sciences

In a pattern that is typical across most disciplinary fields, *educational* psychology suffers from relatively low status within the discipline of psychology itself. Perhaps in response to the low status, or perhaps as part of entrepreneurial trends in educational research, there is now a disciplinary spin-off field that calls itself 'Learning Sciences.' The International Society of the Learning Sciences was incorporated in September of 2002 and defines itself as

> a professional society dedicated to the interdisciplinary empirical investigation of learning as it exists in real-world settings and how learning may be facilitated both with and without technology.... The society is widely interdisciplinary and includes members from cognitive science, educational psychology, computer science, anthropology, sociology, information sciences, neurosciences, education, design studies, instructional design, and other fields. (http://www.isls.org/index.html)

It appears that the Learning Sciences have been established in order to promote and professionalize the kinds of scholarly projects that formerly belonged within the domain of educational psychology. In addition, the Learning Sciences are identified explicitly as an applied field whose research agenda is focused on scientific approaches to the measurement of efficacy in school settings. The focus on applied research makes Learning Sciences an appealing disciplinary affiliation for education and other professional schools. Since the Learning Sciences have been established as a separate field of study (and as a disciplinary department in some universities[5]), this institutionalization may in the future serve to generate research reports about the efficacy of expertise in psychology for improving the quality of teaching. At the same time, with the invention of this newly institutionalized domain of research, Learning Sciences-type studies may be taking over from psychology as the high-status disciplinary affiliation for purposes of professionalization. Since research in the Learning Sciences may turn out to be indistinguishable from research in educational psychology, the change in the label may make no substantive difference to any intellectual or professional relationships with education. In any case, it is still too early to assess the impact or attraction of the Learning Sciences on teaching and teacher education.

4.2.2 Political Trends

With recent shifts in the US political context, psychology may soon hold less value for the professionalization of teacher education. Current critics of US teacher preparation (which are growing in influence) have been arguing that teacher preparation

should take the form of 'residency models' that resemble training programs in medical schools. In this model, universities would provide preparation in subject matter (mathematics, history, etc.), and then teacher candidates would complete their pedagogical training through residency placements in schools (see, e.g., Duncan, 2010).[6] In general, current critics are pushing for teacher preparation to be moved out of universities and into the local schools where the training[7] can be designed and supervised by non-university credentialing entities. These entities may include private corporations, local school districts, and religious or community organizations. It would seem that current trends in favor of residency models and privatization of teacher education may be serving to diminish the value of educational psychology as a vehicle for raising the professional status of teacher education in the university.

It is plausible that educational psychology has played a role in bolstering the professional standing for programs of teacher education in universities. However, psychology seems to have had the opposite effect on teachers. In contrast to the professional advantages for teacher educators, the professional standing for classroom teachers is not improved and may even be diminished, through affiliations with psychology. This is because from the perspective of teachers, professional development rests on the refinement of practical skills and expertise in craft, not on scientific knowledge and research publications. Among teachers (see, e.g., Grady, Helbling, & Lubeck, 2008; Helterbran, 2008; Houston, 2008), psychology is not mentioned as a factor in professionalism, and the discourses of teacher professionalization do not make references to psychology. In fact, a scientific knowledge base is implicitly and explicitly rejected by teachers. Teacher professional organizations tend to prioritize practical skills in the definition of professionalism, and so most aspects of traditional teacher education curriculum are regarded as irrelevant by teachers, except for purposes of credentialing (see, e.g., American Federation of Teachers, 2007; Helterbran, 2008; Servage, 2009). From the teacher's point of view, professionalism consists of the following:

- Demonstrating responsible work habits (showing up on time in proper dress and civil demeanor)
- Pursuing further credentials
- Working cooperatively with other teachers
- Practicing reflective teaching
- Maintaining a certain amount of autonomy or self-determination

As far as teachers are concerned, psychologists are not teachers and therefore cannot be experts on teaching. The professional status of teachers cannot benefit from association with people who are not experts on teaching. Therefore, from the perspective of teachers, an affiliation with psychology does not advance their professional standing and may even lower it by deflecting attention away from teachers' expertise and granting expert status to a group of professionals who are not teachers.

Along similar lines, Null has argued that the absorption of normal schools into universities was an anti-professionalizing move in the history of teaching. Null's argument is that teaching lost its unique status as a profession when normal schools

became absorbed by larger universities whose interests rarely align in support of teaching and professional schools. Null's argument about the institutionalization of teacher preparation parallels the argument about how psychology functions to professionalize teacher education but does not help to professionalize teachers (see also Labaree, 1992).

In sum, is it plausible that psychology remains as a requirement in the curriculum of teacher education because psychology has helped to raise the professional status of university-based teacher education. It is also plausible that the Learning Sciences may be taking over from psychology as the discipline that serves to advance the professional status of the field. On that basis, professionalization can be considered to be a plausible explanation for the continued presence of psychology in the TE curriculum. However, at the same time, it is important to note that the professionalization of teacher education through affiliation with psychology (and/or Learning Sciences) may be occurring at the expense of the professionalization of teachers.

4.3 Policy and Management

In the past decade, there has been increased emphasis on using 'evidence-based' findings from scientific research to justify educational policies and practices. Public policy explicitly favors scientific research methods,[8] and to that extent, psychology is valued as a source for scientific evidence to establish and justify educational policies. Research in educational psychology conforms more closely (than other kinds of research in education) to those scientific criteria for research. Of all the types of research that are produced in education, it is educational psychology research that has been most rhetorically useful for policy makers. Therefore, it is reasonable to surmise that psychology persists as a research domain in teacher education because teacher educators would like to have a voice in educational policy making, and policy-making entities find the language of psychology most effective for justifying educational policies to the public.

From the perspective of educational psychology, Poulou (2005) explained the value of research in educational psychology as being the most appropriate approach in this climate of 'evidence-based' policy:

> Educational psychology is an evidence-based profession, and it must be concerned with research in education. It is proposed that the research that will be most valued in society in the future is that which educational psychologists are almost uniquely qualified to carry out. (p. 557)

Educational policy and educational psychology enjoy a mutually supportive relationship in which 'evidence-based' research is accepted as the standard for good research and good policy. This climate pertains, even though policy makers are notorious for cherry-picking research findings, to suit their respective ideological stances. Moreover, educational policy—like curriculum—is a product of political compromise and ideological negotiation. It is widely accepted that scientific

evidence is likely to take a backseat in the political and ideological arguments that are mobilized in order to support any particular direction for educational reform policies. Nevertheless, policy-making entities often point to strategically selected scientific research findings when they attempt to justify a particular educational policy.

Teacher educators seem to be aware of this problem. The kind of research that is useful for teacher education is acknowledged as being not useful for policy makers. As Cochran-Smith (2004) wrote in her editorial introduction for the (US) *Journal of Teacher Education*:

> Although these [small scale] studies can be extremely valuable for theory-building and also for the enhancement of practice, they have little or no value when teacher education is conceptualized as a broad-scale policy problem because they are not intended to establish causal relationships and because generalizations about the broad parameters of teacher preparation are impossible to draw from them. (2004, p. 112)

Cochran-Smith went on to argue that the kind of research required for informing policy is different from the kind of research that is required to help teachers or raise the professional standing of teacher education. In her view, teacher education research contributes to the professional status of teacher education and in that vein conducts research that speaks to teacher educators, but not to policy makers.

At the same time, there are other ways of looking at the relationship between educational psychology and educational policy. From the perspective of teacher educators and educational policy researchers, for example, Floden and Meniketti (2005) characterized the presence of psychology in teacher education as a product of intuition:

> The absence of strong empirical support for arts and sciences and foundations (especially psychological foundations) seems unlikely to lead policymakers to relax these requirements. The intuitive sense that teachers should know their subject and understand how people learn is powerful, perhaps as powerful as the sense that doctors should know anatomy and how medicines work. (Floden & Meniketti, 2005, p. 299)

These statements about educational policy help to explain the continuing role of psychology in educational research endeavors. Psychology serves to frame educational problems in ways that seem amenable to rational management. When educational problems are believed to be researchable in terms of psychology, then those problems appear to be resolvable by means of policies that are based on scientific evidence. This way of looking at things is an example of broader historical tendencies of modern rationalization, institutionalization, and progressivism. When policy makers want to believe (or want voters to believe) in progress and in the capacity of administrative entities to solve social problems, then rhetorical appeals to psychology are more effective than appeals to ethnography, genealogy, curriculum theory, deconstruction, history, or philosophy as sources of evidence and justification in public debate. In that way, the persistence of educational psychology in public policy realms is readily understandable. The discourse of educational psychology is one component of modern historical rationalization that incorporates a scientific worldview, belief in progress, and the amelioration of social problems through

evidence-based policies. From the point of view of modern political rationality and the rhetorical effectiveness of scientific language, it is possible to explain the continued acceptance of psychology as a component in educational research projects.

However, even granting the overarching influence of modern political rationality driving educational research, the predominance of psychology in educational research does not help to explain the continued presence of psychology in the curriculum of teacher education. For example, if we acknowledge the value of psychological discourses for the articulation and justification of educational policy, then we can understand why educational psychology would be included as a requirement for graduate curricula in Educational Administration and/or Educational Policy. We can even understand why the study of educational psychology might be included as curricular requirement for all doctoral programs in education. However, in the absence of any evidence of the value of psychology for improving teaching, the role of psychology in policy making does not provide sufficient warrant for its inclusion in the curriculum of teacher preparation.

Again, as with professionalization, educational psychology seems to serve administrative and managerial entities by providing a particular kind of language for justifying policy initiatives, but this function operates without offering intellectual, practical, or professional benefits for teachers or classrooms.

4.4 Habit

Dewey's (1921) *Human Nature and Conduct: An Introduction to Social Psychology* provided a generative launching point for my thinking about the role psychology plays in teacher education; from my reading of this book, my analysis took an unexpected turn. In order to trace that change of direction, I begin this section with a summary and interpretation of Dewey's conceptualization of habit.

In *Human Nature and Conduct,* Dewey was himself wrestling with the definition, focus, and scope of psychology. Specifically, the argument of this book distinguishes 'orthodox psychology,' which is concerned with 'separate and individual minds,' from 'social psychology,' which is concerned with the relationship of individual minds to the environment. For Dewey, social psychology serves as a happy medium between psychology (which is too individualistic) and sociology (which is too collectivistic). Instead, Dewey favors a social psychology in which we can understand human action as being always in relation to an environment, especially to other people.

A second major focus of Dewey's book is the argument that habits are not necessarily bad things. In Dewey's conceptualization, habits can have positive moral value. The text emphasizes that there are good habits as well as bad habits, "For what makes a habit bad is enslavement to old ruts" (Dewey, 1922, p. 596). For Dewey, to separate thought from habit is to separate mind from body, a division that Dewey explicitly rejects. By way of explanation, Dewey drew an analogy between

habit and art saying that all good artists must have habits like automatic skills, and that these habits are necessary but insufficient for making art. Like art, good habits should consist of automatic, routine behaviors combined with thoughtful intelligence.

In the first part of the book, Dewey argued that habits are not individual or 'private possessions' of a person. According to Dewey, habits can be considered as analogous to physiological functions or mathematical functions, and as such, habits occur in the relationship between the organism and the environment: "The social environment acts through native impulses and speech and moral habitudes manifest themselves" (Dewey, 2007/1922, p. 147). As an illustration of the social context of morality, Dewey cited the example of demographic categories: We make judgments based on social classifications. Dewey's way of framing concept of habit is useful as a way of thinking about the role of psychology in teacher preparation because Dewey's conceptualization pushes us to think relationally and to consider the question of psychology in the broader social context of teacher preparation.

For Dewey, habits can be virtuous or vicious. Virtuous habits are those that facilitate progress: "We can retain and transmit our own heritage only by constant remaking of our environment" (ibid., p. 208). In Dewey's conceptualization, habit versus intelligence is a false dichotomy: "the real opposition is not between reason and habit but between routine, unintelligent habit, and intelligent habit or art" (ibid., p. 683). Dewey argued that habits are the stuff of character: "Character is the interpenetration of habits" (ibid., p. 356). "Character is the name given to the working interaction of habits" (ibid., p. 377). It is clear that one of Dewey's major objectives in this book was to argue that habits are not necessarily bad things and that the establishment of good habits of mind is a worthy goal for education and schooling.

With respect to the fourth hypothesis, then, it is possible to affirm that psychology persists in the curriculum of teacher education because of habit; however (at least as long as we are using Dewey's conceptualization of habit), we do not know if it is a good intelligent habit or a bad thoughtless habit. The continued presence of psychology in teacher education may (or may not) be justified by various instrumental and political rationalities (such as efficacy, professionalization, and policy making), and any one of those rationalities may be based on (good) pragmatic intelligence, or in (bad) thoughtless routine.

However—and this is where my analysis took an unanticipated turn—there is a concept (other than habit) in *Human Nature and Conduct* that provides another plausible hypothesis for why psychology remains in the curriculum of teacher education: belief in magic.

In *Human Nature and Conduct*, Dewey expressed his abhorrence for all beliefs in magic. For Dewey, belief in magic is expressed in human conduct when we persist in doing something even when we have never been presented with any evidence that our actions will produce the effects we want. Dewey argued that belief in magic is a waste of human intelligence. Bemoaning the fact that magical thinking still pervades in political undertakings, Dewey wrote, "We think that by feeling strongly

enough about something, by wishing hard enough, we can get a desirable result, such as virtuous execution of a good resolve, or peace among nations, or good will in industry," (ibid., p. 250), or in this case, perhaps, better teachers.[9]

In order to illustrate the belief in magic as it shapes human conduct, Dewey gave us the example of trying to teach someone to adopt a better posture. He explained that telling a child to stand up straight, and then wishing very earnestly for that to happen, is an example of primitive magical thinking. For Dewey, this is a problem because magical thinking gets in the way of "intelligently controlled habit" (ibid., p. 261). In Dewey's view, belief in magic is a false psychology, false because it separates mind from body. Dewey preferred to think of 'psychical' mechanisms as similar to bodily mechanisms, which exist in an interdependent relation with one another. Frankly, I find Dewey's argument here rather hard to follow,[10] but what he seems to be saying is that when we imagine the body and mind to be interdependent, then we realize that we must provide educational support not only for the mind but also to provide support in the environment to facilitate bodily changes (such as the improvement in posture). In other words, if we expect a child to change his posture as a result of our having instructed him to do so, then our expectation is based on belief in magic; it is not reasonable or intelligent to expect that we can overcome bad habits by talking and wishing. In contrast, if we create a social environment in which the child is sufficiently motivated to stand up straight, and we provide this environment repeatedly over an extended period of time, then our expectation is based on intelligence. Good habits can be developed by repeated practice in an 'intelligently controlled' environment.

According to Dewey's formulations of intelligence in *Human Nature and Conduct*, we can explain the presence of psychology as a good habit in teacher education from two different points of view. First, from the perspective of political rationality, it is reasonable to require educational psychology in teacher education programs because it serves the political aim of advancing the professional status of teacher educators. Second, from the perspective of educational policy making, it is reasonable to require educational psychology in teacher education programs because it serves the purpose of giving colleges of education a voice in educational policy making. Both of these approaches are reasonable, given the stated aims and respective value systems.

However, for the most part, these are not the arguments that have been advanced by educational psychologists. Instead, most educational psychologists have been appealing to the efficacy explanation, arguing that psychological knowledge helps to improve teaching; this approach fits Dewey's definition of a bad habit. As an example of this sort of argument, here is a (long) passage from a paper delivered by two educational psychologists at the 2007 conference of the American Association of Colleges for Teacher Education:

> Arguably, the central business of the classroom is learning. Precisely what is entailed in learning, motivation, and development, and how such processes play out in the context of the culture of the classroom, should be a core component of teacher preparation. We wish to make it clear, however, that we are not suggesting that we turn teacher

> candidates into students of learning in the formal, scientific sense. The study of learning from this perspective is the purview of theoretical, experimental and educational psychologists. Nevertheless, a relatively deep grasp of current conceptions of learning, cognition, motivation, etc. is, we believe, essential if we are to expect teachers to be able to diagnose and assess learning needs, and to plan and deliver appropriate remedies. The question is how to produce a level of expertise that will allow teachers to manifest the skills such deep applications require? [sic] The focus on diagnostic skill, in the context of case analysis, and tutoring situations, is, we think, the best hope for achieving such a level of skill, and this focus addresses all three of the relevant perspectives. It would result in changes in the professional teaching standards. It would provide a rich data source. Finally, as mentioned, it would lead to more effective practice in the classroom. (Lindner & Ternasky, 2007)

Lindner and Ternasky's paper exemplifies the kind of argument advanced by educational researchers when they advocate the inclusion of educational psychology in teacher preparation. There are two main points I want to highlight with respect to this excerpt. First, the passage does not appeal to any scientific research findings or build a persuasive case that demonstrates the value or contributions of educational psychology for teachers. Rather, the passage asserts the value of psychology without evidence and without so much as an anecdote to serve as an illustration. This way of thinking is an example of Dewey's idea of belief in magic. Second, Lindner and Ternasky (like Peterson et al. 1990) assert that education would be improved if teachers would just apply the scientific findings of research in psychology in a proper way. This is a rationalistic argument that assumes (without evidence or argument) that educational reform occurs as a product of scientific progress and not as the product of historical (socio, economic, cultural, and political) contingencies.

Most, but not all, literature from educational psychology advances arguments that resemble the one by Linder and Ternasky. One exception to this line of argument is offered by Norwich (2000), an educational psychologist who has provided us with the most extensive (book-length) examination of the relationship between education and psychology. Norwich argued that the epistemological basis for psychology, which is explanatory and interpretive, is different from—and maybe incompatible with—the epistemological basis for education, which is practical and applied. Throughout the book, Norwich did not attempt to reconcile or finesse the incompatibilities between education and psychology. Rather, his analysis sustains the dichotomy, calls it a dilemma, and explicates the incompatibility as a productive tension:

> There is an inescapable *ideological impurity* in education, which arises from these connections and tensions between multiple values…. Such connectedness is in the nature of this and other human fields. It is better confronted and dealt with than responded to in the false purism of either a technological, inclusive or a romantic individualist conception of education. (Norwich, 2000, p. 201; italics in original)

At first glance, Norwich's (2000) *Education and Psychology in Interaction* appears to articulate an argument that is similar to Gage's (1978) *The Scientific Basis of the Art of Teaching*. On the surface of it, both books appear to characterize

education as a complicated combination of art and science. However, at another level, Gage's account can be seen as a one-sided promotional pitch for psychology, and in that way it is very different from the multifaceted analysis in Norwich's book. In my reading, Gage's use of the term 'art' in the title of his book is a kind of window dressing or rhetorical appeal to educators who are not psychologists (of whom Gage targeted particularly Eliot Eisner). Gage framed the argument in this book to make educational psychology seem like the reasonable middle ground between two ideological extremes. He accomplished this appeal to reason by setting up a dichotomy between two caricatures, or straw-man constructions of art and science in education:

> We can conceive of a continuum with votaries of a humanistic *art* of teaching at one end. This art rejects the offerings and findings of those who seek to apply scientific method to the improvement of teaching. At the other end are believers in the replacement of teachers by *technology*, in the form of teaching machines, computer-assisted instruction, multimedia packages, and the like. Our present concern with the scientific basis of the art of classroom teaching belongs near the middle of this range. (Gage, 1978, p. 14; italics in original)

After this introduction, the remainder of Gage's book goes on to provide examples that show how the discipline of educational psychology is indispensable in the preparation of teachers, just as the disciplines of anatomy and physiology are indispensable in the preparation of medical doctors. Gage's argument includes anecdotes and summaries of carefully selected research findings that illustrate the ways educational psychology has been successful in advancing our understanding of how people learn. Gage's book concludes with a flattering appeal to teachers that pits teachers against teacher educators:

> The applications [of educational psychology] will be more warmly welcomed because teachers will have a much greater say in determining the substance, method, and organization of the education. The voice of teachers on these matters will be more enlightened because they will have understood and shared in developing, through collaboration with research workers, the scientific basis for the objectives and methods of teacher education programs. (Gage, 1978, p. 94)[11]

Unlike Gage's (1978) book, Norwich's (2000) argument sustains an analytic tone and careful approach to the characterization of the relationship between art and science in teaching. In the end, Norwich advanced a nuanced position that makes good on the promise of the term 'uncertainty' in his book title:

> Whatever contribution psychology makes to education is also one of many contributions from allied fields. Its links with education provide it with a constant reminder of its place amongst the network of connected social sciences relevant to education. (Norwich, 2000, p. 203)

It is either self-evident or ironic that Gage's enthusiastic promotion of a scientific basis for teaching turns out to be an example of belief in magic, an unscientific (or even antiscientific) advocacy approach to educational research, in contrast to Norwich's more humanistic essay that takes into account a wide range of incommensurable evidence without imposing on that evidence a template of ideological purity.

4.5 Wrapping Up: Implications for Research in Teacher Education

In this final section, I try to tie together the investigations across the four hypotheses. In sum, the findings are these:

Efficacy

- There appears to be no evidence that the study of educational psychology has had any measurable effect on teachers or the quality of teaching.
- There appears to be no evidence establishing a relationship between any element in the teacher education curriculum on the quality of teaching.

Professionalization

- Psychology has helped to advance the professional status of teacher education as a university department or academic discipline, but it has not helped to advance the professional status of teachers.
- There are some indications that educational psychology's academic cache may be fading.

Policy and Management

- Policy makers tend to justify their decisions based on scientific evidence, so the language of psychological research is more useful for justifying policies than the language of philosophy or history.
- Educational policy is shaped more by politics than by science, so scientific research serves rhetorical purposes more than substantive support.

Habit

- Educational psychology identifies itself as an evidence-based science, and educational psychologists claim that knowledge of psychology will help to improve the quality of teaching.
- Since there is no scientific evidence that psychology improves teaching, the argument for efficacy is based in a belief in magic.

When educational psychologists argue for the relevance of psychology in teacher education, they tend to do so by claiming that educational psychology helps to improve teaching and the teaching profession. The major claim is that educational psychologists are scientists whose interests lie in education and learning. Educational psychologists typically differentiate their own expertise from that of other subfields in education by saying that, unlike teacher education (for example), educational psychology is science driven and evidence based. However, we have found that *that* claim is itself not science driven or evidence based. Since we have no evidence to suggest that psychology helps people become better teachers, it is possible to conclude that the arguments put forward by educational psychologists are based primarily on belief in magic, the fervent wish that the study of psychology will help teachers

understand how children learn and thereby enable them to teach more effectively. From Dewey's perspective, belief in magic is 'false psychology,' and so the arguments advocating psychology as a requirement in the curriculum of teacher education enact a performative contradiction.

But what about the implications for the curriculum of teacher education? We might consider the first three hypotheses as expressing a range of reasonable goals for teacher education: to improve the quality of teaching, to advance the professionalism of the field, and to have a voice in the shaping of educational policy. At the conclusion of this study, it seems that the inclusion of psychology in the curriculum of teacher education has had spotty results. Specifically, in order to succeed in accomplishing the first goal (efficacy), teacher educators might acknowledge that neither research nor political opinion supports the continuation of the current curriculum of teacher education, so reform is warranted. If teacher education were to be reformed to go along with the trends favoring residency models, such a reform would be more closely related to the expertise of teacher educators than to the expertise of psychologists, and therefore it would be a direction of reform that could also serve the second goal (professionalization).

I acknowledge that it is unlikely the professional status of teacher education will be miraculously improved anytime in the near future, but in any case, the research traditions that appear in the *Handbook of Research on Teacher Education* (which has always been edited by teacher educators[12]) seem to be more in line with a professionalization agenda for teachers than were previous affiliations with psychology (which may be in decline, anyway). Psychology does not seem to offer teacher educators any reasonable potential for fulfilling either the first or the second goal. With respect to the third goal (policy making), if teacher educators want to have more influence, it would be (ironically?) more rational for teacher education to abandon the pretense (magical thinking?) that policy is shaped in accordance with scientific research findings. If teacher educators want teachers to have more of a voice in policy making, then teachers need the kinds of skills that lobbyists have. The curriculum of teacher education, then, should include courses in mass communication, political advocacy, and governance processes.

In order to fulfill commitments to evidence-based reform, the scientific thing to do next would be to conduct a naturalistic experiment. Teacher educators would agree that teacher education has three goals: efficacy, professionalism, and influencing policy. Given those goals and based on current research findings, it would be reasonable to select at random several institutions as a treatment group that would reform the teacher education curriculum by replacing courses in psychology with courses in political rhetoric and communication arts. Then, teacher educators would conduct rigorous, comparative, longitudinal scientific research studies that examine whether a curriculum emphasizing proficiency in communication arts is more effective than one emphasizing psychology for helping people to become better teachers, advance the professional status of teaching and teacher education, and enable educators to articulate arguments that policy makers find useful and persuasive. Since both policy and curriculum are shaped by political winds more than by scientific research findings, it is likely that future research of

this sort will be just as inconclusive as previous research. At the same time, this approach to research on the curriculum for teacher education would provide teacher educators with a fundable research agenda for the foreseeable future.

Notes

1. Norwich (2000, p. 205).
2. The first edition of the *Teacher's Handbook of Psychology* had already appeared in the United States in 1886, and *The Herbartian Psychology Applied to Education* was published in the United Kingdom in 1897.
3. Personal communication, January 2010.
4. The *Handbook of Research on Teacher Education* has a different history of editorship. All three editions were edited by teacher educators, not educational psychologists:
   1990: W. Robert Houston (Martin Haberman and John Sikula, associate editors)
   1996: John Sikula
   2008: Marilyn Cochran-Smith, Sharon Feiman-Nemser, John McIntyre, Kelly Demers
5. Universities offering graduate degrees in Learning Sciences include University of Nottingham, Stanford, Carnegie Mellon, University of Virginia, and Virginia Tech.
6. Arne Duncan is the current (2010) US Secretary of Education.
7. Teacher educators in the United States generally object to the use of the word 'training' when it refers to teacher preparation. Ostensibly as part of the move toward professionalization, US teacher educators (unlike educational researchers in the United Kingdom, Canada, and Australia) publicly insist on the use of the term 'teacher education' rather than 'teacher training.'
8. It is not yet clear what specific culture of research will be favored by the Obama administration. There are some early indications that the field of educational research may be more open and pragmatic than it was in the last Bush regime.
9. A possible alternative title for this chapter would be 'The Magic of Educational Psychology.'
10. My confusion is this. If, as Dewey asserts, body and mind are interconnected, then, it seems to me we should be able to teach the body through the mind, and vice versa. However, that does not seem to be what Dewey is arguing here. His argument, instead, is that since body and mind are not separate, we must teach both the mind and the body. We teach the mind by engaging the mind in reflection on experiences; we teach the body by engaging the body in physical exercises. In any case, I do not think the specifics of this argument are relevant to the overall point I am trying to make in this section.
11. It was tempting in this paragraph to cite a different quotation from the same page of Gage's book: "Just as the physician occasionally tells a tobacco addict that smoking is preferable to gaining twenty pounds, so the teacher may cut down

the academic learning time of the occasional pupil who needs to learn to work under pressure." But that seemed unsporting.

12. The *Handbook of Research on Teacher Education* is unlike the *Handbook of Research on Teaching*, which has traditionally been edited by educational psychologists.

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Chapter 5
The Fatal Attraction of the Language of Developmental Psychology in Child-Rearing

Stefan Ramaekers and Judith Suissa

5.1 Introduction

The language of developmental psychology has become part of our everyday way of speaking about child-rearing and the parent-child relationship. No doubt, this is part of the intrusion of the language of the various sub-disciplines of psychology into everyday language and life in a more general sense—an intrusion to such an extent that we have been going through (what could be called) a 'psychologization' of significant parts of our lives. Ordinary ways of conceptualizing and speaking about familiar (e.g. social) phenomena and accordingly of understanding these phenomena have been taken over by a language that is significantly informed by the various sub-disciplines of psychology—developmental psychology being a very important one when it comes to child-rearing and the parent-child relationship.

In this chapter, we will not go into this more general trend as such but focus on how the language of developmental psychology shapes our conceptualizations and understandings of child-rearing and of the parent-child relationship.[1] First, we will show how developmental psychology, in Burman's succinct phrasing, "both contributes to and reflects" normative assumptions about parenthood and upbringing, "both in structuring research agendas and in informing practice" (Burman, 2008, p. 117). We will do so by analyzing recent prominent research and popular literature on parenting and policies on parent support, in both the UK and Flanders. In a sense, we take ourselves to be doing something closely related to what Wittgenstein says about "supplying remarks on the natural history of human beings":

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> Was wir liefern, sind eigentlich Bemerkungen zur Naturgeschichte des Menschen; aber nicht kuriose Beiträge, sondern Feststellungen, an denen niemand gezweifelt hat, und die dem Bemerktwerden nur entgehen, weil sie ständig vor unsern Augen sind. (Wittgenstein, 1953, PI, I, # 415)[2]

What we are trying to foreground in this chapter, what we want, in a sense, to expose here, is what has become natural to us today in relation to child-rearing and the parent-child relationship, so natural in fact that we do not even seem to notice it anymore. We take ourselves to be 'supplying remarks' on what has become our nature during recent decades when it comes to child-rearing and the parent-child relationship by presenting a number of examples. To a certain extent, this may come close to what in another field of study is called a history of the present.

> Studies of the history of the present start from an unease with the values of the present, and by historicizing and denaturalizing the taken-for-granted notions, practices, and values of the present, such studies can open up a space out from which one can revise and reformulate other possible ways of reasoning and practicing pedagogy. […] research within a history of the present can be seen as a form of critical engagement of the present, as making the production of discourses open for scrutiny and denaturalization also makes them open for revisions. (Dahlberg, 2003, p. 262)

Our concern—our 'unease', to use Dahlberg's term—is that when it comes to child-rearing and the parent-child relationship, there is a growing sense in both policy and popular literature that the only relevant story that can be told is the one offered by developmental psychology—the concern being, more specifically, that this is a narrow and impoverished way of conceptualizing child-rearing and the parent-child relationship. There are, we argue, other ways of conceptualizing, other languages with which to talk about child-rearing and the parent-child relationship that are being obscured due to the dominance of the language of developmental psychology. What is expressed in these other languages is not just something that we want to present here as 'simply left out' or 'forgotten' within the discourse of developmental psychology. More importantly, we want to suggest that these alternative conceptualizations can alter and perhaps even enrich our understanding of what it means to be a parent today, to raise one's children in contemporary conditions, and in doing so, can help us to see the concepts and descriptions of developmental psychology in a new light. By presenting examples, putting these side by side, we hope to 'denaturalize' the presence of (the language of) developmental psychology in relation to child-rearing and the parent-child relationship and thus problematize the taken for grantedness of the concepts we predominantly use nowadays in conceptualizing child-rearing and the parent-child relationship.

Second, we will address the ways in which the language of developmental psychology and the neat classifications research in this field seems to offer in the area of parenting and upbringing hold a particular milestone attraction in our current cultural context. In a post-Enlightenment society, the traditional frameworks through which humans face and understand their existential condition are increasingly undermined by uncertainty and doubt. Drawing on the work of (amongst others) Zygmunt Bauman, we will show how developmental psychology is one of the instruments that contribute to breaking down our existential condition into a series of well-defined, and thus apparently manageable, tasks and categories. In so doing, it displaces rather than confronts the possibly limitless depth of the enormity of the reality of 'being a parent'.

5.2 The Language of Developmental Psychology in Child-Rearing

It is hard to miss the presence of the language of developmental psychology in our ways of conceptualizing and talking about child-rearing and the parent-child relationship. An important aspect of this phenomenon is the way in which developmental psychology serves as, if not the only,[3] then at least a very important, research base for identifying and defining, if only implicitly, 'good parenting'. Examples abound; one need only look at websites for parents and magazine supplements on upbringing, the kind of issues that are addressed in the columns of these magazines; one need only to be attentive to the very way of speaking about child-rearing, children's behaviour, etc., and to how, accordingly, parents are then positioned in relation to their children and, tellingly, their children's development.

Developmental psychology is responsible for much of the jargon that is used in such media. Characteristic expressions here are, amongst others, offering emotional support, enhancing well-being (of parents and children), accommodating children's needs, creating stimulating contexts, enabling interactions between parents and their children, experimenting with taking distance from parents, ensuring one's child's attachment or enabling secure attachment, etc. See, for example, the popular UK website ParentlinePlus, where theoretical constructs from developmental psychology, such as 'separation anxiety', pepper the accessible, chatty-style text as if they were an obvious part of our everyday language. Products for babies and children are also promoted with explicit reference to children's development. See, for example, the product description for the *Arm's Reach Co-Sleeper*: "Besides enhancing bonding between parents and their baby, the Arm's Reach Co-Sleeper® provides night-time security that benefits a growing baby's emotional development", or the "Amazing Baby Developmental Duck", which "is uniquely created and based on accepted research of how babies develop within the first two years of life". Ordinary behaviour tends to be translated surprisingly quickly into (developmental) psychological jargon; for example, see how quickly a lively young child's behaviour is called 'hyperactive' and, connected to this, how ordinary behaviour after having been thus translated is treated as a symptom of one or another kind of disorder (in this case ADHD). As the title of a recent book suggests, we no longer seem to speak about (and hence there no longer, in a sense, are) 'naughty boys'[4] but boys that have ADHD, or an antisocial behaviour disorder, or some type of self-regulation disorder (Timimi, 2005). And, apparently, parents are expected to look at their child's behaviour in this way, or worse even, it is already assumed that parents in fact are already looking in this particular way at their child's behaviour, that is, not just seeing ordinary behaviour but looking at ordinary behaviour as a possible sign of a disorder, a problem or at least something to worry about. See, for example, how in a recent handbook for parents the editors address what they think of as questions parents typically ask:

> Is their young child's unruly behavior a sign of hyperactivity? Is their teenager's moodiness a symptom of a dangerous depression? Is their daughter's latest food fad part of an incipient eating disorder? Is her first relationship a prelude to pregnancy? Has their son's skirmish with the law launched him on a criminal career? (Bailey & Shooter, 2009, pp. 1–2)

Especially significant for our understanding of child-rearing and the parent-child relationship is the translation of what parents do into a specific, developmental jargon: parents no longer (just) live together with their children in a family but 'interact' with them; when parents buy toys for their children, this is no longer (just) something one speaks about in terms of the concept of 'playing' but in terms of creating stimulating environments for their children and in terms of what this playing is good for (i.e. what particular capacities it will allow to develop); reading stories to one's children is something one speaks about in terms of opportunities for bonding and for stimulating children's linguistic capabilities.[5]

A lot of websites and magazines for parents, parenting handbooks and guides also contain presentations of developmental stages, explaining what children at a particular age are doing or should be doing. While there is some variation in the description of the stages, and while there sometimes is an explicit acknowledgement of the fact that not all children are able to perform certain tasks and develop certain capabilities at the same age, the suggestion is almost always that these stages are universal—with this sense of the universalism of the stages or phases heightened by (or epitomized in) the usage of the word 'developmental milestones', suggesting that when a child misses one of these steps, she will most likely not be able to catch up. So, for example, parents are informed, in a recent issue of a Flemish magazine, how 'social' children are at what age—in an article about children's social behaviour, under the title of *How Do I Make My Children Social?*[6]—in which the characteristic way of putting this is "Your child reacts [in such and such a way]", "Your child shows [this or that behaviour]", "This is the age at which children …", etc., expressions which do not leave much room for doubt that this is actually what children *should* be doing or how children *should* be behaving. In the recent handbook for parents, already mentioned above, developmental stages are explicitly posited as that about which everything revolves and hence which one simply cannot ignore:

> This book helps to distinguish between these layers of concern [which parents have], beginning with what lies at the centre of it all – the stages of child and adolescent development that are the foundations on which life is built. (Bailey & Shooter, 2009, p. 3)

> The framework of child and adolescent development … will tell us what a child at this age ought to be wrestling with, what issues will be important to him and therefore how he might be expected to behave, within broad parameters. (ibid., p. 21)

It is interesting to note that even on websites aimed at parents, such as Mumsnet and Kidsdevelopment.co.,[7] there is an acknowledgement of the point that not all babies reach these milestones at the same age and an attempt to reassure parents that there is a fairly wide 'normal' range of development—nevertheless, the milestones themselves are not questioned as conceptual and descriptive categories. For example, when a piece on the kidsdevelopment.co.uk website states "Piaget found that most babies seemed to have an understanding of object permanence at about 8–9 months of age, during the Sensory Motor Stage of Cognitive Development, but as all babies vary, so does the age when they reach this particular" 'milestone', the meaning of 'object permanence', as a useful and universally appropriate category, is not questioned or even addressed.

The implications for parents need hardly be spelled out: whatever it is parents want to do when raising their children, they need first and foremost to learn about these developmental stages, for if they do not do so, they will act without a firm foothold.[8] Their children's experiences and the events in their children's lives can only be evaluated against the background of these developmental stages. No matter how complex "the relationship between life events and child development" (Bailey & Shooter, 2009, p. 24), a parent's task nonetheless is to "try to work out how [a particular] life event cuts across or gels with the tasks with which a child of this age and developmental stage would be struggling anyway" (ibid.)—implying no less that developmental stages are the final point of reference when making decisions as a parent.

A prominent feature of the current discourse about child-rearing and the parent-child relationship is talk about attachment and bonding. This ranges from a full-blooded parenting 'style' based on (the latest) research in attachment, so-called attachment parenting,[9] to the more 'integrated' use of attachment as part of the language of developmental psychology described above, that is, as part of the assumption that what is developmentally speaking crucial for parents is to make sure that their children are securely attached. The importance of secure attachment—and, for our purposes, the way it is presented to parents and all those concerned about 'our children'—should not be underestimated, for it is claimed to have a far-reaching impact on individuals' lives. Thus, in the above parenting handbook, attachment is said to have "important implications for how the child grows up to manage relationships, how she copes with difficult situations and how safe she feels to explore and develop" (Bailey & Shooter, 2009, p. 69). In an even more explicit sense, these writers say regarding attachment that "early patterns persist into adult life, affecting future relationships" (ibid., p. 169). Some go even further in arguing for the importance of early secure attachments beyond the individual's well-being and interpersonal functioning. Thus, for example, the opening statement of the international website on attachment parenting, http://www.attachment-parenting.org/, explicitly links attachment to "strengthen[ing] families and creat[ing] a more compassionate world",[10] and Sue Gerhardt, in her book, *Why Love Matters: How Affection Shapes a Baby's Brain*, suggests that people may end up with problems such as alcohol abuse, eating disorders, depression and physical violence "largely because their capacity to manage their own feelings has been impaired by their poorly developed emotional system" (Gerhardt, 2004, p. 87)—an emotional system which she argues is crucially established through appropriate parental interaction in infancy.

5.3 The Language of Developmental Psychology in Relation to Child-Rearing and the Parent-Child Relationship: Normative Assumptions

There are a number of problems related to this dominant presence of the language of developmental psychology in relation to child-rearing and the parent-child relationship. Some of these have to do with the status of research in developmental

psychology as such; some of them have to do with child-rearing and the parent-child relationship in a more direct sense. And some of these criticisms are already almost 'standard' criticisms. We will indicate some of these problems here, without claiming to be exhaustive.

1. Perhaps one of the most pressing issues has to do with the status of research in developmental psychology as such—a problem we can identify as a 'somewhat presumptuous universalism' (in Willem Koops' words, 2007, p. 15, our translation):

> … the regularities in development of cognitive and social behavior we nowadays discover in our laboratories are so impressive that we, perhaps wrongly so, seem to have forgotten that children have not remained the same throughout history, and that the very concept 'child' is culturally and historically determined. (ibid.)

We are not going into these changes of 'child' and 'childhood' here—others have done so, in elaborate ways (see, e.g., Cunningham, 2005). The point we want to make here, simply, is that research in developmental psychology cannot be understood apart from the contexts in which it is undertaken, hence cannot claim to be generalizable, let alone objective. What presents itself as the indisputable given of empirical research (e.g. developmental stages, milestones) is at best a reflection of the characteristics of a large group of research subjects. The problem we are hinting at here—which, we think, is generally well known and acknowledged, but strangely, perhaps, ignored when taken in relation to child-rearing and parent support—is that 'what is generally the case' is, wrongly so, being granted the status of a 'norm'. In this context, Erica Burman even speaks of a process of "naturalisation of development" (Burman, 2008, p. 21), meaning that regularities in development that are discovered in large groups of children (importantly: mostly Western, white middle class children) are elevated to the status of a norm and following from that are considered to be 'natural'.

That central theoretical concepts in developmental psychology are often embedded in a complex background of evaluative assumptions is nicely illustrated by Jerome Kagan. He argues that the enthusiasm for attachment theory amongst psychologists is largely the result of cultural and historical factors. He claims that the atrocities of the Second World War generated a desire amongst psychologists and psychiatrists for a conception of human nature with less dark, Freudian pessimism (reflected in Erikson's replacement of Freud's oral stage with a stage of trust). Attachment theory's popularity, Kagan says (1998, pp. 94–96), "thrives on the deep assumption that humans require love more than any other resource and the illusion that we can prevent men from hacking others to death by loving them when they are young children", an assumption he thinks is seriously challenged by recent atrocities. Socio-economic factors also played a role in this shift in emphasis, specifically in that the 'economically parasitic' role of children in the modern period, compared to earlier periods, "renders them more needy of reassurance that they are loved than children who perform daily chores". The 10-year-old in a fifteenth-century farming village realized he was an object of value because he could see that his work made a material contribution to the family's welfare. Modern children are more dependent on symbolic signs of affection (cf. ibid.). Finally, Kagan notes, Bowlby's focus on the idea of security as the basic description of the infant's relationship to its caretaker is rooted in the sense

that we live in an age of anxiety: in pre-modern rural areas, and in many developing countries today, the main source of uncertainty was whether the infant would live. In industrialized countries with safe water, medicine, etc., this worry has been replaced with worry over the infant's psychological vitality. Bowlby, Kagan says, sensed that "the angst of his historical era was a rupture of family and social bonds and guessed that the child's secure attachment protected her from fear and inoculated her against future uneasiness" (ibid.). Seventeenth-century European parents also wanted their children to be able to cope with anxiety, "but they were certain that forcing children to deal with difficulty was a better way to teach resilience than to shower them with affectionate care" (ibid.).

In sum, then, concepts, such as attachment, which we associate so easily today with child-rearing and introduce in parenting advice, always reflect certain values and normative assumptions about what constitutes being human, living well, about what the role of child-rearing is in a particular society and about what constitutes good parenting. And these assumptions are never uncontroversial and thus are open to discussion. Much of the contemporary child-rearing advice, which takes concepts such as attachment for granted, is indeed explicit about the aims of child-rearing that are associated with them. Yet while, arguably, moral aims and purposes have always been in the background of child-rearing advice offered to parents (as documented, e.g., by Apple, 2006, and Hardyment, 2007), the aims of child-rearing behind current psychological research are rarely presented as possibly contestable moral or evaluative positions requiring explanation and argument but are simply offered as part of the descriptive language of 'research'. Thus, Sue Gerhardt, in the book mentioned above, explains in the context of presenting research on the long-term effects of poor parenting in the early years that "people need to have a satisfying experience of dependency before they can become truly independent and largely self-regulating" (Gerhardt, 2004, p. 90). Yet what exactly it means to be 'independent' and why we would want children to turn out like this are never addressed.

In general, the dominance of the language of developmental psychology in our ways of conceptualizing and talking about child-rearing and the parent-child relationship, and especially the way in which results of developmental psychology are being used (i.e. as objective and generalizable), strongly encourages a particular kind of attitude on the part of parents: an attitude of continuous alertness for possible opportunities, risks and shortcomings in their children's development (cf. Masschelein, 2008). This is something that can be observed especially in parents with children ages 0–3 since this is, as almost all handbooks, guides, websites, etc., for parents say, the crucial age in terms of children's development. So, for example, on the website of Child & Family, it is stated that "the toddler age is an important age. A child's first three years are of crucial importance for the rest of his life". And right after this, parents are immediately positioned in a particular way: "It goes without saying that you have a lot of questions about this period".[11] Parents are increasingly encouraged "to see the technological capacities of their offspring at ever earlier ages, contributing to the compression of developmental time in the rush to competence and 'mastery'", as Burman puts this (2008, p. 43).

2. A further problem is, as Burman (2008) argues, that within developmental psychology it has not been sufficiently acknowledged that what a family is has undergone quite some changes in recent years, to the effect that "until recently most developmental psychological research conformed to dominant familial assumptions of the nuclear family containing a male breadwinner and female caregiver" (Burman, 2008, p. 11). This has had a profound impact on our understanding of the relational setting within which children, especially in their early years, are supposed to be brought up:

> … the overwhelming emphasis of developmental psychological research on the early years of child rearing produces an impoverished conception of the family unit as 'mother and child', ignoring the fact that most women have more than one child, and that therefore the familial context in which most children develop – even within exclusive childcare by mothers – is far from dyadic. (Burman, 2008, pp. 111–112)

The 'standard' relational setting within which children are supposed to be brought up is taken to be the one-to-one relationship between parent (mostly the mother) and child. Or put in perhaps a more precise way, it is because we predominantly understand child-rearing in developmental terms as something in which the focus should be on stimulating one's child's development, helping her to perform her developmental tasks, or to reach the required developmental milestones, etc., that child-rearing has been situated only within the one-to-one relationship between parent (mother) and child. It is this limited understanding of the context of parent-child relationships that is behind some of the criticisms of the methodology behind the original research on attachment, as, for example, in Kagan's criticism: "the mother and infant, who have been together for over a year, have experienced pain, pleasure, joy and distress, and the infant's representations of and behavioural reactions to the mother must contain aspects of all these experiences. Is it reasonable to believe that a half-hour sample of behaviour in an unfamiliar laboratory room could reveal the history of all these experiences?" (Kagan, 1998, p.99)

3. The language of developmental psychology assumes a particular logic, that is, a causal logic, as well as a particular kind of goal, and both logic and goal are taken for granted and imported with the very language itself. The way to understand child-rearing is in terms of a linear-developmental story, in which certain outcomes are implicitly posited as the desirable—and, ultimately, achievable—end point, and anything parents do along the way is understood as effecting the next step and, crucially, as taking us one step closer to reaching this end point.[12] This language is evident at the policy level, for example, as in the UK government document entitled *Parenting Support: Guidance for Local Authorities in England*, issued in conjunction with the Every Child Matters policy,[13] which opens with the confident statement that "We know the key principles of effective parenting." You don't have to be a philosopher to ask, 'effective at what?' But these questions are not asked. Behind such statements lies an account, whether explicit or not, of what the desirable 'outcome' of parenting should be: emotionally stable children, confident children, emotionally literate children—take your pick. Again, it is not that telling parents what kind of children they should produce is anything new. Generations of doctors and psychologists have done this and 'scientific parenting', as Apple documents (2006), has always

been around to some extent. Furthermore, one could perhaps argue that there is not much to be said against raising one's child to be emotionally stable. But our point is that this 'outcome' has a particular meaning that itself is defined from within the same psychological discourse rather than being the subject of a moral and cultural conversation. It is not even open to interpretation or questions but is introduced in unnoticed ways as if it is self-evident.

What is misleading is that this kind of research—which imposes itself on parents in sometimes quite aggressive ways, repeating continuously that it has proven to be effective[14]—presents itself as being only about the means, suggesting that it has nothing to do with what parents find valuable or important. But in fact, a particular conception of the aims and values of child-rearing is being introduced through the very language of the discourse. Apart from the very idea that child-rearing should have 'outcomes', the important questions are, of course, as follows: What do concepts like 'emotionally stable' mean? 'Stable' as against what? Why do we value emotional stability (or, similarly, confidence and happiness) today above other aims? Even apparently neutral terms like 'mental health', which appear in child-rearing advice books as far back as Winnicott, are now given a very specific meaning, within a culture of quantifiable measurements of levels of self-esteem, anxiety, personality types and so on.

In a sense, it is not surprising, given the logic that is assumed within the very language of developmental psychology, that a number of characteristics of human life, such as love and play, are being 'instrumentalized' in relation to the outcome of child-rearing. That is, the 'value' of these human activities and capabilities comes to be measured in terms of what they can contribute to a child's development. Love and play are important (or are described as being important) because they maintain a functional relationship to children's development. Again, a good example comes from the website of Child & Family. Here, the fact that children play is described as being important in developmental psychological terms: playing is important for one's child's cognitive development, linguistic development, for her bodily movements, for her senses and for social interaction. And that a parent wants to make time to play together with her child is important as well, since this is beneficial for the bond between parent and child.[15]

The same functional relationship between play and children's development can be found in Helene Guldberg's *Reclaiming Childhood: Freedom and Play in an Age of Fear* (2009). Within the context of an argument in which she criticizes what she calls our current "safety-obsessed culture" (2009, p. 2) and the ways in which within this culture children's spaces have been reduced and children's freedom of activities and exploration have been gradually curtailed, she tries to restore the importance of play for children's lives but does so only in developmental terms, that is, because it helps children to explore "difficult emotions or experiences" (2009, p. 76), or because it is necessary for their socialization (2009, p. 78), or because it is "a preparatory stage in the development in children's written language" (2009, p. 80) … Free play, then, is not just 'free', but still 'for something'.

A similar instrumentalization can be observed with love. A good example here is Sue Gerhardt's *Why Love Matters* (2004), referred to above. Gerhardt explains how

an early emotional bond between the infant and its primary caregiver is essential for the developing brain, establishing the neural foundations for the child's later ability to maintain healthy relationships, a strong sense of self-worth and productive social behaviour. What concerns us is not the empirical validity of such causal claims nor the intuitively sensible aspects of Gerhardt's basic point that children need to be loved, but the way in which the associated research findings are presented and the effect that the logic of this discourse has on our ability to think and talk about the experience of being a parent. Such discussions are couched in a language of instrumentality: it is important for parents to love their child *because* this will ensure that the child develops into a healthy and emotionally stable individual; it is important to spend 'quality time' with one's child *because* this will improve her self-esteem, which in turn will lead to better academic performance, and so on. As discussed above, the ideas posited here as desirable outcomes of successful (in this case 'loving') parenting are not themselves addressed as involving morally complex and possibly contentious values but rather taken as self-evident. An instrumentalization of a similar kind can be found on the website of Child & Family, where loving one's child is understood as something that parents need to 'do' within the contours of positive, stimulating interaction with their child.[16, 17]

Again, we are not taking issue with the basic insight of these authors that it is important for parents to love and play with their children. What we are drawing attention to is the way this is presented in these handbooks or on these websites, and thus made available to parents, in a language which predominantly conceptualizes, for example, 'loving one's child' or 'playing with one's child' as 'useful' for something else. We are not challenging the empirical validity of claims that particular loving parental interaction, for example, can contribute to aspects of the child's development and the quality of the parent-child relationship (although obviously the nature of this causal relationship is far more complex than is often suggested in the research). What we want to highlight is the absence, in contemporary discourse on parenting, of other languages—languages which, perhaps, not aspiring to the neat, clinical precision of that of empirical psychology, can capture what it means for parents to love their child and why this is important in a manner which does not gloss over the ethical complexity of this experience but rather makes it a subject for discussion and exploration. It is not necessarily psychology, as a discipline, which is the problem here, but rather a particular type of psychology, and one which has come to dominate our practice and our language. It is instructive, in this context, to look back at an earlier generation of psychologists writing on childcare, whose intellectual roots lay in the tradition of psychoanalysis rather than cognitive or developmental psychology. Though deeply unfashionable now, writers like Winnicott may have been closer to the kind of language which, we argue, is now being lost, when they wrote, for example, of the mother "introducing the child to the world in small doses" (Winnicott, 1964, p. 69), of parents needing to "have the imagination to recognize that parental love is not merely an instinct within themselves" (ibid, p. 104) or of the mother needing "to be able to find her infant and to enable her infant to find her" (ibid, p. 107). Winnicott's language, often more poetic

than scientific, may have been rooted in a strong, even dogmatic, psychoanalytical framework, but it is, unlike much current discourse, unapologetically moral, poetic and evaluative and thus at least suggests that the parent-child relationship is an arena for moral and imaginative thinking and discussion, not just for empirical scientific study.

In this sense, one can say that the logic underlying the language of developmental psychology can sometimes 'take you on holiday' (to paraphrase a familiar Wittgensteinian expression). An extreme example of this is Erica Etelson's recent book *For Our Own Good: The Politics of Parenting in an Ailing Society,* in which child-rearing is conceptualized in terms of a very straightforward and explicit (but, needless to say, we think, completely flawed) conception of causality between children's early years and adulthood. Etelson go so far as to blame the current state of the world on the fact that today's adults (especially those apparently responsible for the worst excesses of political violence) lack the secure psychological and emotional foundation that should have been provided by appropriate parental interaction in their early years. We need, says Etelson,

> to recognize that unhealed childhood wounds perpetuate inegalitarian, autocratic and environmentally unsustainable institutional, cultural and economic norms and, conversely, that positive parenting can play an important role in restoring our individual and societal sense of security and well-being. (Etelson, 2010, p. xviii)

Or, as she elsewhere puts this:

> To see the dire consequences of our collective failure to instill empathy and the capacity for thoughtful reflection in our children, look at our government's responses to the two biggest national emergencies in recent years – 9/11 and Hurricane Katrina. (ibid., p. 12)

4. One of the most difficult issues to tackle is that developmental psychology structures research agendas and informs practice in relation to child-rearing—difficult because from the standpoint of those providing funding for research, it goes without saying that this is the kind of research that needs to be done (e.g. research on the effectiveness of parenting styles, on what kind of approach is best for stimulating children's development, on what kind of environment is best for children's development).

A good example of how, in very particular ways, our current conceptualization of child-rearing and the parent-child relationship, dominated as this is by the language of developmental psychology and its logic, informs policy and research agendas, is the current situation with regard to so-called meeting places for parents and their children in the case of Flanders. Recently, the idea of meeting places for parents and their children has increasingly gained importance in the context of parent support in Belgium. Meeting places for parents and their children have existed for a long time already in other countries (e.g. the *Maison Vertes* in France and the *spazio insieme* in Italy), and these have been an important source of inspiration for the Belgian cases (see, e.g., Vandenbroeck, Boonaert, van der Mespel, & De Brabandere, 2007, 2009). Meeting places usually are houses—frequently called 'open houses'—that are reorganized in such a way as to allow a number of parents and their children to come by and spend some time there.[18] The interest in meeting places is to be

understood as a reaction to formal kinds of support for parents (i.e. mostly professional advice in institutionalized settings) and, connected to this, as a response to what parents themselves have expressed a need for in a number of surveys (see, e.g. the research report by Buysse (2008) which is frequently referred to in Flanders in this context). Parents themselves have indicated a lack of informal networks and a wish for opportunities to share their concerns and worries with likeminded people (i.e. other parents, more or less sharing the same experiences) instead of talking about (bringing up) their children with professionals. Meeting places for parents and their children are said to offer this opportunity for informal social contact, places where parents can find emotional and social support for what can sometimes be the very tough task of bringing up their children. In the literature, this idea of meeting places is connected to the idea of a pedagogy of the encounter, in which, at least in its original conception, child-rearing is conceived as something that is given shape in the encounter itself and is not already preconceived or determined by one or another framework.[19]

However, very recently, Child & Family has been trying to reconfigure the idea of meeting places for parents and their children in such a way as to enable it to best accommodate children's needs as defined by the research agenda of developmental psychology, that is, securing safe attachment, stimulating children's development, etc.[20] Meeting places are now seen as 'new' opportunities to ensure whatever it is that parents cannot provide within their own private sphere, within their own family. And, not surprisingly, this also implies the presence of an expert of a particular kind, helping parents when necessary. It should be clear, as well, that these meeting places then are constructed in such a way as to position parents in a particular way, that is, as already described above, that is, parents are (also) addressed as learning subjects. Meeting places are places where parents can learn to do it the right way (i.e. learn how to properly stimulate their child's development).

5.4 Parenting in an Age of Anxiety

We have discussed, above, the specific problems with the way in which psychological research agendas and concepts such as 'attachment' have come to dominate, and thus in a sense to define and delineate the very terms of, contemporary debates on parenting. There are, though, broader cultural aspects of the general appeal of the psychological language discussed here. Some of these are suggested by sociological critics such as Zygmunt Bauman and (in an earlier but similar context) Christopher Lasch (1979). Bauman's analysis strikes us as particularly pertinent to the account we have been developing here. Although Bauman does not specifically address current parenting practices, he remarks:

> It is in the institution of the family that all the hauntingly contradictory aspects of human existence – mortal and immortal, doing and suffering, determining and being determined, being created and creating – most vividly meet and enter their never-ending game of mutual sustenance and reinvigoration. (Bauman, 1999, p. 37)

Bauman laments the loss of the family as a 'haven of stability', but our account suggests that part of what has been lost, even in an era when 'family' has come to mean something far more loose and varied than in some traditional Western notions, is precisely the existential meaning described above. The very shift to the term 'parenting' can, of course, be seen as an understandable political move designed to accommodate the increasing pluralization or, some would say, breakdown of the traditional, two-parent, nuclear family, as well as to acknowledge the unequal gender balance implicit in this arrangement, implying, instead, that bringing up children is, in principle, a task or a job conceptually distinct from biological relationships between adults and children and is something that people of any gender or sexuality, in any kind of relationship, can do.

Yet in this shift, something has been lost. The reduction of parenting to a functional relationship and role and the logic and language in which, as discussed above, the aims and practices of parenting are described make it harder for us to capture, even to talk about, the existential meaning that Bauman describes above. Some critics of this discourse (see, e.g., Furedi, 2001) have suggested that one of its effects is to construct a form of 'paranoia' in parents, who would therefore be better off just left to their own devices, free from the interventions of experts and policymakers and the dictates of academic research. Yet what we want to suggest, following Bauman, is that parents' anxiety (and thus their need for support) is not an artificial construct but a human response to the real and morally significant, existential experience of being a parent. What is demanded of us, then, is not to resolve this anxiety, or to dispel, it but to fully understand and address it. Yet our current cultural climate is one in which collective ways to reach a shared understanding of and strategy for coping with such existential anxieties have been replaced by what Bauman calls "autonomous strategies" (ibid., pp. 43–43). Bauman quotes Adorno's comment on how "terror before the abyss of the self is removed by the consciousness of being concerned with nothing so very different from arthritis or sinus trouble" (ibid., p. 43). He elaborates on the shift from 'health' to 'fitness' as emblematic of this broader cultural shift. In a climate where we are promised a world in which few people will die of natural causes, our horizon is dominated by a vision of "such a life as may come to an end only because of the self's neglect of duty, so that the self-contained and self-centred life-policy with the care of the body firmly placed at its centre would truly become an adequate and sufficient source of life-meaning. *When there are so many means to attend to, who would waste time in examining the ends?"* (ibid., p. 43, our italics).

This account, we suggest, is analogous to the way in which the existential anxiety in the face of the enormity of the reality of 'being a parent' is broken down into a series of well-defined tasks: establishing sleeping routines, toilet-training, controlling mealtime behaviour, etc., and replaced by a focused anxiety over whether one is succeeding at performing these tasks well. Thus, the array of techniques of good parenting are, as discussed above, offered as 'solutions' to reduce parental anxiety. The strategies offered by gurus such as Supernanny, backed up by the reassurance of 'scientific evidence', assure us that they will lead to desirable outcomes. All our focus then shifts to individuals and how they perform, and, likewise, the potential of

'perfect parenting' becomes a real vision: If one can only 'do it right', maybe one can dispel, once and for all, the anxiety. As Bauman puts it:

> In its pure and unprocessed form the existential fear that makes us anxious and worried is unmanageable, intractable and therefore incapacitating. The only way to suppress that horrifying truth is to slice the great, overwhelming fear into smaller and manageable bits – recast the big issue we can do nothing about into a set of little 'practical' tasks we can hope to be able to fulfil. Nothing calms better the dread one cannot eradicate than worrying and 'doing something' about the trouble one can fight. (ibid., p. 44)

Yet, as the account above makes clear, the contemporary language and logic of parenting is so focused on means—providing secure attachment, managing sleep patterns, successful toilet-training, weaning, behaviour management, emotional resilience-training and giving 'enough' or 'authoritative-enough' love—that the ends are never even discussed.

5.5 Conclusion

We are not rejecting research in developmental psychology as somehow relevant to child-rearing and for people involved with raising children. It can, that is, be useful for parents and others involved to have some knowledge and understanding of children's behaviour and development, that is, to have some idea of a 'species-normal' development, of the broad categories of development. But this does not determine, as our discussion suggests, what parents should be doing. Likewise, we do not wish to side with critics who, in referring, for example, to "the bonding myth" (Bristow, 2009, pp. 31ff.), seem to want to dismiss such research as merely one tenuous story amongst others. Behind this critique is the implication that any such attempt by experts to theorize and prescribe normative accounts of parenting, rather than just letting parents 'get on with it', is doomed to be, at best, biased and flawed and at worst oppressive to individuals. But to imply this is also to bypass the important questions: not just questions about the scientific validity of research about attachment but questions about the normative background of the very interest in attachment, the meaning and status of the values that lead to this interest and how these, in turn, are reflected in our understanding of the parent-child relationship. In this sense, the current attention to and interest in attachment in the context of child-rearing *says something about* parent-child relationships, namely, about how this relationship is, or should be, different from other kinds of relationships in society, about a particular quality of human nature that we (supposedly) do not find in other relationships and the supposed effects of this on our interpersonal interaction in general. It reflects certain, often implicit, understandings of human flourishing and about the kinds of children, as well as the kinds of society, that we want. Yet the salience of (for example) attachment in the context of child-rearing is overwhelmingly presented as a consequence of research in developmental psychology (supposedly) having proven that it is important for parents to ensure that their children can be safely attached. What we are suggesting is that ways of talking about attachment and related terms that capture

the irreducibly ethical and philosophical aspects of these ideas and of the broader conceptual landscape of which they are a part need to play a central role in our discussions of parent-child relationships and upbringing. Scientific research, it hardly needs stating, cannot tell us what we should do. Yet this point is often overlooked in the kinds of discourse we have been discussing here.

Our broader project is concerned to open up the arena of child-rearing in a way which allows the ethical and philosophical complexity of the terms in which we describe what parents want for and do with their children to come to the fore, both drawing on existing philosophical work, and bringing in the insights yielded by first-person accounts of the experience of being a parent. This will allow us, amongst other things, to look more closely at the moral significance not just of particular terms like 'attachment' and 'emotional security', but of the broader idea of 'introducing children into a common world'.

Notes

1. See also Ramaekers and Suissa (2010).
2. "What we are supplying are really remarks on the natural history of human beings; we are not contributing curiosities, however, but observations which no one has doubted, but which have escaped remark because they are always before our eyes."
3. In recent years, neuroscience is frequently referred to as the basis for pedagogical action.
4. Supernanny's 'naughty step' is no evidence against what we are saying here. In fact, as we hope will become clear, Supernanny's use of the word naughty in the contexts and in the ways in which she does proves our point that developmental psychology constitutes our conceptualization of child-rearing and the parent-child relationship.
5. A good example here is the Flemish website of Kind & Gezin (Child & Family), see http://www.kindengezin.be/home_ouder.jsp, or http://www.kindengezin.be/English_pages/default.jsp for an English version. Kind & Gezin/Child & Family is, as is stated on their website, "a Flemish governmental agency with responsibility for young children and families in Flanders. … Its main task is to implement government policy for young children and for families with young children, in particular in the fields of preventive care, child care services, family support, diversity and children's rights". We will be referring to Kind & Gezin/Child & Family a number of times in this chapter, since it is a good example for what we are trying to show here.
6. From *Goed Gevoel* (edition March 2010).
7. See http://www.mumsnet.com/ and http://www.kidsdevelopment.co.uk/
8. See Ramaekers and Suissa (2011) (forthcoming).
9. Cf., for example, http://www.attachmentparenting.org/ and http://www.natuurlijkouderschap.org/

10. Visited October 14, 2010.
11. http://www.kindengezin.be/Ouders/Peuter/default.jsp, accessed 18 Oct 2010, our translation.
12. We would like to thank Jean-Paul Van Bendeghem for drawing our attention to this way of phrasing it.
13. DfES, October 2006.
14. The way the (so-called) parent support program Triple P is presented on websites and in magazines is a good example here.
15. Cf. http://www.kindengezin.be/Themas/Opvoeding/Spel_en_speelgoed/belang_spelen.jsp, accessed October 18, 2010.
16. http://www.kindengezin.be/Themas/Ontwikkeling/ontwikkelingpositief/tips_bij_opvoeding.jsp
17. Even books challenging the dominant misunderstandings that abound in popular parenting literature often adopt the same logic as that of the discourse they are critiquing. So the authors of *Nurture Shock: Why Everything We Think About Raising Our Children Is Wrong* (Bronson & Merryman, 2009) repeatedly talk about 'hitting developmental milestones'. What they address is whether *other* scientific accounts of how to hit these milestones are right or wrong. What is not addressed is the very possibility of stepping outside this way of talking about what parents are or should be d*oing*.
18. For examples in Flanders, see http://www.despeelbrug.be/ and http://www.speelodroom.org/. For Brussels, see http://www.baboes.be/
19. See Ramaekers (2010), for a discussion.
20. Cf. http://www.expoo.be/nieuws/dialoogmomenten-ontmoetingsplaatsen-en-triple-p for a brief report (Retrieved October 21, 2010). See http://www.expoo.be/sites/default/files/kennisdocument/eindverslagdialoogmomentontmoetingsplaatsen.pdf for full report.

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Chapter 6
Mirror Neuron, Mirror Neuron in the Brain, Who's the Cleverest in Your Reign? From the Attraction of Psychology to the Discovery of the Social

Kathleen Coessens, Karen François, and Jean Paul Van Bendegem

6.1 Introduction

6.1.1 How the Philosophy of Science Embraced the Social (and Also the Psychological)

Let us start with a rather safe statement: in a fair share of studies in the philosophy of science, the social dimensions of the scientific process are fully accepted as essential ingredients to explain and understand this process. Actually, 'fair' should be seen as an understatement since it is as good as impossible to present even an approximately complete list of references (and, if nevertheless, a reference is needed, the *Stanford Encyclopedia of Philosophy* will do fine: http://plato.stanford.edu). Any such attempt should include the more outspoken philosophy-of-science approach and should mention Thomas Kuhn, Imre Lakatos, Paul Feyerabend, Larry Laudan, etc., but just as well Robert K. Merton as the founding father of the sociology of science and Derek de Solla Price as the founding father of scientoand bibliometrics, and, in addition, it cannot and should not ignore the School of Edinburgh, the defenders of the so-called 'strong programme', pushing the impact of the social to its very limits, and whose prominent members were David Bloor, Barry Barnes, Trevor Pinch and many others, but it should mention also the more outspoken history-of-science-cum-sociology-of-science approach of authors such as Steven Shapin, not to forget finally the continental contribution by researchers such as Bruno Latour and Isabelle Stengers.

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But why is this? Why do apparently so many researchers who have the scientific process as their topic of study believe that social aspects are indeed essential to reach an understanding of what is going on? There have at least been two forces at work. The first one is the failure of all approaches that exclude the social and focus on, for example, the end results of the scientific process, that is, scientific theories, or reduce experiments to standardized reports, in short, any attempt at linguistic reduction, largely independent of the speaker (for not even the individual scientist needs to occur in such approaches). It is worthwhile to quote the truly founding father himself, namely, Thomas Kuhn, if only to see how well the introduction of the social fitted in with an attempt to resolve the failure:

> History, if viewed as a repository for more than anecdote or chronology, could produce a decisive transformation in the image of science by which we are now possessed. That image has previously been drawn, even by scientists themselves, mainly from the study of finished scientific achievements as these are recorded in the classics and, more recently, in the textbooks from which each new scientific generation learns to practice its trade. Inevitably, however, the aim of such books is persuasive and pedagogic; a concept of science drawn from them is no more likely to fit the enterprise that produced them than an image of a national culture drawn from a tourist brochure or a language text. This essay attempts to show that we have been misled by them in fundamental ways. Its aim is a sketch of the quite different concept of science that can emerge from the historical record of the research activity itself. (Kuhn, 1962, p. 1)

Indeed, not so much a failure as a mere temporary hick-up, not all that difficult to resolve. But the second force is perhaps more important: the actual change in the social structure of science itself. Even a rather naïve look on the matter makes clear that perhaps—although it could very well be a matter of debate—in the nineteenth century, one could claim that science was practised by mainly individual gentlemen (and the occasional gentlewoman), communicating directly with one another and thus guaranteeing the quality of the scientific results, but that it is excluded to maintain the same view for the twentieth century. Big science, as it is often referred to, is on the level of a multinational company where the basic unit is no longer the individual scientist but a group of scientists, often in combination with engineers, technicians and maintenance people. The standard example is the Los Alamos project that produced the first atomic bomb, but a similar enterprise today surely is the L(arge) H(adron) C(ollider) in Geneva. Related to this development are such phenomena as multiple discoveries (see the ‘classic’ in the field, viz. Lamb & Easton, 1984). It needs a social framework to see how it is possible that at several places around the world at roughly the same time, the same (or quite similar) discovery is made (and that includes mathematics as well). Usually the explanation comes in terms of interconnected networks, whereby the individual efforts can be traced back to a common source (sometimes very concretely in terms of a common Ph.D. supervisor). Such phenomena are not reducible to a summation of individuals’ contributions. In addition, there is no need to stop at such phenomena. The work of Nancy Nersessian over the years but especially her recent 2008 book shows that the creation of scientific concepts cannot be properly understood unless the social is taken into account.

The previous considerations do not contradict the fact that there is a thriving subdomain of science studies that focuses on the psychological level. No matter how social the scientist is, when she is doing science, she is mainly doing and thinking particular things in her rather specific head. So cognitive individual psychology does have something to say here. A well-studied example, related to the discovery context, is the phenomenon of serendipity: finding something one was not looking for. As it turns out, one was in fact looking for it, but one was not really aware. Rather, the scientist was focused on a (either specific or broad) theme and that, to a large extent, guided the research. But at the same time, it seems clear that psychology of science cannot do without the sociology of science, and thus it is no surprise to see that, in a broader context, studies within social epistemology (see Fuller, 1988 for the first elaborate and coherent presentation) and social cognition (as the origins of the discipline itself is a matter of historical discussion, no references are given, but to compensate Vygotsky will be discussed in this chapter further on) are becoming more and more important. Or, to put it differently, there are no indications that a reduction (of some sort) of the social to the psychological-individual level is considered to be interesting, let alone achievable. In terms of the theme of this volume, there is nothing particularly attractive about the psychology of science.

6.1.2 How the Philosophy of Mathematics Is Reluctant to Embrace Anything

As safe as the claim was in the opening sentence of this paper, so unsafe a statement would it be to claim that the social is fully accepted in the philosophy of mathematics. (Actually, one is tempted to produce a sociological explanation why mathematics and science are so different, not merely in the actual practice of the disciplines themselves but also in the practice of those that study these domains.) The mainstream philosophy of mathematics, as it happens, still roughly ignores both the psychological and social dimensions in their descriptions of what mathematics is all about. From an absolutist perspective, one is basically looking for a description of the eternal, mathematical truths out there somewhere and thus unavoidably independent of the individual and thereby of course the social. Trying to get the individual into the picture, let alone the social, is a real challenge, although many attempts have been made and the present-day studies in mathematical practice (rather than foundational studies of mathematical theories) seem to have become 'attractive' (in both the psychological and mathematical sense; see, e.g., Mancosu, 2008; Van Kerkhove, De Vuyst, & Van Bendegem, 2010; Van Kerkhove & Van Bendegem, 2007). As this emerging discipline is very young, it is hard, not to say impossible, to determine what the relations are between the psychological and the social studies of mathematics. The most striking feature that should be emphasized is the immense contrast between on the one hand the science studies and on the other hand the mathematics studies.

Of course, as long as one remains within the safe walls of the pure mathematical domain itself, then one can afford to uphold the rejection of the psychological and social aspects of mathematics. That being said, mathematics is not an isolated phenomenon. Surely, the most obvious observation to make is that, since mathematicians are human beings, they have a finite lifespan and since no one is born a full-fledged mathematician, new members needs to be created. And so we enter quite naturally the domain of mathematics education, and thereby the domain of educational research. Should the bodiless eternal mind of the mathematician not get into a straightforward conflict with the unavoidable psychological and social components of any education theory? Any answer to this question requires that we have a framework to situate the conflict.

6.1.3 Education: How to Vygotsky and Piaget?

A starting observation is that in the development of human learning and creative processes, the role of social interactive processes and the role of psychological processes are deeply intertwined. How different are they, and how can we evaluate both and their interactions? These are sound questions, of recent interest in educational research. An essential observation is that, beneath such research agendas, there is a society with growing demands of a highly functioning scientific world, in which objective and measurable standards of attainment, presented in performance skills, are expected. These standards are linked to what performance skills in science or mathematics are, and these are linked to societal needs and policy agendas. As such, when considering social interactive processes and psychological developmental aspects, we need to look at an 'objective' domain of knowledge—the above-mentioned 'pure' mathematics—and confront it with its requested societal needs. This translates into curricular implementations and educational guidelines that need to fill in these expectations, just as much as research itself is informed by policy stated intentions and is asked to make clear what could be the best advisory guidance in enhancing the children's potential. This brings in another factor: the curriculum—a top-down layer in the imposed handling down of knowledge, but a bottom-up process in its implementation in educational settings, as curriculum comes to life in the classroom. The problem arises further which programme would be the best, considering the deep interference of social and psychological processes and its contextual situation which complexity is inadequately measured in 'high and low scoring countries'—as if 'countries' can score. The complexity after all is dependent on all these factors—social aspects, psychological development, domain of knowledge, societal needs and context, imposed curricula—as well as on their hidden aspects; think, for example, of the hidden aspects of the (mathematical) curriculum implying "the belief systems, cultural and professional (…) which teachers, consciously or unconsciously, bring to their task of implementing the curriculum and which directly impact on pupils' experiences of mathematics in the classroom" (Macnab, 2000, p. 66). Each of these factors hides a metalevel of interactions with the other factors and with the specific spatio-temporal context—last

but not least, think of this hidden level concerning the researcher implied. There is no singular model to account for this complexity, and contextual distortions depend on different traditions, inadequate assumptions and the lack of clear criteria and concepts, as we will develop further on concerning the complexity in mathematics education. These considerations want to stress the problem of bringing the social into educational matters of acquiring and enhancing scientific domain knowledge, as it is interwoven with so many other factors.

In an attempt to cope with the complexity of the relations between social interaction and cognitive psychological processes described above, we suggest that it might be helpful to return to the origins of psychological theory in the first part of the twentieth century when a Piagetian—Western, European—view and a Vygotskian—Russian—view on child development were developed. These two views show the immense contrast that they can generate. Where the first one emphasized the privileging of individual psychological steps in/of development, the second one stressed the movement from an inter-psychological exchange—interpersonal—towards an intra-psychological—intrapersonal—acquisition of new insights. Vygotsky indeed stressed not only the social dimension of conceptual development of the individual but also the importance of the zone of proximal development (ZPD) in learning processes: what is just beyond your individual reach can become cognitively accessible by an—even subtle—input of a collaborator, a joint interaction, a short advice or bodily message. Wertsch describes the ZPD as the distance between the "actual developmental level as determined by independent problem solving" and the higher level of the "potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (in Wertsch, 1985, p. 61). Other important aspects of Vygotsky's insights relate to the broader sociocultural context. Developmental levels of conceptual thought are immediately connected to levels of social interaction embedded in a specific sociocultural context: "In order to transmit some experience or content of consciousness to another person, there is no other way than to ascribe the content to a known class, to a known group of phenomena" (Wertsch, p. 95). As a researcher, he had, for the needs of Russian policy and propaganda, to follow the evolution of Siberian populations who were in a very short time immersed in an educational setting and imported schooling system. He remarked how formal education progressively enables the individual to handle and conceive more decontextualized categories and statements. A shift in cognitive and conceptual tools, a process of 'scientific' abstraction appeared in this environment in which action, interpretation and creation became transformed in new and different ways by the entrance of scientific and educational use of signs and speech (Vygotsky, in Wertsch, p. 138).

Historically speaking, at first, in western thought and science, the viewpoint of Piaget which implied a child-centred developmental psychology dominated, as Vygotsky's Russian works were only little by little translated. The translation of these ideas from social psychology towards specialized domains of science education took another lap of time. But Vygotsky's research entered the last two decades into mathematics educational research where research now focuses more

and more on both aspects: personal cognitive abilities and collaborative interactions are two sides of the same coin in general (Perret-Clermont, 1996) and specifically in problem solving (Cobo & Fortuny, 2000). In what follows, we will have a more detailed look at mathematics education in particular, with the intent to show that, although Vygotsky himself is not all that often explicitly mentioned, it makes perfect sense to speak about a Vygotskian deep influence.

6.2 The Special and Curious Case of Mathematics Education

In the development of research on mathematics education, one can observe the same tension we described in the previous section in psychology at large. In the first section, we will start with a description of the *Psychology of Mathematics Education* (PME) group and the way how psychology became attractive in the research field of mathematics education. In the second section, we will investigate the moves beyond the psychological.

6.2.1 How Psychology Became Attractive for the Study of the Learning of Mathematics

Since 1976, with the establishment of the *International Group for the Psychology of Mathematics Education* (PME), psychology became one of the most important perspectives from which mathematics education was interpreted, analyzed and investigated. The main goal of the PME is to further a deeper and more correct understanding of the psychological aspects of teaching and learning mathematics and the implications thereof. The psychology of mathematics education attempts to understand what learners face as they encounter mathematics, and it assumes that the learning of mathematics has its own psychology. Students and teachers are seen as having their own ideas about mathematics to any learning situation. If teachers should understand how the mathematical subject looks from the perspective of the learner, they should be better equipped to teach mathematics.

Based on the analysis of the similarities and the differences between mathematics and psychology, members of the PME argue why the two fields should communicate and cooperate for the sake of improving mathematics education (Fischbein, 1990). It took a long time before the psychology of a mathematical activity and of mathematics education became a domain of scientific investigation. It is an intriguing question why this resistance is as strong as it is. Is it, as mentioned before, the mathematics itself or the educational theories on mathematics themselves, or do they happen to support one another? We do like to argue that the perception of mathematics—due to its representation—influenced the way mathematics is taught at school and the way mathematics education is researched.

Since mathematics is merely thought of as a strictly formal deductive domain and psychology belongs to the empirical sciences, both research domains, seemed at first glance to be sharply different. However, research on the practices of mathematics indicates the role of creativity, intuition and all sorts of 'quick and dirty' heuristics at unconscious levels of the mind when mathematical concepts are invented (discovered, constructed). It seems like a mathematician is remembering only the deductive part of the work, namely, the testing phase of mathematical concepts or proofs (Van Moer, 2007). The same mechanism is at work in mathematics education. Much attention is paid to mathematics as a purely deductive system where pupils are trained to perform certain repetitive, dull and mindless activities. Students are not given the possibility to experience the kick of mathematical invention (discovering, construction) by themselves. From an absolutist philosophical view, mathematics at school is presented as a readymade product which always existed and now has to be trained and repeated by students. Only the final product, the axiomatic organization of a mathematical (etheric) body of knowledge—which is profoundly different from the usual organization of most of the empirical sciences—is associated with mathematics, mathematical practices and doing math at school. Looking from a humanistic philosophical approach to mathematics, there are however more similarities between mathematics and the empirical sciences if one takes the stage of coping with a problem into account. At this constructive stage, one hypothesizes, guesses, tries, experiments mentally, and learns from inductive findings, and from analogies, one uses creativity and intuition. An awareness of these similarities contributed to the emergence of the psychology of mathematic and of mathematics education (Fischbein, 1990). Since mathematicians and psychologists became aware of the creative growth of mathematics and of the advances of its creative learning process, psychology became attractive for the study of the learning of mathematics.

6.2.2 Beyond the Psychological

The main research item of mathematics education from the perspective of psychology is the individual's learning and teaching of mathematics and the importance of cognitive psychology thereof. Mathematics education research was/is focusing from an individualistic perspective, reducing social and institutional questions to the level of the individual.

However, since the last decade, we can observe new trends and tools within the research of the PME culture. Comparing the two PME volumes giving an overview of *Past, Present and Future* of PME, one can observe an interesting evolution. The first volume (Nesher & Kilpatrick, 1990) reports on the first steps of exploring the domain in-between mathematics and psychology and the growing interest into the psychological aspects of the learning of mathematics—reducing social and institutional questions to the level of the individual. In this volume, the focus on the

social dimension of the learning process is mentioned as an area which is likely to play a major role in PME's scientific orientation in the future.

> Both the social status of the knowledge to be learned and the crucial role of social interactions in the teaching process make the social dimension an important consideration for research. One of the main steps in the development of research in the psychology of mathematics education is the movement from studies centered on the child towards *studies centered on the student* as a learner in the classroom (original emphasis). (Balacheff et al., 1990, p. 136)

With this emphasis, the social area around the child is taken into account although it is still located within the classroom. Nowadays, we can observe an extension of the notion of 'social dimension' where the social area will be expanded to out-of-school issues. The second volume (Gutiérrez & Boero, 2006) with its overview of 30 years of the existence of PME reports on the growing interest to the broader influences of culture and society on the teaching and learning of mathematics. In this overview, one section is devoted to the research on social aspects of mathematics education. Articles in this section are reporting on social aspects like affect, gender, equity, constructivism and other social and cultural items influencing the teaching and learning of mathematics. Mathematics education takes place in a certain society, a certain institution and a certain classroom, with a variety of aims going from the education of rank-and-file citizen to the education of future mathematicians (Vergnaud, 1990). In the middle of the 1980s, it was Alan Bishop (see his 1985) who emphasized the impact of contextual, sociocultural influences and ever since sociocultural research matters gained ground within the domain of Psychology and Mathematics Education. This first move was the starting point to put more emphasis on the natural conditions of the learner—instead of the pure cognitive aspects as determined in laboratory contexts (Gutiérrez & Boero). From this really moment, the social aspects came in the picture and resulted into sociocultural research trends in mathematics education (Lerman, 2006; Gates, 2006).

Bishop (1985) distinguishes five significant levels at the research on the social dimension of mathematics education going from a macro perspective (culture) to a micro perspective (the individual). These levels have to be understood as five interwoven dimensions rather than separated and hierarchical ordered levels. The first one being the *cultural* level emphasizes the way how the history and the development of mathematical ideas are embedded in culture (e.g. why and how the absolutist versus humanistic philosophy of mathematics developed in the western culture). The second one, the *societal* level investigates the influences of different institutions in society which are concerned with mathematics education. Some of them are formally concerned with education (e.g. the ministry of education) but many are not (e.g. industry). The third level is the *institutional* level. Research at this level is looking for the influences within school systems to attain the targets of the mathematics curriculum. A central question at this level is which (hidden) mechanisms are at work in making the difference for the learners (e.g. the influence of school culture, instruction language). With the fourth level, we enter the classroom. Most important research at the *pedagogical* level concerns the didactics of mathematics education. Finally, Bishop (p. 4) points to the *individual* level as a research domain of the

sociological study of mathematics education. The focus at this level is on the learner from a social perspective.

Research on these lower levels—the pedagogical and the individual—is mostly practised by *social psychology*. Research topics in this area have to do with the social motivation of studying mathematics, the fear of mathematics, the fear of success—preferring not to succeed in order to be successful and accepted by adolescent peers—teachers' perception of pupils, learning styles of pupils, self-concept of the learner, social cognition, social interaction in the learning process, etc.

In the last decade, these social perspectives in mathematics education have also become focused on discursive and interactive elements. Researchers inquired "into the exchange models produced and into the way in which they combine throughout the solution process" (Cobo & Fortuny, 2000, p. 116). How does joint interaction contribute to the enhancement of mathematical creativity and knowledge? This is an interesting move which looks at the social aspects of mathematics education extending the psychological towards the social and collaborative interactions between mathematicians or between students in mathematical educational settings. It links the psychological aspect of personal learning and cognitive processes with a social setting in problem solving. As such, it enhances an understanding of knowledge transmission, discovery and interaction, both at the individual and social level.

An example of how this interaction between cognitive processes and collaborative action and reflection in a mathematical world takes place offers the discourse analysis by Cobo and Fortuny (2000) looking at linguistic expression, communication and shared constructions in mathematical problem solving. By inquiring into the communicative elements of the interactions between students in collaborative settings of mathematical problem solving, they found out how individual intervention, based on personal cognitive constructions, in group action can lead to exchange and successive contributions—between individual cognitive constructions—and cooperative interaction, as well as to different, new insights by evaluation of these interactions. The result strengthens the interactionist perspective: it is not only that students have collaboratively resolved the problem but that this process of communication benefits their own cognitive insights and generates new ideas. Another example is offered by the analysis of the use of rhetoric in joint mathematical problem solving (Barwell, 2003). By using models of discursive psychology, collaborative practices of participants and the interactive aspects of the construction of mathematical thought are evaluated. Moreover, structures of belief and attitude can come to the fore and as such enforce a more relativist epistemological position towards mathematics, as well as tackle the tension between mathematical discourse and mathematics itself (Barwell, 2003, p. 206).

This kind of research offers another piece of the 'social-psychological' puzzle, a second move, considering social interaction as a carrier for mathematical knowledge and problem-solving enhancement. But on its own, it considers social psychological processes without taking into account the broader sociocultural context.

Research on the upper level of the social dimension of mathematics education—the cultural, societal and institutional level—is mainly done in the field of *critical*

mathematics education and the field of *ethnomathematics*. Even though ethnomathematics is a critical research programme and a critical practice regarding mathematics education, in literature, it is still considered different from the so-called critical mathematics education (Vithal & Skovsmose, 1997, pp. 132–133). Critical mathematics education originates within the Western high-tech society that criticizes the idea of progress and defines a number of suppression types and stereotyping, for example, suppression based on class and gender (Atweh, Forgasz, & Nebres, 2001; Burton, 2003). The origin of ethnomathematics is in those post-colonies that are opposed to importing a Western curriculum rather than develop a personal mathematical practice that could be an instructive basis for the evolution of mathematics education. The research programme on ethnomathematics has its roots in Brazil, São Paulo. Ubiratan D'Ambrosio (°1932)—mathematician and a mathematics education's philosopher—is considered the intellectual father of ethnomathematics. Since then, it became common practice all over the world.

The notion of ethnomathematics evolved from an exotic meaning of the concept—being the mathematical practices of non-literate people—to the general concept of mathematical practices of all people, including academic Western mathematics. From this more general perspective, mathematics is seen as a human practice which emerges and develops within a sociocultural context. The development, transmission and distribution of mathematical knowledge are a dynamic process, embedded in time and culture. The so-called academic Western mathematics is developed within a particular context, the same as other mathematics practices are.

Recently, the distinction between critical mathematics education and ethnomathematics is becoming vague since we can find research work that is 'between' the two, for example, research on the stereotyping of specific groups in non-Western societies. Within the International Group for the Psychology of Mathematics Education, a lively discussion and working groups are inquiring gender issues. They share ground-breaking research emerging from many different countries and from different cultural perspectives. The gender issue which originates from the research field of critical mathematics education—and thus from a Western context—is an intriguing example. With Forgasz, Becker, Lee and Steinthorsdottir (2010), we can observe a growing interest in gender issues in a non-Western context and the changed focus on the issue in Western countries where the gender policy turned on its head. Australia (Vale, 2010), the United States (Paek, 2010) and Iceland (Steinthorsdottir, Dadisman, Robertson, & Steinthorsdottir, 2010) have experienced in recent years a focus on the 'boy-problem' with an underlying assumption that issues on the female topic are of less interest now. Looking at the overview of international trends of gender differences in mathematics achievements, Ma (2010) first concludes that gender differences are small in magnitude and that they are limited to a small number of countries. Second, there is no longer a male predomination in mathematics achievement. Although there are more gender differences in favour of boys than girls, there are a growing number of countries revealing significant differences in favour of girls (Blömeke & Kaiser, 2010). With the example of recent research on the gender issue, we illustrated a third move within the attraction of psychology in the research field of mathematics education.

Table 6.1 The changing role of psychology in mathematics education

Period	Interrelation of math and psy	Context
Before 1975	Separation of math and psy	Absolutism: math is seen as a strictly formal deductive domain
Since 1975	Attraction of psy to math en math education	Humanism: math is seen as a human creative practice with attention to the role of creativity, intuition and all sorts of 'quick and dirty' heuristics at unconscious levels of the mind
Between 1975 and 1985	Psy = individualizing	Reducing social and institutional questions to the level of the individual
Since 1985 Western context	Psy = adopting sociology (social psychology)	Attention to a broader context of the learners, e.g. out-of-school variables
Since 1985 Non-Western context	Separation of math and psy	Growing interest from the ethnomathematical perspective on the social and cultural context of learning related to social justice
Since 2000	Psy = using discursive and interactionist perspectives	Attention to the impact of social interaction in problem solving and its effects on the learner
Since 2010	Attraction of psy in non-Western context	Social psychology in non-Western contexts

The inquiry into psychological, social and cultural properties of mathematical understanding and transmission has become a complex field of hybrid discourses about knowledge, learning and educational settings. This leaves still the problem of the integration of these different foci.

In Table 6.1, we offer a chronological overview of the changing role of psychology in mathematics education.

By stressing that social and psychological factors are interwoven, we can detect three broad moves which illustrate a Vygotskian—beyond Piaget—view on mathematics education. All of them point to the awareness of a socially sustained cognitive development of mathematical knowledge, going beyond the individual and the psychological. The first move, evolving from a pure individualistic approach of the psychology of the learner into a cultural and societal embedded perspective of mathematical knowledge and learning, reflects Vygotsky's finding that conceptual thought is immediately connected to levels of social interaction and the broader sociocultural context. A second move, the recognition of the impact of interactive and discursive patterns which benefit not only the problem solving but also the individual learners, offers an illustration of the zone of proximal development where intra-psychological and inter-psychological processes encounter and enrich each other. A third move, the attraction of social psychology not only practised by Western countries but, from now, also practised by non-Western countries, reflects in general the move from a Piagetian towards a Vygotskian perspective and in a certain sense re-enacts Vygotsky's own experience in the Siberian regions.

6.3 Conclusion: Mirror Neurons at Last

The reader by now must be wondering about the first part of the main title of this chapter. No trace whatsoever of mirror neurons, so what part do they play? We do assume that the reader has no specific problems with the second part. Reducing the complex problem of mathematics education to specific, individual-bounded and measurable questions is perfectly illustrated by that specific question: "Who is the cleverest?"

The 'discovery' of mirror neurons can be interpreted as a symbolic summary of our views presented in this chapter. Mirror neurons are neurons which fire both when we ourselves execute an action and when we observe somebody else doing that same action (Rizzolatti & Arbib, 1998). The mirror mechanism is not only a mirror system of motor and gesture but is considered also responsible for the link between language and gesture as "a neurophysiological mechanism that may create a common, non-arbitrary link between communicating individuals" (Rizzolatti, 2005, p. 420). As such, it offers an explanation for each human individual's complex sense of understanding and intentionality: all social-psychological processes concerning action, imitation, empathy and language—and should we not add mathematical understanding. The discovery of mirror neurons finally offers an explanation of social cognition and fills in a link that has long been missing between the psychological and the social. In one sentence, this is the core of the matter: by individualizing and thereby socially isolating the human being, the social aspects became mysterious and in a deep need for explanation. Or, in other words, it needs to be demonstrated, explained and justified why (selfish) individuals are likely to collaborate rather than to eliminate one another. 'Finding' mirror neurons in the human brain—though not exclusively—seems to have comforted many biologists, evolutionary and 'ordinary' psychologists that the social too can be found, literally, inside the individual. In a most clever way, the social has been introduced but almost immediately reduced (in this case to the neurological level) to the individual. Whereas actually mirror neurons need another individual's neurons, so is it not more likely that we evolved mirror neurons *because* we are social beings rather than the other way round? If it happens to be the other way round, the question "Who's the cleverest of them all?" ceases to be interesting as an answer requires the ranking of individuals. "What makes all of them clever?" seems a more appropriate topic to address.

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Chapter 7
The Vocabulary of Acts: Neuroscience, Phenomenology, and the Mirror Neuron

Paul Standish

> *If someone sees a smile and does not know it for a smile, does not understand it as such, does he see it differently from someone who understands it?—He mimics it differently, for instance.*
>
> (Wittgenstein, 1958, p. 198)

> *[This is one amongst] the multiple instances where Wittgenstein suggests that the kind of understanding involved in seeing internal relations is not only conceptual but also sensible and mimetic—or perhaps better said: that the conceptual is at the same time, and sometimes primarily, sensible and mimetic.*
>
> (Krebs, 2010, p. 127)

7.1 Rizzolatti and the Mirror Neuron

In response to the question "What are the neural bases of action understanding?" Giacomo Rizzolatti has been credited with initiating a minor Copernican revolution, with far-reaching significance for physiotherapy, rehabilitation, and education more generally. At the heart of this is a reversal of the schema *perception → cognition → movement*: Rather than visual information being prior, it is mapped onto its existing motor representation in our nervous system, and the construction of this is explained in terms of 'mirror neurons'. This makes the imitation of action crucial for our developing understanding, most obviously of the movements of other living creatures. In fact, Rizzolatti emphasises that, unlike other cognitive capacities, such as object recognition, action understanding has never been a main focus of neuroscience, hence, the practical importance of his work.

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What then are the neurophysiological bases of the ability to understand the actions of others? Rizzolatti and his colleagues draw a distinction between action as a generic term referring to any intentional motor behaviour and a more specific sense in which it denotes "goal-directed behaviours that produce a reward for the individual" (Rizzolatti, Fogassi, & Gallese, 2001, p. 601). They suggest two hypotheses to explain how action understanding occurs. According to the 'visual hypothesis', action understanding is based on a visual analysis of the different elements that form an action, with no motor involvement required. When we observe a hand grasping an apple, the association of the elements of the hand, the apple, and the movement is sufficient to allow the observer to understand the action. The 'direct-matching hypothesis', by contrast, holds that we understand actions through mapping the visual representation of the action onto our motor representation of the same action. In one experiment with a macaque monkey, for example, food is placed on a tray by a human hand, and the monkey grasps the food. The monkey's brain activity on seeing the human hand's placing of the food is similar to the way it would be if the monkey were handling the food itself. By contrast, when tongs, instead of a human hand, are used to place the food, comparable brain activity does not occur. In its recognition of the action, the monkey's motor system is said to 'resonate': The same population of neurons that controls the execution of the grasping movements becomes active in the motor areas of the observer, and it is this that enables the understanding of the observed action. Moreover, as is demonstrated in a further experiment, if the observer monkey sees only a part of the relevant movement of the hand, its brain 'fills in' the rest of that movement, which emphasises the holistic nature of this resonance.

While this is groundbreaking empirical research, Rizzolatti et al. acknowledge that such a way of thinking is to be found in the work of certain philosophers—that is, especially, phenomenologists—and, in the paper I cite, they even provide a brief gloss on Husserl, said to be "dedicated to describing the structures of experience as they present themselves to consciousness, without recourse to theory, deduction or assumptions from other disciplines, such as the natural sciences" (p. 667).

The favoured hypothesis emphasises the primacy of a direct matching between the observation and the execution of an action. The authors take the view that the basis of imitation is what has been referred to as 'response facilitation'—the automatic tendency to reproduce an observed movement—and this can occur with or without an understanding of the meaning of what has been observed (as, for example, in the copying behaviour of babies). Examples of response facilitation without understanding include the behaviour of birds. When a dangerous stimulus appears, shore birds flap their wings—first one or a few, then others follow, then the flock flies away. This behaviour does not necessarily require an understanding of the action, neither does the capacity of newborn babies to imitate manual movements; however, much of this may contribute to a link between the "observing infant" and the "performing adult" (p. 668). Moreover, there may be a similar role of establishing interpersonal links between subjects in imitative behaviour, such as yawning, laughing, or perhaps crying, as well as in the mildly amusing example raised by Charles Darwin of sports fans mimicking an athlete's movements in order to 'help' him, a

surprising example perhaps for Rizzolatti et al. to cite in this connection, given the fact that there may surely be degrees of understanding in such imitative behaviour. The contrast they wish to draw is with examples of response facilitation where adult human observers imitate movements made by other people and have an understanding of what the other person is doing. It is in relation to this that they elaborate their distinction between motor acts and motor actions. The expression 'motor act' refers to "a movement directed towards an object (or the body)", which eventually allows "an effective interaction between the used effector and the target of the movement" (*ibid.*). Examples of motor acts are grasping an object, holding it, or bringing it to the mouth. By 'motor action', by contrast, they refer to a sequence of motor acts that, at its end, produce a reward for the acting individual. Thus, a motor action might be composed of a sequence of motor acts that allow feeding (reaching for a piece of food, grasping it, holding it, and bringing it to the mouth). The distinction between motor acts and 'motor actions' is not only logically motivated: It also corresponds to the way in which the motor system is organised.

Mirror neurons are elements that, on the one hand, code motor acts and, on the other, allow imitation to take place. The mechanism of imitation can be divided into three sub-mechanisms: "retrieval of a motor act, construction of a sequence of motor acts, and refinement of the motor act or of the motor sequence" (*ibid.*). Simply observing a motor act typically activates its motor representation, but imitation goes beyond understanding in that the observed act is not only internally represented but also externally manifested. The mechanism that underlies the capacity to imitate a 'motor action' (as defined above) is much more complex. The authors borrow the words of R. Byrne, who writes that this involves "reading the letters of action by means of response facilitation, action by action" (*ibid.*), where 'letters' are presumably to be taken to stand for those motor acts that, when taken in sequence, constitute the 'phrasing' of action. In Rizzolatti's words elsewhere, the motor neurons seem to contain a *vocabolario d'atti*, which allows the individual not only to copy them but also to 'understand' them—that is, to understand them without directly thinking about them (see Cristaldi, 2009; Rizzolatti, 2008).

In conclusion, the authors make the following remarks:

> The mirror system seems to unify in the same neural mechanism a variety of phenomena that range from elementary behaviours, such as response facilitation, to higher cognitive functions, such as imitation learning and action understanding. In addition, the mirror system could underlie other fundamental cognitive functions that have not been dealt with in this article, such as language understanding and mind reading. Although we still lack a satisfactory comprehension of these higher capacities, and the precise role of the mirror system in these functions remains unknown, we think that the mirror system offers a new and very promising heuristic tool for their empirical investigation. (Rizzolatti et al., 2001, pp. 668–669)

There is no doubt that these are in many respects impressive findings, and their congruence with armchair phenomenology is gratifying. Rizzolatti's research has been influential in clinical practice, where, for example, deficiencies in understanding are addressed by motor therapy designed to activate mirror responses—say, by the guiding of the patient's hand or body. This happens especially in the case of

those suffering from disabilities of various kinds, but the wider relevance of this research in education is relatively easy to see. It extends to the understanding of other cultures (see Cristaldi, 2009).

Later, and setting aside 'mind reading', I shall revert to the suggestion that the mirror system may underlie language understanding. It will also be helpful to hold in mind the theoretical architecture that is implicit here, involving the 'higher', the 'underlying', and the 'fundamental'. I shall shortly have something to say about this. But first, let me say why I am pursuing this topic.[1]

7.2 Depsychologising Psychology: The Architecture of Research and Understanding

Psychology has a degree of authority and influence in educational research that has not been matched by the other foundational disciplines. This has been achieved not so much through its consolidation as a discipline but rather through its extension through other topical aspects of educational research, such as school effectiveness and improvement, and through its dilution and adaptation in popularised versions of, for example, management theory and behavioural therapy. This influence is bought at a price: It has weakened its disciplinary rigour, immunised it against some developments in the parent discipline, and reinforced assumptions about human being that, from a philosophical point of view, now look distinctly *passé*, if not downright confused. (I have in mind the misleading, if not plainly naïve, accounts of subjectivity and objectivity, and of fact and value, in some of the most widely used handbooks of educational research.) Moreover, the rift that emerges in the twentieth century between psychology and psychoanalysis is now replicated in differences within educational policy and practice, especially insofar as counselling practices and therapeutic ways of thinking enter into educational institutions (see Smeyers, Smith, & Standish, 2006).

Wittgenstein was drawn to the view that the more we know about ourselves scientifically, the less chance we have of understanding one another or ourselves, and he was notoriously dismissive of psychology. On the very last page of the *Philosophical Investigations,* he writes

> The confusion and barrenness of psychology is not to be explained by calling it a "young science"; its state is not comparable with that of physics, for instance, in its beginnings… For in psychology there are experimental methods and *conceptual confusion*…
>
> The existence of the experimental method makes us think we have the means of solving the problems which trouble us; though problem and method pass one another by. (Wittgenstein, 1958, p. 232)

It may be difficult for some not to feel a kind of mischievous thrill at Wittgenstein's remarks here, and certainly, a scepticism towards psychology, often tinged with contempt for its more behaviourist forms, has been familiar enough in philosophy of education. But Wittgenstein was also impressed by aspects of the development of psychiatry, as seen, for example, in his conversations with Maurice Drury (see Drury, 1996), and he took seriously the work of Freud. More generally, there is no

doubting the prominence within his later writings of questions of psychology, and his treatment of these is surely aimed not at dispensing with philosophy of mind but rather at exposing false models of human being. It is in the light of Wittgenstein's obsessive emphasis on the public nature of language and the outwardness of criteria that Stanley Cavell has suggested that Wittgenstein writes "in service of a vision that false views of the inner and of the outer produce and sustain one another" and further that "the correct relation between inner and outer, between the soul and its society, is the theme of the *Investigations* as a whole": that "this theme provides its moral" (Cavell, 1979, p. 329). This is consistent with the 'therapeutic' intent of his work: The therapy we need must undo the knots that our thinking has tied us up in, Wittgenstein says. The thinking he has in mind is to be understood in terms of the excesses of theory, and while the most pressing example of this for him is to be found in philosophy itself, there is no doubt that his animus here is directed, albeit in a different way, against psychology. His intention is, as it were, to depsychologise psychology.

Wittgenstein was writing some 60 years ago. Has psychology remained mired in conceptual confusion, or has it moved on? I shall not detail here the ways in which confusion of the kind Wittgenstein described still abounds, for it would be foolish to rest too complacently with this thought and so to miss what has been achieved. In this respect, it is worth asking whether the philosopher's mischievous thrill, which I referred to earlier, itself stands in need of therapy of a kind. Hence, it is in this spirit that I turn to the clearly substantial work of Rizzolatti.

As we saw, Rizzolatti himself acknowledges symmetries between his ideas and the work of some philosophers, and he perhaps most frequently acknowledges Maurice Merleau-Ponty. And as the opening account should have made clear, his work plainly raises questions not just about body and mind but about their connections with culture, all of which resonate with Wittgenstein. But I am interested also because the examples he provides form a basis upon which the relation between different readings of Wittgenstein can be considered. In other words, how is Wittgenstein's emphasis on behaviour to be understood? On the one hand, there are those more 'behaviourist' interpretations (of course far removed anything like Skinnerian behaviourism), whose emphasis tends towards the naturalistic and the developmental, and, on the other, there are those that insist on the omnipresence of culture full-blown, where language is taken to have pervasive importance. I want to show what I take to be at stake in these differences of interpretation in relation to the work Rizzolatti is doing.

In the course of this, I hope that the significance of the architectural motif will become more clear. Before saying more about Wittgenstein, then, let me develop this by considering the work of a philosopher who provides an account of perceptual judgement in which the role of bodily movement is central—an account that draws on Immanuel Kant but also, substantially, on Merleau-Ponty: Samuel Todes' *Body and World* (2001). Let me add in passing that Todes was immensely influential on Hubert Dreyfus, and this is acknowledged richly in Dreyfus' introductory essay to Todes' book. The development of Dreyfus' own Heideggerian accounts of being-in-the-world and of the acquisition of competence and understanding, which have themselves been so influential, undoubtedly owes much to this book.

7.3 Samuel Todes and the Umbilical Cord of Bodily Movement

Body and World is a powerful book and in some ways an eccentric one. Its central claim is that the "failure to understand perceptual judgement opens an unbridgeable gap between knowledge and feeling" (Todes, 2001, p. 261). Let us begin by considering some representative passages from the book, which I propose to quote in some detail.

Our being in the world involves, according to Todes, first of all a skilled bodily comportment, through which we, for example, move to sit in a chair or switch on a light. There is a natural 'fit' between things and our bodies, between body and world, and this is realised in perceptual judgement of this kind, through "the umbilical cord of bodily movement" (p. 53). Todes uses the term 'poise', which he contrasts with the will, to capture "the *perfect fit* of me in my circumstances" (p. 70). It is only in moments of breakdown—say, where the light switch fails to work—that we become cognitively aware of what is happening: "Thus, when one fails in what he is attempting to do, one necessarily loses his poise and is, at least, momentarily, thrown off balance, however quickly one may recover his balance and poise. To be poised is to be *self*-possessed by being in touch with one's circumstances" (p. 66). The effect of the intrinsically habit-forming character of perception is to stabilise our experience (p. 80): "Our poise is sensuous proof that the perceptual experience of our immediate future conforms to that of our immediate past, and without poise no determinate perception is possible" (p. 79).

The structuring indicated in this and similar statements is elaborated in architectural terms: Todes refers recurrently to the natural philosophy of the body as providing a first floor for the development of understanding concerning higher levels of experience—"I will attempt to show that there are no 'pure' forms of conceptual imagination by showing that the whole *level* of our conceptual imagination (form as well as content) makes sense only in terms of a primordial level of perceptual experience" (p. 156). The inactively regarded object is derivative from the object that is actively felt: "The human body is the material subject of the world" (p. 88).

This much, I believe, is powerful enough, but further dimensions of the picture need to be revealed. A critical factor in this account is its ethical naturalism, in which desire finds fulfilment in satisfaction: "The human body is first prompted to be a moving body at all, and thus to generate the spatiotemporal field of appearances (which is the apparent world of our needs), only by its needs that, literally, move the body to find pleasure (satisfaction of its needs), and to avoid pain (dissatisfaction of its needs)" (p. 73). In fact, the vocabulary of fulfilment, harmonising with the elaboration of the 'fit' between body and world, which is the ground floor of our experience, is strongly evident throughout the book: "Satisfaction involves a relation not just between ourselves and the satisfying object, but also between both of these and the world of experience that is to some extent closed and completed in the satisfaction… To be satisfied is to be content; it is to be full-filled with the given content of the world of our experience, so that our world no longer seems open, empty, still-to-be-satisfactorily-filled" (p. 59). This naturalism is more or less pervasive: "A degree of

pleasure and of pain, of satisfaction and of dissatisfaction, thus pervades every possible experience in virtue of its being in the world of experience" (p. 73). The moderation of pleasure and pain, understood in terms of needs, suggests a kind of homeostasis in which a certain conception of health or good adjustment is modelled.

This brief excursion into the eloquent language of this text may well prompt a sense of the proximity of these thoughts to the phenomenological analyses developed in Heidegger's *Being and Time*. While the central claim regarding perceptual judgement provides a sound thematic basis for the argument, and while the detail of the analysis is fascinating, I am less persuaded than Dreyfus of its originality, and there are central aspects of the position that is advanced that remain unconvincing. On the strength of these doubts, I shall in what follows raise questions for Todes' account, concerning, first, the relation of perception to the social world and, second, the prominence of the idea of satisfaction.

In his own introduction to *Body and World*, Todes makes clear what he is not setting out to do. This is not a study in the social philosophy of the human body (concerning the body's role in our knowledge of persons), and in this respect his project diverges from Rizzolatti's research. Nor is this a study in what he calls the human body's theology (concerning our sense of death and intimations of mortality). It is a study in the natural philosophy of the human body. Todes concedes that the social questions are both more obvious and of more general interest than the natural ones, but their solution, he claims, turns out to presuppose a solution to the natural ones, and the theological issues in turn depend on the natural and the social questions. As we saw above, Todes refers recurrently to the natural philosophy of the body as providing a first floor for the development of understanding concerning higher levels of experience.

While it seems correct to say that the social philosophy of the human body (say, concerning gender roles or our relation to childhood, or in the construction of the idea of disability) depends upon the natural philosophy of the human body, there are problems with the suggestion that there could be such a natural philosophy, especially where this concerns perceptual *knowledge*, in the absence of acknowledgement of the social world. In the context of the *social* world, it is indeed possible to provide an account of the ongoing satisfaction of the anticipations of poised perceptions. The absence of an attempt even to consider this dependence on the social in Todes' account is remarkable, for without it the claim that ongoing coping gives us perceptual knowledge is hard to sustain. In short, there can be no account of driving a car or dribbling a basketball or sitting on a chair or picking up a box in the absence of rule following. Todes' discussion of rule following is tied very much to his notion of habit and to what makes the world 'habitable'. But the crucial point, if Wittgenstein is right, is that rule following presupposes the existence of a social world. Wittgenstein's so-called private language argument depends upon the idea that rules logically presuppose the possibility of mistakes, and mistakes presuppose the possibility of correction, which in turn requires the existence of norms of practice within a social group. Moreover, it is not just that the practices cited here (car driving, basketball, etc.) are particularly complex social practices: In human activity, rule following goes all the way down.

In the absence of the acknowledgement of the social world on the same 'floor' of the building, as it were (indeed in the same rooms), Todes' perceptual knowledge claim looks decidedly unsteady, if it does not smack of anthropomorphism. The claim would be anthropomorphic to the extent that the account of perceptual knowledge depends upon full-blown human nature in ways that it is not prepared to acknowledge. He guards against some of the difficulties here with the use of inverted commas—for example, in referring to non-conceptual perceptual 'beliefs'—but one wonders to what extent this textual device merely serves to hide the problem. Todes' architecture persistently gives the impression that there can be perceptual knowledge in a human being in the absence of initiation into the social world. So the following questions arise: Does such knowledge extend to the experience of animals? If not, why not? And does it extend to infants? Wittgenstein's account of something like the primordial, of 'forms of life', seems in part to draw attention to differences between cultural practices, but it is important to emphasise the greater prominence it gives to the bodily aspects of human beings—to the ways in which forms of life develop in relation to physiological needs. The idea of a form of life is closely tied to what Wittgenstein calls 'agreement in judgements'. With this phrase, he has in mind not the kind of agreement that might be reached as the result of a debate, say, but rather the fact that human bodies condition people to find things the same—for example, that some things are edible and some not or that a particular atmospheric temperature range is tolerable. His enigmatic remark, "If a lion could speak, we could not understand him" (Wittgenstein, 1958, p. 223), testifies to the essential role of the *human* body in the nature of our thought. If a macaque could speak, we would probably not do much better—but the similarities between a macaque's hand and a human hand understandably cause in us a sense of the uncanny, and in this there is a greater sense of what we can similarly grasp. These remarks demonstrate not only the ways in which human thought is tied to the particular configuration of the bodily features of human beings, a point that Todes richly develops, but also the fact that such thought is not generated by the individual alone, a point to which Todes seems blind. None of this is intended to defend the idea that Todes is attacking: that ongoing successful coping must involve *conceptual identification*. On the contrary, Todes is right to say that such (smooth, ongoing) coping excludes cognitive activity of this kind. But it *is* to emphasise that coping cannot be understood in the absence of the background of the social world. An essential feature of this social world is language, which in human experience also goes 'all the way down'. To recognise that this is so is to foreground not abstract conceptual thought but rather human activity understood as rule-following practices. (Wittgenstein will speak of language games, of course.) While there are forms of human activity that do not directly involve language, they are nevertheless characterised by a background that is linguistic. It is in the light of that background that it does indeed become plausible enough to speak of non-conceptual perceptual knowledge. But a further point follows from this to the effect that while the infant has the same bodily configuration as the adult, any claims to perceptual knowledge on her part must be severely constrained by the fact that she is not (yet) a participant in the linguistic practice that

is the condition for such knowledge. In other words, perceptual knowledge in its mature forms cannot develop in advance of social and linguistic initiation, and, hence, to speak of the perceptions of the infant does indeed involve a degree of anthropomorphism. This is not to say that language must come first: There are no firsts; light dawns gradually over the whole. But Todes' argument seems to proceed as if the linguistic turn had never happened. In sum, this brings me to the conclusion that Todes' account of this first floor of our experience cannot stand up in the absence of the acknowledgement of the social world.

The second more qualified question that I raise has to do with how far Todes' thought is constrained by the limitations of the economies of satisfaction that are central to his argument. I referred to these above in terms of his ethical naturalism. How far do these fail to do justice to the body and to perception? Todes draws a distinction between objective and subjective satisfaction. A sentence such as "I am satisfied that she is dead" is ambiguous, in the absence of any determining context, between my having evidence that she is dead and my being pleased or relieved by this fact. In the former case, I am satisfied *that* something is so, while in the latter, I am satisfied *by* its being so. In other words, objective satisfaction relates primarily to conditions of truth, while subjective satisfaction refers to conditions of desire. This economy has a bearing on how truth and desire are conceived. Thus, in *objective* satisfaction, it becomes apparent that truth is understood in terms of correctness (or adequation) and not *aletheia* (that is, truth as revealing). (Of course, the vocabulary of correctness belongs to propositional rather than perceptual knowledge, but I am suggesting that in the account of perceptual satisfaction, it comes to shape the understanding of perception also.) How, it needs to be asked, might an account of perceptual knowledge that is derived from notions of *aletheia* be different? In *subjective* satisfaction, desire is understood in relation to lack. Hence, both are tied to economies of thought that, on certain arguments (say, those of Deleuze or Levinas, or Kierkegaard or Nietzsche, or for that matter Heidegger himself), close off possibilities of understanding the human condition—mind and body—and that constrain the ways in which the possibilities of life might be conceived. Ethical naturalism along these lines amounts to a constriction of ethics itself.

It will be recalled that Todes insists that his concern is not with the theology of the human body. He uses this phrase, let it be remembered, to refer not to matters of theistic belief but to our sense of death and intimations of mortality. What is noticeable, however, is that there are points in Todes' text at which something seems to break through, something beyond any simple economy of need and satisfaction. Todes acknowledges that satiation, like apathy and frustration, can make one "incapable of responding to anything through felt want" (p. 69). And recognising the role of affect in both subjective and objective forms of satisfaction, he draws attention to an interesting asymmetry between the way that the former tends to be characterised by relief from distress, or the gratification of desire, and the way that the latter encompasses not only some sense of relief but also a positive pleasure at the original stimulation—a pleasure prompting us to similar exertion in the future, making us keener for experience and heightening our sensitivity. In the light of Todes' valuable observation here, I want to draw attention also to a perhaps muted but nevertheless

welcome irruptive element in his language. He speaks more than once in almost Dionysian terms of the "clamorous chorus" of needs (p. 67); he writes of the boy who looks up at the hills of the valley in which he has grown up and finds the "beckoning" horizon, calling him to give what lies beyond it, "the determination of place" (p. 57); more bleakly, he acknowledges Auschwitz as a "break-out-from the world" (p. 62). It is language such as this that intimates momentarily something beyond or other than the satisfaction of needs, though the extent of the importance of this for Todes is difficult to fathom. Moments of insight these may be, but the significance of the present discussion remains very much with the question of the kind of place that is given to ongoing skilled coping in the living of our lives and, hence, in the understanding of body and mind. Todes' architecture gives it foundational importance.[2]

7.4 Objects and Things, Habitats, and Worlds

It is not surprising that Rizzolatti and others have emphasised the importance of the mirror system not only in 'elementary behaviours' but in "higher cognitive functions, such as imitation and action understanding" (Rizzolatti et al., 2001, pp. 668–669). The conceptual architecture is such that motor acts are taken to be the foundation stones of thought. But I want to question the way motor acts are understood in relation to language, referred to in these lines both as fundamental and as a higher capacity. And this puts pressure on Rizzolatti's readiness to speak of a vocabulary of acts. How far do those acts depend upon a vocalisation of some kind? How far is this expression just a turn of phrase? One senses, of course, that it is the latter, a mere image, and this reinforces the impression that the architecture here is naturalistic and developmental: A first floor of motor acts provides the basis for the later construction of language, in parallel to the way that for Todes, it is the first-floor natural philosophy of the body that provides the basis for its social philosophy and subsequent theology.

Of course, there are important differences between Rizzolatti and Todes. Todes' first-floor natural philosophy is concerned with the relation of the body to the world, its natural fit with things, and this is understood to be in some sense pre-social. Rizzolatti differentiates his own research from neuroscience concerned with object recognition, affirming that his field is the understanding of the actions of others. And yet, it would be wrong to think of Todes as providing an account of *object* recognition or even comportment towards objects.[3] He is concerned with the relation of the human body to *things*. The reproach here is targeted similarly to Wittgenstein's reprimand about the misunderstanding of psychological concepts (seeing, hearing, thinking, understanding): "Psychological concepts are just everyday concepts. They are not newly fashioned by science for its own purpose, as are the concepts of physics and chemistry. Psychological concepts are related to those of the exact sciences as the concepts of the science of medicine are to those of old women who spend their time nursing the sick" (Wittgenstein, 1980, #62). The relation to things is an everyday

relation: We see, hear, and understand things, just as people have always nursed the sick, whether or not their efforts are supplemented by the science of medicine. Whereas an object is abstracted and neutralised and only contingently invested with meaning, a thing is already perceived within a framework of significance—that is, within a world. We can ask also: Is the human being's relation to the morsel of food the same as the macaque's? Yes and no. Both pick up food with their hands and put it in their mouths, and both must do this to survive; both can delight in this and to some extent share in that delight. But for the human, this happens in a world of meaning, whereas we might, following Heidegger, say that the macaque is world-less, having only a habitat. What is it to have a world?

In an interview in *Giovedì Scienza*, Rizzolatti offers the following example. Imagine that we enter a bar and see a man with a cup in his hand. Instinctively, we know that he is drinking coffee: We recognise his movements and understand his intentions, and we do this without thinking about it. We can do this because beyond having the evidence before our eyes, we have it in our heads (Rizzolatti, 2008). Rizzolatti's explanation is provocative and, I think, convincing. But what, I want to ask, is it that we see or have in our heads? We are given the holistic picture of a man drinking coffee. But what coffee is this and where? Because this is Rizzolatti, I guess we are in Italy, and so, I imagine that this is a small white cup and the coffee to be espresso. Perhaps, 'Lavazza' is written on the saucer. Perhaps, the man is sitting at a table looking onto the sunlit street, *Corriere Della Sera* spread across the table. And what, after all, is coffee? How was it that Jim Jarmusch could make the film *Coffee and Cigarettes*? Could a macaque see this? The point is not that all this detail is explicitly entertained: We do not directly consider any of this, but this is the texture of experience, of the world, within which seeing occurs. The innocence of 'seeing a man with a cup in his hand' belies the fact that genuinely to see this, to see this as a human being sees, is to open a world. Of course, we can progressively abstract from this—'seeing a human being holding an object', etc.—and that is what science sometimes does, and it does this with remarkable, invaluable effects, but it is not what Todes seeks to do, nor Wittgenstein, nor Heidegger. And does not Rizzolatti's account point away from abstraction too—in spite of the vocabulary of laboratory experimentation that he inevitably adopts, in spite of the semiotics of the stylised drawings of human and monkey hands and token pieces of food that typically illustrate the discussion, and as is perhaps revealed more than he intends in his 'vocabulary of acts', in 'letters of action'?

The naturalistic and developmental aspects of Rizzolatti's research, and the architecture that structures this, are compatible with the more 'behaviourist' readings of Wittgenstein, but they are at odds with interpretations that emphasise the omnipresence of culture and language as pervasive. And as my criticism of Todes and my discussion of coffee are intended to show, it is the latter that I think are the more convincing. If this is right, it does not necessarily undermine Rizzolatti's project nor lessen the interest of his findings. Rather, it suggests that the holistic nature of his account of the functioning of mirror neurons needs expansion. The abstracted laboratory example of the macaque's observation of a hand placing food on a tray is expanded to the everyday one of seeing someone holding a coffee cup. The laboratory

hides the world; coffee opens it up. Hence, there is reason here for a richer, more holistic account of what is going on, and neuroscience as pursued by Rizzolatti can perhaps benefit from this.

I commented at the start on the considerable significance of mirror-neuron research for rehabilitative therapy, specifically, and for education, more generally, and indeed, practical applications have developed in various ways. Rizzolatti acknowledges the significance of phenomenology for his own work, and this further demonstrates what can be achieved without recourse to laboratory experimentation. Should we, however, also entertain the somewhat negative thought that perhaps what has been discovered here is, in practical terms, no more than what good sports coaches and physiotherapists, not to mention teachers of music and dance, have long known?[4] If there is some truth to this, it remains the case that the discovery of the mirror system provides a scientific endorsement for what such practitioners intuitively know. But there is evidence also for ways in which the research has prompted approaches that would perhaps not otherwise have been considered (see Society for Neuroscience, 2007). In sum, it does seem that, in neuroscience, Rizzolatti's work moves us away from 'false views of the inner and of the outer [that] produce and sustain one another'. And to the extent that it is the (cognitive?) capacities in relation to things, and not to objects, that need to be understood and to the extent that things cannot be understood in the absence of those holistic meaningful contexts in which the social and the 'theological' are already present, his work may have a more far-reaching importance for neuroscience than is currently acknowledged. Perhaps then, within a different architecture, it might also gesture towards 'the correct relation between inner and outer, between the soul and its society'.[5]

Notes

1. Rizzolatti's work on the mirror neuron has of course been subject to criticism within neuroscience. For example, in 'Eight Problems for the Mirror Neuron Theory of Action Understanding in Monkeys and Humans', Gregory Hickok concludes that although mirror neurons are a fascinating class of cells that deserve thorough investigation in monkeys, with systematic exploration for possible homologues in humans, Rizzolatti's proposals have never been adequately tested and that there is *prima* facie empirical evidence against his claims. Some of his criticisms are technical and relate to experimental method, and it is beyond my competence to comment on these here. More immediately pertinent is his emphasis on the fact that behaviour is systematically ambiguous. Thus, for example, when we see someone pouring liquid from a bottle into a glass, this could be understood as pouring, filling, emptying, tipping, rotating, inverting, spilling (if the pouring misses its mark), defying/ignoring/rebelling (if the pourer was instructed not to pour), and so on (Hickok, 2009). Hickok's point here is of course a familiar criticism of behaviourism, and it is well taken, though as far as I can see, it is not decisive as a critique of Rizzolatti's approach, for reasons that should later become clear.

2. Dreyfus is also inclined to speak in terms of a comparable architecture. Thus, he criticises John McDowell for being preoccupied with "the conceptual upper floors of the edifice of knowledge" and indifferent to "the embodied coping going on the ground floor" (Dreyfus, 2005, p. 47).
3. Consider by contrast the words of Marcello Constantini and Corrado Sinigaglia who write "It is often forgotten that most of our attempts to join attention and action are object-related. It has been shown that the affective evaluation of objections can be influenced by the fact that the objects are jointly attended (Bayliss, Paul, Fenske, & Tipper, 2006) or that they are looked at by someone else with a happy or a disgusted expression (Bayliss, Paul, Fenske, & Tipper, 2007)" (Constantini & Sinigaglia, n.d.). Their ensuing discussion is fruitful in its engagement of the notion of affordance. But it retains the vocabulary of objects, within a generally scientific lexicon. How should we view this? Is this the legitimate metalanguage of a science? Or does the vocabulary block the understanding that Rizzolatti's (and their) research otherwise invites?
4. This may also be evident in religious practices where a disciplining of the body is understood as internal to the kind of thinking that is sought. See also perhaps Naoki Sakai's (1991) accounts of foreign language learning in eighteenth-century Japan.
5. I would like to thank Melita Cristaldi for drawing my attention to the fruitfulness of Rizzolatti's work and Clare Thornbury for helpful discussions.

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Chapter 8
The Attraction of Neuropsychological Findings in Contemporary Educational Thinking, or Feeling, Emotion and Relationship as Blind Spots in Educational Theory

Volker Kraft

In order to illuminate the background of the relevance of neuropsychological research for educational theory, I shall begin with the first section on the current presence of the neurosciences in the public discourse. In the second step, I would like to take up Herbart's thought that research results are the more easily integrated in the theoretical framework of a discipline the more that discipline possesses a systematic core composed of 'native concepts'. I shall illustrate this by taking us on a brief excursion into present-day developmental psychiatry, neuropsychiatry and psychoanalysis. Only then, in my third and final section, will I turn to the question of whether today's neuroscientific discourse does not bring to light certain weaknesses and deficits in educational theory, with the significance of affect and emotion in particular not receiving proper attention in pedagogical theory.

8.1 Complexity as Complexity Reduction: On Present-Day 'Pop' Neuroscience

The prefix 'neuro-' is ubiquitous today. No area of scientific and scholarly endeavour has been spared. We have neuroeconomics and neuromarketing, neurophilosophy and neuroethics, even neurotheology, so concepts like neuropedagogy or neurodidactics raise no eyebrows. A look across the fence into the interior of the neurosciences shows a highly heterogeneous scientific terrain, as is confirmed by scanning the publications of the leading neuroscientific societies, for example, the American Association of Neuroscience, whose yearly conferences are attended by over 20,000

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participants. The only common denominator (so far as the outsider can see) is that neuroscience has to do with the brain. One wonders, notwithstanding the sunburst of the neurosciences into so many seemingly incommensurable research directions, where the impression of a unity in brain research comes from and what its function is (cf. Borck, 2006, p. 95). A number of instructive studies lead us to believe that the success of the neurosciences is largely owing to social mediation processes that have 'culturally charged' the brain (Borck, p. 97) so as to generate what Thomas Fuchs describes as 'neuromythologies' in which the myth of the brain becomes something like the "legacy of the subject" (Fuchs, 2009, pp. 51–53; see also Goswami, 2004).

This seems more than a little odd and demands explanation: A complex phenomenon—and who would dispute the claim that the brain is a complex thing—serves as a kind of medium for the reduction of complexity. There are several factors supporting such a 'neuromythos'. Fuchs, looking at the problem phenomenologically, sees typical fallacies which he calls "errors in category" (pp. 65–67) that re-energize the discourse. Citing Bennet and Hacker, he identifies a 'mereological fallacy' which attributes qualities and functions of the organism as a whole to a part, that is, the brain, and would have the brain waiting, feeling, thinking or composing music (cf. p. 66). The so-called localization fallacy is a different matter. Here, the functional specialization of certain regions of the brain is over-interpreted, a serious misunderstanding compounded by modern imaging processes. Real scientific knowledge of the brain is hard to transmit in 'pop' images: The brain is not observable *in vivo*, and modern imaging techniques do not show neuron activity itself but rather visualizations of statistical complexes, giving rise to the impression that certain regions are involved in certain activities and others not at all. But no one region "by itself is able to carry out the complex integrative functions that make up consciousness processes. This is the combined task of disparate brain regions and of centers outside the cortex. Any subjective experience always involves a network of neuron connections spread throughout the brain" (Fuchs, 2009, p. 70).

Let me illustrate this with an example from my professional experience in corrections. A paedophile man whom I had dealt with as a social worker over a period of several years decided 1 day to undergo a stereotactic operation hoping to reduce his time in prison. The operation was quite successful in the neurosurgical sense, having significantly reduced the individual's sex drive. But as we soon found in our therapeutic talk sessions, the man's erotic wishes and fantasies were entirely unchanged. That change is exactly what the patient had hoped for from the operation, and that is what he had been promised. Did the neurosurgeon miss the target? That is not likely. It is more plausible that there was no such target at all. Even if the brain has myriad qualities, it does not have consciousness. It does not dream. *I* dream, and *I* wake up, perhaps bathing in sweat, and *I* am embarrassed or not by the images that visited *me* in the night. Dreams and fantasies are embedded not in removable parts of the brain but in feelings, memories and language. Not only that all perceptions are embedded in bodily background experiences, but they are closely connected with emotions, memories and language concepts: There is no such thing as pure pain or seeing or hearing.

The brain is clearly not merely an ensemble of separable bodily and mental functions but rather a 'relationship organ' (Fuchs, 2009) symbolizing uniquely the unity

of the difference between the natural and the social. It is not surprising that the brain has been the object of mythologizing, this being the reason also why the brain belongs to no scientific discipline alone. Even if the neurosciences dominate today's discourse, the brain itself will see to it that this will change again.

8.2 Boundary Crossings: Developmental Psychiatry, Neuropsychology and Psychoanalysis

It is not surprising that disciplines close to the focuses of neuroscientific research profit most from progress (which I do not doubt) in brain research. For example, if we look at a widely used recent (German) textbook in developmental psychiatry (Herpertz-Dahlmann, Resch, Schulte-Markwort, & Warnke, 2003), we quickly find neuroscientific insights under the heading of 'developmental-biological fundamentals', that is, developmental ethology, developmental genetics, developmental neuroanatomy, developmental neuroendocrinology and developmental neurophysiology. The sub-disciplines preceded by 'neuro-' incorporate the latest brain research findings pertinent to the subject. They are followed by the 'fundamentals of physical and mental development' (i.e., thought, memory, emotion, bonding, play, character and personality, sexuality, body weight and growth). The book then opens onto the broad expanse of child and adolescent psychiatric pathology with its various disorders and syndromes.

In psychology, my second example, it took a longer while (cf. Preilowski, 2009) for neuropsychology, as we know it today, to emerge from turf wars with medicine (and the inner iatric competition between psychiatry and neurology) and from the tangle of various intra-disciplinary shifts in emphasis, with the first such professional society in Germany being founded as late as 1986. To be sure, brain research is intimately connected with the historical development of psychology as a discipline. One need only recall Wundt and his pupils, likewise Meumann and his experimental pedagogy, or Meumann's pupil Walter Moede who, after getting his doctorate in 1911, went to work in Wundt's laboratory and later became one of the leading brain psychologists. The last century's wars gave the discipline a big push, with psychology being called upon beforehand to diagnose who could fight and who could not and afterwards to develop therapies and rehabilitation for the brain-injured. While neuropsychology stagnated in Germany after 1945, it thrived in Great Britain and the United States (not least due to the post-war brain drain) and did not recover until the 1960s, which saw the first chairs for neuropsychology established at the universities of Aachen and Tübingen. But we are interested here less in the history of that sub-discipline (cf. Preilowski) than in its present structure.

If we look at the most recent edition of the standard textbook in clinical neuropsychology first published in 1999 (Sturm, Herrmann, & Münte, 2009), we also find first an extended chapter on the fundamentals with sections on neuroanatomy, neurochemistry, hemisphere dominance, cognitive models, neuropharmacology and psychophysiology before coming to an equally thoroughgoing chapter on brain

research methods. The second part is devoted to diagnostics and therapy, dealing first with pathologies in specific brain functions before going on to the accompanying disorders and syndromes and the appropriate therapies. Here too then, we find the footprint of the neuroscientific preoccupations of the moment, incorporated of course in scientifically unimpeachable fashion.

My third and last example comes from modern psychoanalysis, which is especially interesting because, unlike the two previous clearly scientific disciplines, psychoanalysis is an interactive communicative hermeneutic system closer to educational theory and practice. Psychoanalysis is an ideal object of study for the history of science because recent neuroscientific research shows that Freud was correct in many of his findings, even if his insights rested on theoretical assumptions which today seem strange or even wrong. If we take into account the state of the neurological art in his day, we are not surprised. There was at that time no way to empirically research brain systems in order to explain such phenomena as psychogenic forgetting or hysterical conversion.

Freud, originally a neurologist and neuroanatomist, gradually turned away from these specialities in the course of his research and actual practice when he came to realize that real insight into neurotic symptoms and mental illness was not to be had with the neuroscientific methods available to him. He became a hermeneutician in spite of himself. Today, psychoanalysis has been corroborated by progress in neuroscience as have few other disciplines and has spun off its own neuroscientific sub-discipline, so-called neuropsychoanalysis. Mark Solms and Allan Schore are two authors who have, together with their research groups, assumed leadership in this area.

At a neuroscientific conference in New York on the occasion of Freud's 150th birthday, Mark Solms (2006) gave a much noted lecture in which he investigated central constructs of psychoanalysis from the perspective of modern neurobiology, finding both confirmation and refutation. Confirmation was found not only for Freud's concept of the conscious as opposed to the unconscious, especially the function of the conscious mind as a watchdog over life activities, but also for the mechanism of repression and sublimation, the differentiation between primary and secondary acts, the pleasure principle, dream theory and, last but not least, libido theory, which today is called the seeking system. Other constructs could not be confirmed by neuroscience: drive-discharge theory, for example, and the death wish. But confirmation was found for various motivation systems besides the seeking system, especially specific systems for play, fear, rage, loss and care. Thus, the classic concept of the aetiology of neurosis must be changed, likewise thinking about infantile sexuality, the Oedipus complex and the difference between the sexes.

"Ironically," Solms says in conclusion, "Freud's greatest error is attributable to his underestimation of our ability to deceive ourselves, i.e., his overestimation of what we can learn by introspection about the basic functioning of an apparatus which Freud said was 'unconscious of itself'…The recent insights especially of affective neuroscience lead us to believe that representational cognition obscures the forces that actually drive us to a much greater degree than Freud imagined" (2006, p. 855). That is one side of the balance sheet. On the other side, according to Solms, "Freud's greatest legacy consists in showing that we should not forget the

extreme importance of the conscious part of our psyche, the sensitive, feeling, willing ego. This factor is all too easily overlooked by neurocognition scientists who are convinced that we may ignore the subject and deal with the human psyche as if it were simply an information-processing organ similar to the liver…What makes the brain unique is its subjectivity, its ability to have feelings and awareness of itself…Unless we put these qualities of the brain in the center of our theoretical and methodological thinking…we will never really understand it" (pp. 855–856).

Allan Schore (2007) has long been recognized in the English-speaking professional world as the leading authority on neuropsychoanalysis, along with Mark Solms, and with his Los Angeles study group has focused entirely on the incorporation of neurobiological findings into psychoanalysis (cf. Kraft, 2008). Three levels can be identified in his work, the first and most fundamental being the 'neurobiological-developmental phenomenology of early mother-child interaction', the second the 'neuroscientific reformulation of psychoanalytic theory' and the third dealing with problems in 'treatment techniques in psychodynamic psychotherapy'.

Let me dwell a moment on the first and third levels. In recent decades, our knowledge of early development has increased exponentially thanks to work done in experimental infant and toddler research, attachment, stress and trauma research, narcissism research and modern cognitive, affective and social neurobiology. Schore's neurobiological-developmental phenomenology of the early mother-child relationship has generated, with some simplification on my part, the following basic assumptions: The early mother-infant relationship must, Schore insists, be understood primarily as the interface of a mature developed brain with an immature developing brain. The medium of this 'interface' is communication and interaction. The one being able to speak and the other not, this primarily emotional exchange materializes and regulates itself otherwise than through language: by visual contact, by facial expression and gesture, by the sound of the voice, by smell (6-day-old babies can identify their mother by smell) and by the mother's way of touching, holding and carrying her baby.

This functions so reliably due to an evolutionary feature of the human brain in which the hemispheres undergo differing phases of growth at different development stages. The emotion-processing right hemisphere matures early, outpacing the left hemisphere as early as the 25th week of pregnancy, and is dominant during the first 3 years of life. Most importantly, the maturation of the socio-emotional right hemisphere is experience-triggered, bodily social interaction etching lifelong neuronic traces. By sheer developmental logic, an immature brain must have a mature Other that will, so to speak, lend its right hemisphere, minimizing negative affect and maximizing positive. This experience provides the basis for the feeling of secure bonding which permits the construction of solid self- and object images. "The core of the self," says Schore, "is thus nonverbal and unconscious and embedded in the matrix of affect regulation" (p. 43).

The third dimension of Schore's work shows that productive integration of neurobiological insights has profoundly influenced not only psychoanalytical theory but also psychotherapeutic treatment practice. If the patterns of affect regulation acquired so early are decisive for the structure of the self, and if these patterns are

largely non-verbal and unconscious, then it follows that the treatment of psychic disorders must try to gain access to these patterns in order to change them. The challenge is to unlock the logic of early regulation strategies (cf. Schore, 2007, p. 296) which, after all, are what hobble and hinder the adult self in its functioning.

If we agree with Schore that psychotherapy is "applied developmental psychology" (p. 22), then this can only mean focusing attention primarily on the relationship aspect of the therapy dyad, that is, on the frequently subliminal tangle of communicative signals and messages contextualized in adult (left-hemispheric) 'speaking' like the tip of the iceberg. Thus, Schore's therapy credo is "right before left", all the more so the earlier the onset of the disturbance. The crux, then, is the "importance of therapeutic empathy as a prime mechanism of treatment (and not so much a left-hemispheric verbal process) and the right-hemispheric nonverbal psychobiological attunement and application of affect-synchronized transactions for the interactive generation and extension of positive affects reinforcing the patient-therapist bond" (p. 317). Early, now dysfunctional patterns of affect regulation must first take shape in intersubjective therapeutic activity. Only then can the patient experience successful positive affect regulation. Schore lists numerous experimental findings that show that this kind of therapeutic communication can lead to significant changes in the metabolic activity of the right orbitofrontal cortex and its subcortical connectivities: Change consciousness, and the brain will change with it!

So much for boundary crossing. Even with the brevity needed here, I hope to have made clear that all three of the disciplines under consideration possess the theoretically grounded conceptual instruments needed to absorb and productively to apply the results of recent neuroscientific research as demanded by the specific cognitive interests of that discipline. Educational theory, at least in Germany, is in a different (and more difficult) position here. Its present structure is to a much lesser degree object- or phenomenon-orientated than self-referential within the discipline. This manifests itself most clearly in the pedagogy core curriculum (DGfE, 2008): The primary concern there is pedagogy itself rather than the pedagogical problems of the subject to be taught. This circumstance also influences the manner in which neuroscientific insights are absorbed and applied in educational theory. This will be the subject of our next segment.

8.3 Neurobiology and Educational Theory/Pedagogy

In examining the interrelation between neurobiology and educational theory/pedagogy in Germany today, it is important to separate the levels of discourse carefully. For the purposes of the following train of thought, one must thus distinguish between the popular media discourse and the professional discourse, whereby I would further subdivide the latter and distinguish between reception-analysis studies and object-analysis studies.

As regards the observation of the reception of neurobiological contributions in educational contexts, educational theory/pedagogy gets a good report, as seen, for

example, in relevant publications such as the special issue of 'Zeitschrift für Erziehungswissenschaft' (ZfE) (Scheunpflug & Wulf, 2006) or the brain research issue of 'Zeitschrift für Pädagogik' (ZfPäd.) (50, 2004, 4). In other words, educational observers have had their eyes open and have been observing closely, carefully and with high resolution. If one turns to object-analytical work, one must obviously again make a distinction: As regards teaching-learning research and questions of classroom theory, neurobiological inputs have encountered a solid disciplinary knowledge base, as seen, for example, in the work of Elsbeth Stern (who I doubt really thinks of herself as an educational researcher) and especially of course in the impressive studies by Jürgen Grzesik (2002). Regarding the problems of a phenomenology of education and educating, however, the situation presents itself differently. Here, due to inherent weaknesses and fact-forgetfulness in the formulation of educational theory, representatives of other disciplines think they have found an open window which they climb in only too happily to exploit supposed deficits in education for their own purposes.

This circumstance reveals itself especially clearly on the level of popular media discourse. This is not to be underestimated, as questions of science policy and research organization are immediately affected. Of course, it is not only irksome but also hurtful to look on while neuroresearchers, seemingly without encountering serious resistance, amass money for purposes and to found centres and institutes which deal explicitly with educational issues. This can be seen in Spitzer's *Knowledge Transfer Center for Neurosciences and Learning* as well as in Joachim Bauer's Freiburg *Model and His Institute for Health in Pedagogical Professions* which the Bavarian Teachers Association has so generously promoted (Bauer et al. 2007). Needless to say, the issue is always money and competitive market position.

To be fair, it is important to observe developments of this kind not only critically but also self-critically and to pose the question as to whether such developments do not also reveal weaknesses and deficits in the formulation of educational theory. The thesis underlying the following remarks consists of three propositions, to wit: *(1) Learning and teaching are primarily body- and affect-based socio-emotionally contextualized phenomena. (2) Neurobiological provocations refer to these aspects of educational/pedagogical processes. (3) Affect, emotion and human relationships are under-represented categories in the educational theory of the present day.*

The first premise is corroborated by practically the entire output of modern infancy research and developmental psychology and also by studies on parental motivation to have children and studies on the course of pregnancies—feelings relevant to pedagogical processes awaken long before birth. Lesser-known research on the sociology of abortion such as Luc Boltanski's study *La condition fatale* (2007) is also highly instructive and beside the point only at first glance. First things first: Affect and emotion come before thinking. Indeed, if Ciompi's studies on affective logic (1997) are to be believed, our thinking is bound up in affective-emotional contexts all our lives. That is nothing new really.

To support my second premise, let me refer to a book by Joachim Bauer, a recognized expert in the new neurosciences and originator of the Freiburg model for continuing education for teachers, entitled *In Praise of School* (2008). In his

introductory chapter, 'The Neurobiology of the Classroom', we find nothing that has to do with the familiar issues grappled with by educational theory (Bauer mentions by name only one modern German educationist, Hartmut von Hentig), but also one does not find anything that brings up current debates which occupy our discipline. Imagine the converse case, with an educationist writing a book 'in praise of the brain' without reference to recent findings in the neurosciences!

The starting point for Bauer is always the same. Thus, we read in his manual for teacher coaching groups that it is "crucial neurobiological hot buttons on which the effects of interpersonal experiences make themselves felt, (i.e.) the motivation systems of the midbrain (release of dopamine, endogenic opioids and oxytocin), and the fear and stress systems (amygdala), release of the exciter neurotransmitter glutamate activating the hypothalamus-hypophysis axis of the adrenal gland (activation of the stress gene CRH and of the stress hormone cortisol), plus activation of the caudex cerebri (release of noradrenaline)" (Bauer, p. 9). Consequences for the classroom are formulated on this basis, namely, "1. Without personal attention and manifested concern there can be no motivation (for pupils or for teachers). 2. Successfully managed relationships stabilize health. 3. Continuing hostility activates stress systems and fear, which blocks learning and teaching" (ibid.).

This example shows two things: First, we see the typical logic of neuroscientific texts dealing with classroom education and schools, namely, the conflation of cause and effect. The cause is encoded in neuroscience and is stated in neuroscientific terminology, while the effect is stated in everyday language with no reference to the results of research in pedagogy/educational theory and education. This leaves us with the impression that it is possible to proceed directly from neuroscience to pedagogy, making it look as if the pedagogical conclusions are grounded in neuroscience. Second, all classroom issues end up being questions of relationship management and the proper consideration of affect and emotion, especially interest, social recognition and personal respect, which are pressed into service as the keys to learning. Pedagogical competence is understood primarily as 'relationship competence'. This is exactly what is contained in the practice and training units of the Freiburg Concept for Continuing Education for Teachers. All this is neither wrong nor new and may well be helpful and positive. But nevertheless, we may ask whether insights of this calibre are not due to a strange reluctance on the part of educationists to confront these issues, which brings me to my third premise.

Where in educational theory do we find rage, outrage, resentment, indignation, annoyance, bitterness, hurt feelings or anger; where are pleasure, pride, amusement, lust and excitement, satisfaction and joy; what about love, trust, goodness, devotion and affection; where do we look for astonishment, perplexity, amazement and surprise; where do we read about disdain, dislike, aversion, rejection and revulsion; where are worry, pain, melancholy, dejection and desperation; and where are fear, anxiety, apprehension, dismay, terror, horror, panic, guilt, shame, embarrassment, regret and remorse? How is the affective dimension of classroom education treated in pedagogical theories? After all, it is not something that is 'just there' in learning situations but rather is genuinely and structurally inseparable from learning. One is tempted to say that pedagogical theorists are subject to a strange self-imposed inhibition where affect and emotion are concerned.

This suspicion demands in-depth attention, no doubt; let me illustrate what I mean with a few examples. If we look at *General Educational Theory* by Dietrich Benner (2001), for example, which explicitly claims to be an 'introduction to the basic structure of educational thinking and doing', we must look long and hard to find affect and emotion in the author's analysis. In the end, we succeed, with some interpretive finessing, in the category of educability, more precisely in the bodily receptiveness and spontaneity defining it. To be sure, affect and emotion are so diluted in philosophical abstraction as to be barely discernable.

The *Introduction to the Theory of Education* by Jürgen Oelkers (2001), my second example, is comparatively easy to deal with. Oelkers does not really even want theoretically to 'dissect' education as an anthropological phenomenon. He is interested in understanding the public discourse on education, "the educational language game as theory" (p. 10), neatly eliminating the phenomenon itself.

Strangely enough, my third example, even explicitly phenomenological studies touch upon the affective dimension not at all or at best in passing. This is true of Sünkel's *Phenomenology of Classroom Teaching* (1996) as well as of *Classroom Teaching as an Educational Construct* by Strobel-Eisele (2003), likewise of Prange's concept of 'operative educational theory' (2005), although Prange recognizes the deficiency and has taken steps towards contextualizing the show-me structure of education in feeling, that is, towards grounding it in affective phenomena (cf. Kraft, 2009).

These three examples bring three possible avoidance strategies to the fore, namely, diffusion by abstraction, outright denial and air-brushing affect and emotion out of the picture entirely. This is doubtless worth looking into further, for the absence of affect and emotion in educational thinking may be the reason for the unpopularity of education theory among pedagogical practitioners. And the void that yawns as a result, as we have seen, is being assertively and successfully filled by other voices, namely, neuroscientific voices today.

In a noteworthy but little-noted interview on the universals of educating children, Urie Bronfenbrenner (1992) responded to the question as to what is needed for good education: "The basis for the healthy development of any child is an emotionally-charged irrational bond with another human being. In simple language: Somebody has got to be crazy about the kid. This means basically that somebody will do for this particular kid what he would not necessarily do for any other kid. This is the kid that he will drag out of a burning house before any other kid" (p. 51). This was said primarily relative to parental upbringing, but it is relevant (in different professionally filtered forms) to every pedagogical effort on behalf of a child.

The task of educational theory is thus objectively to treat a primarily emotionally grounded pre-rational phenomenon. The essential feature here is that this phenomenon not be stripped of its necessarily affective components in the process. The lack of factuality which our discipline is often accused of would thus spring not primarily from a rational problem but rather from an emotional one (cf. Kraft, 2001). One thing that really can be learned from brain research (if we do not already know it) is that feelings provide the qualifying anchorage of all perception in the immediate present and thus create reality consciousness. It is hard to see why educational research should not conform to this insight.

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Chapter 9
'The Proper Study of Mankind'? In Defence of the Humanities Against the Exaggerated Pretensions of 'Scientific' Psychology

David Bridges

Know then thyself, presume not God to scan:
The proper study of Mankind is Man.

(Pope, 1870, p. 225)

9.1 Introduction: Psychology as Science

Psychology is itself hardly a homogeneous discipline either in its methods of enquiry or its theoretical framing. It extends from psychoanalysis through phenomenology and cognitive psychology to behavioural psychology and work, which approximates to zoology, and to physiology, neuroscience and genetics. It employs introspection, observation of patterns of behaviour, interviews, questionnaires, experimental studies, large population studies and the technical apparatus of modern medical science. At the risk of being over legislative, however, I suggest that at its core is the ambition (1) to understand the mental life and behaviour of individual human beings (including in this the relation between the two); (2) to establish a *scientific* basis for such understanding, permitting (3) generalisable principles or laws; and, hence, the ability (4) to predict and perhaps control human behaviour. From this point of view, the 'attraction' of psychology lies in the dual promise of providing such understanding and doing so in a properly scientific manner.

The aspiration of psychology to the standing of science is well evidenced in many of the standard texts. Richard Gross's *Psychology* is subtitled *The Science of Mind and Behaviour*, and this defines psychology as "the scientific study of behaviour

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and cognitive processes" (Gross, 1996, p. 19). Shaughnessy and Zechmeister's (1994) *Research Methods in Psychology* firmly locates these methods in the scientific field with an introduction organised under the following headings: 'Psychology as science … The scientific method … Scientific theory construction and testing… [and] Scientific integrity'. Like many similar sources, this locates the beginnings of 'modern psychology' with the work of the German physiologist Wilhelm Wundt, who established the first psychological laboratory in Leipzig in 1878 to explore what he conceived as 'physiological psychology' (Wundt, 1874). While they acknowledge that psychology has taken many different forms since then, "There is one way in which psychology has not changed … in the hundred years or so of its existence: the scientific method is still emphasised as the basis for investigation" (Shaughnessy & Zechmeister's, 1994, p. 6).

If this is right, then the standpoint invites a number of different kinds of critical responses (some of them illustrated in different contributions to this volume). One such response might come in the form of a sociologically rooted critique of the aspiration to understand human thought and behaviour except through an appreciation of the social, cultural and economic structures which shape any individual experience—a dimension perhaps inadequately reflected even in social psychology. To look to the individual psyche is, on such analysis, to look in the wrong place for an understanding of human motivation and behaviour. Though it was not my main intention to advance this particular critique, I nevertheless get drawn inexorably towards the social character of human being and experience and hence the need to understand that experience in relation to its social and historical context.

A second response might be to critique the scientific pretensions of psychology—or at least many expressions of its practice. It might be claimed that it is not, perhaps cannot be, properly scientific on the model of the scientific investigation of the material world in physics or chemistry. The stuff of the human psyche is simply not amenable to the rigorous investigative procedures applicable to the material world. Psychology is at best a quasi science.

The line of argument I want to develop in this chapter is a different one; however, I want to argue that it is precisely the 'scientific' pretensions or aspirations of psychology that are its limitation; that so far as psychology seeks to employ recognisably scientific methods and conceptual frameworks to investigate human thought and experience, it will only ever be able to provide a very partial understanding of the object of its scrutiny; and to the extent that this 'scientific' understanding claims exclusivity or even privileged status in the interpretation of human being and behaviour, a distorted one:

> *Superior being, when of late they saw*
> *A mortal man unfold all Nature's law,*
> *Admir'd such wisdom in an earthly shape,*
> *And shew'd a NEWTON as we shew an Ape.*
> *Could he, whose rules the rapid Comet bind,*
> *Describe or fix one movement of his mind?*
> (Pope, 1870, p. 226)

It is not that I seek to dismiss the contributions that science can make to human understanding or the understanding of humans. I heed Peter Winch's caution that

"philosophy … has no business to be anti-scientific: if it tries to be so it will succeed only in making itself look ridiculous… But equally … philosophy must be on its guard against the extra-scientific pretensions of science" (Winch, 1958, p. 2)—and this is my concern.

More positively, at a time when the humanities are increasingly described as in crisis,[1] I shall seek to identify what these have to offer towards 'the proper study of mankind', that is, of 'man'[2]—and I will be guided, in particular, in this endeavour by the writing of the philosopher and historian of ideas Isaiah Berlin, an anthology of whose essays was conveniently gathered by the editors Henry Hardy and Roger Hausheer in a volume itself entitled *The Proper Study of Mankind* (Berlin, 1997).

9.2 William James and the Beginnings of 'Scientific' Psychology

First, however, it is illuminating to go back to William James, the beginnings of scientific psychology, and, more particularly, its application to the study of teaching, because the writer frequently acknowledged as among the founders of modern psychology and, more particularly in this context, the founder of educational psychology understood very well the necessary limits of the new discipline and the understanding it could offer.

James' classic *Principles of Psychology* (1890) mapped the territory that is still central to the study of psychology to this day and provided us with the oft-quoted definition of the subject as 'the science of mental life'. Such 'scientific' understanding was, however, never sufficient. In one of his talks to students entitled *What Makes Life Significant,* he writes about a man's relationship with the one he loves; he describes how

> he struggles towards a union with her inner life, diving her feelings, anticipating her inner desires, understanding her limits as manfully as he can, and yet inadequately too; for he is also afflicted with some blindness, even here…. Where would any of us be, were there no one willing to know us as we really are or ready to repay us for our insight by making recognizant return. We ought, all of us, to realize each other in this intense, pathetic, and important way. (James, 1899, p. 151)

James—the pragmatist after all—went to considerable lengths even as he introduced psychology to his students to affirm its limitations and the importance of bringing life experience and other resources of human understanding in seeking "to reproduce sympathetically in their imagination, the mental life of their pupil as the sort of active unity which he himself feels it to be" (James, 1899, p. 3). It is this sort of ambition which seems to me to point to the humanities rather than to natural science as the intellectual home of such understanding.

By the time that Berlin was writing in the mid-twentieth century, the 'scientific' study of human behaviour and the 'allure of psychology' were of course very well established, and at the expense of other more humanistic forms of understanding:

> It is paradoxical that at a time of unprecedented moral and political confusion there should be an upsurge of interest in popular expositions of science, whose subject matter

> is fully comprehensible only to handful of experts. Yet the very realm that matters to us most, and is accessible to all of us in virtue of our humanity, namely that of human studies, seems not to have captured the popular imagination to the same degree. (Hausheer in Berlin, 1997, p. xxiii)

9.3 Berlin, Vico and *Scienza Nuova*

But what are these 'human studies' and what can they reveal about human experience that perhaps psychology does not touch? To answer this question, I want to follow Berlin to the eighteenth-century philosopher Giambattista Vico and his S*cienza Nuova* (1725/2002), whose work on Berlin's interpretation 'gave birth to the cardinal distinction between the sciences and the humanities' and the different kinds of understanding they bring. Vico stood out against what we might refer to as the technical rationality of the Enlightenment and especially of the mathematical preoccupations of Descartes. It was not that he wished to return to the scholasticism of the medieval age, though he did in particular admire the work of Roman philosophers such as Cicero. Rather he wished to advance against Enlightenment, rationalism and scientificity, a '*scienza nuova'* of 'the reconstructive imagination' which we might recognise as rooted in the humanities. Vico's own work is notoriously rambling and discursive, so I gratefully rely on extracts from Berlin's more succinct presentation of his key arguments:

1. "That men's own efforts to understand the world in which they find themselves and to adapt to its needs, physical and spiritual, continuously transform their worlds and themselves" (Berlin, 1976, p. xvi).
2. "That those who make or create something can understand it as mere observers cannot. Since men in some sense make their own history … men understand it as they do not understand the world of external nature, which, since it is not made, but only observed and interpreted, by them, is not intelligible to them as their own experience and activity can be" (ibid.).
3. "That, therefore, men's knowledge of the external world which we can observe, describe, classify, reflect upon, and of which we can record the regularities in time and space, differs in principle from their knowledge of the world that they themselves create, and which obeys rules that they themselves have imposed on creation" of which therefore they have a distinctive and, in Vico's terms, superior 'insider' view. This would apply to language, to mathematics, to law, to human history, to art, to philosophy, to literature and, I suggest, to such social practices as education (ibid.).
4. "That there is a pervasive pattern which characterises the activity of any given society … reflected in the thought, the arts, the social institutions, the language, the ways of life and action, of an entire society … a culture". But this evolves over time, not as a result of any mechanical causes, but "due to the purposive activity of men, designed to satisfy needs, desires, ambitions". It "flows from

elements in, and forms of life, explicable solely in terms of human goal directed activity". Importantly, however, "this social process and its order are intelligible to other men, members of later societies, since they are engaged in a similar enterprise" (ibid., pp. xvii and xviii).

5. Vico then, quite remarkably in his time, extends the possibility of intercultural understanding to the world of 'primitive' people largely dismissed by his contemporaries and predecessors but whose myths, fables and rituals were "so many natural ways of conveying a coherent view of the world as it was seen and interpreted by primitive men". From this, it followed that "the way to understand such men and their worlds is by trying to enter their minds, by finding out what they are at, by learning the rules and significance of their methods of expression", by understanding 'what they live by' (ibid., pp. xviii and xix).
6. This led to the argument that works of art and indeed all manifestations of culture "must be understood, interpreted and evaluated, not in terms of timeless principles and standards valid for all men everywhere, but by correct grasp of the purpose and therefore peculiar use of symbols, especially of language, which belong uniquely to their own time and place, their own stage of social growth…" (ibid., p. xix)—and thence to the beginnings of comparative cultural history.
7. Thus, Vico was led to add to the traditional categories of knowledge—the a priori-deductive and the a posteriori-empirical—a third category based not on revelation or perception but 'the reconstructive imagination'. It is the type of knowledge yielded "by 'entering' into the mental life of other cultures, into a variety of outlooks and ways of life which only the activity of *fantasia* – imagination – makes possible".[3] It is this which renders them 'intelligible'. The nature of such imagination is complex and dynamic. "*Fantasia* is for Vico a way of conceiving the process of social change and growth by correlating it with, indeed viewing it as conveyed by, the parallel change or development of the symbolism by which men seek to express it; since the symbolic structures are themselves part and parcel of the reality which they symbolise, and alter with it. This method of discovery, which begins with understanding the means of expression, and seeks to reach the vision of reality which they presuppose and articulate, is a kind of transcendental deduction (in the Kantian sense) of historical truth" (ibid., p. xix).

Before commenting on some of these ideas, let me pursue them a stage further into Berlin's own thought, which they clearly informed. Berlin too, according to his editor Henry Hardy, "separates the human realm, where freedom, choice and self-conscious purposive action are central, from the world of impersonal forces" (Berlin, 1997, p. xxvii). "There are compelling reasons why humans cannot be studied just as natural objects exhaustively explainable by natural science" (ibid., p. xxviii), and these are rooted in Berlin's view (again with clear connections to Vico) of the role of human beings in creating their own destiny and the stories which history will have to tell and his conviction that "we are free beings in some absolutely non-deterministic sense" (ibid., p. xxviii). And Berlin has in particular adopted Vico's picture of the dynamically evolving character of society and culture (driven by human needs and ambitions)

and the succession of ways in which human beings have interpreted themselves and their experience. These ways, or 'models' as Berlin refers to them, are, however, not just of antiquarian interest:

> No model can encompass the whole of human experience once and for all: each is exclusive and at best casts light on a portion of human life. But unlike superseded scientific theories, these models retain a permanent value, for each opens its own special doors of self-understanding; and it should be a central concern of historians of ideas in each generation to ask questions of these models and to evaluate their unique problems of their own day. (ibid., p. xxviii)

—a task which, of course, Berlin himself undertook with enormous energy, commitment and perspicacity.

Hausheer regards Berlin's work as in an important sense a summation of the project of Counter-Enlightenment thinkers—mainly of German origin who offer a view of the rational study of man,

> not just as a physical animal viewed essentially from outside in naturalistic terms …, but as a free, autonomous, unpredictably creative, self-interpreting and self transforming species, whose proper element is history, and whose nature is revealed, not timelessly once and for all, but in his most basic, all-informing, evolving – and sometimes violently transformed and clashing – concepts and categories. This makes the human studies as autonomous and rationally transparent as they can ever be made, and raises a large arena for human freedom and dignity clear of the destructive incursions of science and technology, and levelling universal principles generally (Hausheer, in Berlin, 1997, p. xxxiv).

9.4 The Contribution of Philosophy to the Proper Understanding of Mankind

But the Vico/Berlin perspective also takes us into another sphere which is also closely associated with the humanities—into philosophy and the view that 'the proper study of mankind' is essentially a philosophical endeavour. We are here, of course, in the territory developed by Peter Winch in *The Idea of a Social Science*[4] (Winch, 1958) and extended in *Understanding a Primitive Society* (Winch, 1964). Winch seems to me to stand firmly in the tradition indicated by Vico, to whom he explicitly acknowledges a debt (Winch, 1964, p. 322) and developed contemporaneously with Winch in the same university by Berlin.

Winch, like Vico and Berlin, emphasises the importance to human being of participating in communities of meaning with shared language and, by extension, shared rule-governed practices: "men do not only live but have a conception of life" (Winch, 1964, p. 322). Like Vico and Berlin, he emphasises the dynamic nature of such communities and the roles of individuals in creating meaning, and he emphasises the variety of forms which these communities can take but also the possibility of developing understanding between these communities (even extending to 'primitive' communities) by virtue of certain fundamental points of reference or "limiting notions[5] … [which] give shape to what we understand by human life" (Winch, 1958, p. 322).

Key to understanding people, therefore, is rendering intelligible and understanding the rules (in the widest sense of this term[6]) they live by and the ways in which they construct their understanding of their world:

> The analysis of meaningful behaviour must allot a central role to the notion of a rule; … all behaviour which is meaningful (therefore all specifically human behaviour) is *ipso facto* rule governed. (Winch, 1958, pp. 58–9)

Winch writes of

> the central role which understanding plays in the activities which are characteristic of human societies. In this way the discussion of what an understanding of reality consists in merges into the difference the possession may be expected to make to the life of man. (Winch, 1958, p. 22)

To grasp the kind of understanding that Winch sees as central to understanding human beings, we have to invoke, as he does (Winch, 1958, pp. 45ff and 111), Max Weber's distinction between 'interpretive understanding' (*deutend Verstehen*) of the meaning (*Sinn*) of a piece of behaviour and providing a 'causal explanation' (*kausal Erklären*) of what brought the behaviour about and what the consequences are (Weber, 1922/1956). Weber was dismissive of claims to *Verstehen* which were not in some way validated by, for example, statistical data, but Winch rejects this requirement:

> 'Understanding' … is grasping the *point* or *meaning* of what is being done or said. This is a notion far removed from the world of statistics and causal laws and is closer to the realm of discourse and to the internal relations that link discourse (Winch, 1958, p. 115).

And later, "men's mutual interaction 'embodies ideas', suggesting that social interaction can more profitably be compared to the exchange of ideas in a conversation than to the interaction of forces in a physical system" (ibid., p. 128). It is all of this that leads him to claim, famously, that "any worthwhile study of society must be philosophical in character" but also that "any worthwhile philosophy must be concerned with the nature of human society" (Winch, 1964, p. 8).

I am left a little uncertain as to whether Winch makes the case for philosophy as such as the source of understanding of human constructs of meaning or whether he points rather (and more obviously in *Understanding a Primitive Society*) to what might be recognised as ethno-philosophy. A classic of this genre is Marcel Griaule's *Conversations with Ogotemmeli* (Griaule, 1965) based on extensive periods of study of the Dogon people of the Upper Nile over a period of 25 years and eventually the extraordinary opening up of the Dogon world to an outsider contained in a record of 30 successive days of conversation (each one reported to the people's Council of Elders) in which a tribal elder instructed Griaule in the 'deep knowledge' of the Dogon people. Here is contained not just the anthropologist's external observations of the regularities in a people's behaviour but the whole world of cosmology, mythology and symbolism—the 'deep knowledge' as the Dogon elders recognised it themselves—which gives coherence, meaning and significance to their lives. It is access to this that may render their practices intelligible and enable one to understand their practices in the terms which approximate to the meaning with which they

themselves endow them. To engage with understanding in ethno-philosophy requires nevertheless a philosophical understanding, an ability to see why it would make a difference to start with one set of philosophical assumptions rather than another and what kind of a change of world view would be implied, so perhaps Winch is right in describing such understanding as, straightforwardly, a philosophical one.

9.5 The Humanities and 'the Proper Study of Mankind'

Let me pause to pull together what I think these sources have to contribute to our understanding of what might be elements of 'the proper study of mankind'. This includes, I think, at least these features:

1. It has to reckon with human agency, intentionality and human self-determination and, hence, in research terms, to find some ways of accessing this intentionality and representing it.
2. By extension, it has to reckon with human self-consciousness and human capacity for self-interpretation, and self-transformation, and hence to access an active and dynamic inner world of self-understanding.
3. It has to recognise the sociocultural locatedness of this experiencing, and this includes 'the rules they live by' as well as the big ideas, the models and the philosophical premises that shape that experiencing.
4. By extension, it has to recognise their historical locatedness and their historically evolving character.
5. Further, entering into the minds, the worlds, the language and the understandings of other people, rendering them intelligible, requires an act of intelligent (Vico calls it 'reconstructive') *imagination* but also a philosophical reconstruction of their underlying discourse. These achievements are rendered possible by the fact that we too share in such worlds but challenging because we occupy different historical and cultural spaces.

If we were to grant that there is something important, something persuasive in this sort of account of what is required for the proper study of mankind, where might we look for the systematic and developed forms of enquiry which might furnish the tools for such study? Clearly, for Vico and for Berlin, this points to or at least includes history (or more particularly the history of ideas in Berlin's case). It also points to what today might be called cultural studies and to ethnography. For Winch, this is essentially a philosophical task.[7] But this is to keep the study at a social level—focussed perhaps on communities rather than, as psychology might claim to do, on individuals. For more individual insights, we perhaps need to turn to biography and autobiography but also perhaps to literature, poetry and drama—sources which especially call upon that faculty of imagination or 'recreative imagination' as Hausheer interprets it (Hausheer in Berlin, 1997, p. xxix), of what Vico calls '*fantasia*', to expand human sensibility, empathy and understanding. The same line of enquiry might take us too to what contemporary social 'scientists' might

recognise as phenomenography, aimed at eliciting individual accounts of their own experience and experiencing natures. In all of this, we are, of course, substantially in the domain which academic communities would identify as the humanities, though with important extensions into the forms of social scientific enquiry which most closely approximate to the humanities with their emphasis on rich description, narrative form and entering the minds of the other.

9.6 The *Proper* Study of Mankind

I have gone some way to make a case, albeit an incomplete one, for the centrality of, broadly speaking, the humanities to a 'proper' understanding of human experience, of human being. But there are of course many competitors to this claim across a wide spectrum of academic disciplines—from neuroscience to genetics, from animal behaviourists to psychoanalysts and from political economists to experimental psychologists. There is an evident normativity in the notion of the 'proper' study of mankind. How then can one begin to distinguish between rival claims to importance or privilege in this contest?

Of course, there is what one might regard as the weak argument that all these different disciplines have a place in illuminating human experience—or, by extension, that the question as to what form of enquiry you need to engage in depends on what you are interested in. For example, if you are interested in ways in which humans resemble their nearest neighbours in the evolutionary chain, then the sort of animal behaviour approach taken by Desmond Morris in *The Naked Ape* (1969) might be most illuminating; if you are interested in the impact of certain kinds of brain damage on human capacities, then you will probably need to draw upon some mixture of neuroscience and observational studies. But if you are interested in how human beings experience and deal with moral complexity, neither of these approaches are going to get you anywhere at all.

In an environment in which the humanities seem to be being pushed to the margins of the academy (and have barely a space left to occupy at all in the field of educational enquiry), we might settle with some relief to an acknowledgement that they at least have a place at the table along with other disciplines and can appropriately assist us in answering some questions. But is there a basis for claiming anything stronger than that—even for claiming a pre-eminence for the humanities in their contribution to human understanding in the face, for example, of such works as *The Selfish Gene* which claim pre-eminence for the study of genetics (Dawkin, 1989)?

It seems to me that any categorical claim to the particular significance of one form of enquiry into human beings over another has to rest on some ontological or metaphysical premises about the very nature of what it is one is dealing with in, to take one version, 'the crooked timber of humanity' (Kant, 1784, proposition 6). It is difficult here to escape some form of essentialism, but if you view human beings as merely a set of conditioned responses to external stimuli (however incoherent such

a view might be), then observing human behaviour and the conditions which shape it will be all that is required. The rich portrayals of moral complexity which characterise the world's great literature, for example, indeed the whole framework of moral discourse, are reduced to elaborate and largely irrelevant cloaks for something which is *properly* understood in much simpler and more basic terms. If, as Ryle sought to argue, there is no 'ghost in the machine' (Ryle, 1976), then there is no place for seeking to enquire into the mental life of human beings. If at the core of human being is a spirit which is enhanced or reduced by the way we live and/or which survives the death of our physical frame, then we need to draw not just on history, literature and philosophy but also theology to interpret how human lives are lived and understood.

Thus, the normatively laden question of what sort of enquiry is important to 'a proper understanding of mankind' is rooted in a metaphysical and ontological question of what it is to be human. By extension, perhaps, 'The highest form of knowledge is for the human knower to know what makes the human, human. What is the nature and meaning of humanity?' (Verene in Vico, 1707/1993, p. 4).

Vico, Berlin and Winch together (if with different emphasis) draw attention to some rather different features of what it is to be human, of the very stuff of humanity, from those favoured by the zoologist and geneticist referred to above or to those that might be observed by the behaviourist psychologist or the neuroscientist—to human beings as:

- Participants in shared and historically evolved languages and ways of life
- Historically and culturally located
- Creators of meaning and bestowers of meaning
- Understanders and interpreters
- Self-conscious and intentional choosers exercising determination over their pathways through life
- Creatures in whom rationality and intellect are integrally combined with fantasy, passion and emotion
- Responsible agents in a social and moral space

Human beings do not just have sex, they make love (and worry about whether they are 'in love' or not); they do not just feed, they savour the nuances of the food's flavour and its aesthetic presentation, they exercise moral responsibility over its source, and they treasure the companionable conversation which accompanies the meal; they do not just compete for power and ascendancy, they construct elaborate political edifices around preferred and principled ways of life; and in the end, they do not just physically decay, they die at peace with the world, with remorse or in joyful anticipation of the life to come. Not only this but they reflect on, argue about and debate all of the above and their implications; they treat them to extended academic and scholarly enquiry; they represent or reflect them in great and lesser music, art, literature and, of course, philosophy.

I want to say 'this is what it *is* to be human', but I do not really know how to answer the sceptic who insists that humanity is ontologically undistinguishable from any other physical or organic substance that occupies the universe or any other

order of things around which the enquiries of the natural sciences are organised. The response to such scepticism can perhaps only be drawn through a dialogic process with such protagonists. For just as no one actually seems to lead their lives as if everything was predetermined and out of their control, even if they defend some form of determinism as an intellectual position, nor does anyone live their lives as if the kind of features of human experience which I have highlighted here are insignificant. Our entire linguistic and cultural repertoire is saturated with these sorts of assumptions, the abandonment of which would make life as we know it not only hugely uninteresting but unintelligible and impossible.

9.7 And Psychology?

I have made a case for the kind of understanding that is required for the proper study of mankind and indicated that this is provided pre-eminently by the humanities including history, literature, auto/biography, philosophy and (notwithstanding Alexander Pope's warning) theology but also by certain forms of social science that fall, perhaps, closest to the humanities, notably cultural studies and ethnography. There is a case, too, for including in this category forms of psychology, notably phenomenographic approaches, which perhaps have the greatest proximity to the humanities.

This argument has the normative consequence of subordinating to the humanities those branches of psychology that seek in Weber's terms not interpretative understanding but causal explanation—on the grounds that these fail to engage with the very nature of the human. It is not however intended to exclude the contribution which psychology can and does make to education. Indeed, Vico himself strongly underlined this contribution. Never mind William James,[8] "Vico is the true forerunner of educational, and especially child educational, psychology", and "the authentic precursor of Rousseau" claims Gianturco (in Vico, 1709/1965, p. xxix). This claim rests on Vico's analysis of "the specific, non-interchangeable, 'non-fungible' character of each of the stages of growth of the human mind"; "the unique quality of the child's reaction to reality"; and the shift of attention in Vico "from educator to pupil, from formalism in curricular content to modes of apperception and living assimilation" (Gianturco in Vico, p. xxviii and xxix).

9.8 And Education?

As this assessment suggests, Vico does in fact write extensively about education—especially in *On the Study Methods of Our Time* and *On Humanistic Education*. Vico is indeed credited with being a precursor of Rousseau in his educational thought. Gianturco observes, for example, the following common themes i n their writing:

> the self-creativeness of human nature…;the defence of the child's world against the oppression of the adult; the conscious certitude that the positive results of any educational method are

> dependent on the recognition of the functional autonomy of child-hood; the thesis of the predominantly non-rational nature of the child; the incongruity of a type of education that proposes the turning out of "erudite adolescents and senile children" (Gianturco in his introduction to Vico, 1709/1965, p. xxviii).

In the sixth oration in *On Humanistic Education,* for example, Vico begins with an attack on parents who "without exploring the inherent constitution of their children and without discerning their native talents, push the youth to study one or another of the arts or sciences, and often contrary to their inclination, on the grounds of their own desires or to satisfy family needs. Or if naturally inclined to these studies they are often pushed into them without adequate preparation in related studies" (Vico, 1707/1993, p. 126)—two eminently sensible principles in a single opening paragraph.

This is a direction of enquiry which I hope to pursue, but in this chapter, my focus is on the consequences of the broader defence of a humanistic education for educational policy and practice—and it is to these that I shall turn in conclusion.

The implications of the analysis of human or humanistic understanding for education can be stated briefly and boldly—and they are very far reaching. First, it follows that the humanities must be a key part of any school curriculum that aspires to be educational—their absence leaves not just a cognitive gap but an existential barrier to the entrance of a new generation to the human condition. Second, the humanities need to be part of the offer of any institution which claims to be a university and hence to represent the major traditions through which understanding of both the natural and the humanly constructed worlds are advanced. I have gestured towards rather than tightly defined what such 'humanistic' studies might consist of. Vico's own curriculum thinking was framed by the medieval Trivium (grammar, rhetoric and logic) and Quadrivium (arithmetic, music, geometry and astronomy) but more especially by the *Studia Humanitatis* which Renaissance humanists created by excluding Logic from the Trivium and adding history, Greek, moral philosophy and poetry to grammar and rhetoric (Verene in Vico, 1707/1993). Today's framing of the humanities in terms of, centrally, history, literature (and language) and philosophy clearly owes much to the *Studia Humanitatis* tradition.

Third, they need to be present in the resources (frameworks of understanding, bodies of literature, methods of enquiry) which are brought to bear to educational (or for that matter any other human or social) enquiry. Attempts to reduce such enquiry to only that which can lay claim to scientificity, or even more narrowly to elevate one form of scientific enquiry, the randomised controlled experiment, to privileged status as the 'gold standard' for educational enquiry (see Bridges, Smeyers, & Smith, 2009 passim) are an intellectual offence against humanity. Those that continue to advance the case for, for example, history (including 'contemporary history'), philosophy, (auto)biography and narrativity, political theory, discourse analysis and contribution of literature (including fictional stories) to educational understanding (see again Bridges et al., 2009 passim for examples of most of these), are firmly based in the tradition of the *Scienza Nuova* which Giambattista Vico established. Such differentiation of different kinds of knowledge can be misleading, however, because for Vico these are all required to contribute to *paideia* (self-knowledge), to *sapientia* (holistic understanding or wisdom), to *prudentia* (prudence—the Latin version of the more

familiar Greek *phronesis* or practical wisdom) and, importantly, to *eloquentia,* that is, the ability to put all of this into words with a view to explaining and persuading other people—'*sapienza che parla'* (wisdom that speaks) as Vico referred to it in his autobiography (Vico, 1728/1963, p. 199).[9]

I suggest, then, that the humanities provide not only the fundamental categories and conceptual frameworks without which we cannot make sense of human experience but also the literature which can prepare us for this task, furnish us with extended experience beyond our own lives and sensitise our imaginations. They can also provide us with the means to represent what we come to learn and understand and communicate it to others—through rich description, through portrayal but perhaps pre-eminently through narrative. As Bob Stake wrote in his contribution to the landmark publication *Beyond the Numbers Game*:

> We need a reporting procedure for facilitating vicarious experience. And it is available. Among the better evangelists, anthropologists and dramatists are those who have developed the art of storytelling. We need to portray complexity. We need to convey holistic impression, the mood, even the mystery of experience. (Stake, 1977, p. 164)

For me, at least, this is a direction that has much more allure than the scientistic pretensions of psychology.

Notes

1. As I write, *The Sunday Times* reports that under far-reaching proposals currently under consideration by the UK government ministers are considering plans to slash funding for teaching in universities by two-thirds and "remove state funding altogether for arts and humanities degrees" (*Sunday Times*, 2010, p. 1). Such disaffection from the humanities has been brewing for some time. Already in 1965, Gianturco was complaining in his introduction to Vico's *On the Study Methods of Our Time*: "In our milieu, so intensely penetrated on the one hand by mathematical intellectualism, by science worship, and on the other, by an exacting pragmatic utilitarianism, the inevitable outcome has been the downgrading of the humanistic disciplines" (in Vico, 1709/1965, p. ix).
2. Many of the sources drawn on in this chapter were published before authors or publishers became conscious of the gendered character of much of our language. I have not sought to change the original or to draw attention to it on every occasion, and I have tried to avoid carrying the language into my own text except where necessary for consistency with what my own text is referring to. I hope this is sufficient acknowledgement and apology.
3. Cf. James (cited above) seeking for teachers "to *reproduce sympathetically in their imagination*, the mental life of their pupil as the sort of active unity which he himself feels it to be" (James, 1899, p. 3).
4. I should acknowledge in this context that the main target of Winch's argument is against the scientific pretensions of sociology rather than psychology, but since, in Winch's argument as with Vico and Berlin, the individual's construction of

meaning is inextricably implicated in the social construction of meaning, Winch's arguments carry important implications too for the limitations of scientific psychology.

5. He offers as examples birth, death and sexual relations.
6. Winch is at pains to emphasise that he is not simply using rules here in the sense of laws and regulations but rather in the sense of the underlying principles and values that shape a person's way of living. Thus, "it is just as true to speak of the anarchist following rules in what he does as it is to say the same thing of a monk. The difference between these two kinds of men is not that one follows rules and the other does not; it lies in the diverse *kinds* of rule which each respectively follows" (Winch, 1958, p. 52).
7. Interestingly, Vico (like James) is anxious to protect common sense and 'eloquence' against an excess of philosophy in the curriculum, noting that "there is a danger that instruction in advanced philosophical criticism may lead to an abnormal growth in abstract intellectualism" (Vico, 1709/1965, p. 13).
8. The difference is perhaps that Vico might not have laid claim to the 'scientific' psychology which is attributed to James.
9. Vico's position at the University of Naples was indeed as professor of eloquence in which role he gave a series of seven annual 'inaugural' orations, the first six of which are published in *Humanistic Education* and the seventh in *On the Study Methods of Our Time*. Perhaps Vico's emphasis not only on *sapientia* and *prudentia* but also *eloquentia* has something to offer to us at a time when there is constant complaint about researchers' inability to or lack of success in communicating their ideas to a wider public or having impact on policy or practice. Verene's account of *eloquentia is,* I think, worth highlighting as a set of qualities which deserve more consideration by educational and other researchers:

> Eloquence does not refer to the fine turns of phrase that may be used, although these are of considerable importance. It refers instead to the ability to speak about the whole of the subject. Eloquence is the quality a speech needs to be complete, to encompass all the dimensions of a subject, to connect up its smallest details and its largest dimensions and perspectives, to make a beginning and to speak through to an end that takes each listener through all the relevant aspects of the subject, including the digressions, but brings the listener always back to the point and brings the whole of the topic well into view (Verene in Vico, 1707/1993, p. 7).

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Chapter 10
The Theology of Education to Come

Richard Smith

10.1 Introduction: Psychology and Its Disappointments

We might begin by reflecting on the imperialistic ambitions harboured by the various academic disciplines from time to time. A particular tendency in these ambitions is neatly caricatured by a cartoon entitled 'Fields arranged by purity' (http://xkcd.com/435/). Six stick figures stand along the bottom. The psychologist says to the sociologist on his right (to our left as we look at the cartoon), 'Sociology is just applied psychology'. The biologist on his left, clutching an octopus, says that psychology is just applied biology. Next along is a chemist declaring that biology is just applied chemistry—which, says the physicist next in line, 'is just applied physics. It's nice to be on top'. At the extreme right of the cartoon, separated by some distance from the others, a final stick figure calls to them: 'Oh, hey, I didn't see you guys all the way over there'. The speaker is a mathematician.

The institutionalised study of education exemplifies only too well the broad point being made here. Just as the sociologist stick figure turns away from her colleagues at the bottom left of the cartoon, perhaps in despair or embarrassment, so too sociology in the UK has declined grievously as a discipline of education from its eminence in the 1960s to the point where many university departments of education now have no specialist in the field at all. Those who identify themselves as psychologists, by contrast (phraseology that I use simply because they may or may not hold formal qualifications in psychology), are very much more numerous. It is perhaps significant that, over the same period in which sociology of education has declined, the psychology of education has flourished partly by moving towards the right of the cartoon, or at least by promising to do so. The spectacular advances that have been advertised include (in roughly chronological order) a 'scientific' understanding of child development, the construction of teaching machines, the fostering of self-esteem, the diagnosis

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of learning styles, the detection and cure of attention deficit hyperactive disorder and a whole new branch called 'positive psychology' that will tell us what makes us happy and establish 'the science behind your smile' (Nettle, 2005). The new electronic and Internet-based technologies naturally attract the attention of psychologists. The latest thing is 'brain learning', through the alliance of psychology with neurology and MRI scans. Thus, the stick figures of biology and chemistry currently hold pride of place, no doubt looking nervously over their shoulders at the physicist and the mathematician, as if the Large Hadron Collider might identify a subatomic educational particle whose discovery would render all other ways of understanding education redundant.

Psychology thus seems to have a facility for attaching itself to the parts of science that are from time to time on top, to use the stick physicist's phrase from the cartoon; at the same time, it is readily identified as the default discipline for education. Even people who like to think of themselves as of a practical cast of mind, who regard the history, sociology or philosophy of education as at best an unnecessary luxury, tend to take the value of psychology for granted. Education, after all, is about learning, and psychology will surely tell us about how people learn and how they might learn better. It will tell teachers how to modify children's behaviour, design better instructional material and even manage professional relationships with their colleagues and cope with their own stress. It will, in short, provide answers. And of course, it will tell us what works—what brings results, achieves desired outcomes and improves test and examination scores.

Despite this, however, there is no real evidence to support the assumption that the teaching of psychology to beginning teachers has positive effects, as Lynn Fendler notes elsewhere in this book. Hanich and Deemer (2005) are even more sceptical, noting that concern over the relevance of educational psychology to classroom teaching goes back at least a decade (p. 189), that trainee teachers often complain that what they are taught is little more than common sense (p. 191), and that educational psychologists publish in journals that classroom teachers very seldom read (*ibid.*). Writing in 2006, in the second edition of the *Handbook of Educational Psychology*, published under the auspices of the American Psychological Association, Berliner notes the "label of irrelevance that has plagued our field for a century" (p. 23) and declares that it would be satisfying if "over the next few decades, the perception by educational practitioners that educational psychologists are irrelevant becomes more difficult to defend" (p. 24). Among other critics, Calfee (2006, p. 33) in the same volume notes that the psychology component of courses run in colleges and departments of education is neither well regarded by other academics as 'lacking in high standards of scholarship' nor much appreciated by students, who see it as without practical value.

Disappointment seems to colour too the broader field of psychology of which psychology of education is a subdiscipline. Jonathan Lear offers a variant on "If I had a pound for every time…I'd be rich": "for every time a student came to my office hours and said, 'I tried taking a course in psychology, but it didn't seem to be about *psychology*'. The students can never clearly articulate their sense of *what* is missing, but they are 'filled with longing'" (Lear, 2003, p. 8). Something similar is

true of undergraduate students in the UK, who regularly express surprise at the extent to which their programmes focus on the biological and chemical basis of mental processes. Psychology, it turns out, has little to tell them about the secrets of the human heart, a phrase guaranteed to exasperate any professional psychologist, or about the students' own or their friends' afflictions: depression, eating disorders and self-harm. (These are the province of abnormal psychology and thus all the more prone to being biologised and medicalised.)

Lear suggests that for all the valuable work that is being done in the branches of psychology such as neuroscience and statistical research, the central business of 'giving a logos of the psyche' or 'working out the logic of the soul', first attempted by Plato in the *Republic*, has virtually disappeared (*ibid.*). Plato conceived this, Lear explains, as the project of 'working out *the very idea* of what it is to be minded as we are', and of course what is at stake here is a matter of understanding what it means to have a mind, as opposed to the brain that the neuroscientist investigates. Human beings are creatures who have the capacity for open-mindedness (the title of Lear's book is *Open Minded*), the capacity "to live non-defensively with the question of how to live" (*ibid.*), but who continually evade the exercise of that capacity. We persuade ourselves, for instance, that the acquisition of consumer durables or the attainment of professional status is evidence that we are living well. We value assertiveness and entrepreneurial qualities over the ability to listen, to open ourselves and attend to other people and the world; we are quick to identify and demonise what we call relativism, which is often nothing worse than the willingness to suspend judgement, while attending carefully to particular contexts and situations.

One significant dimension that our defensiveness takes is the tendency to think of other people as readily understandable. A simple test (the Internet offers me one that only takes 2 minutes[1]) will establish whether I am a visual, auditory or kinaesthetic learner. Determining which of the 'multiple intelligences' you specialise in is just as simple and can be used to discover possible career paths[2]. Of course, any respectable psychologist will wince at this debasement of her discipline. But there is an important general point here: by focusing on external differences, perhaps with an emphasis on the relative ease with which they can be resolved if a little good will is brought to bear, we repress the disturbing thought that it is not just understanding other people that is a problem—we are obscure, perhaps unknowable, to ourselves. The idea is familiar—as we like to think—from Freud at least; perhaps this was where our disappointed students were hoping for some illumination.

10.2 The Midst of Life

If I, being unfathomable by myself, encounter you, who are equally a mystery to yourself, then the notion of responsibility, or perhaps even of ethics more broadly, needs to be recast. It will need to be characterised, as Santner (2001, p. 9) puts it, in terms of "my answerability to my *neighbour-with-an-unconscious*". Only when we conceived matters in this way do we "truly enter *the midst of life*, that is, when we

truly inhabit the proximity to our neighbour, assume responsibility for the claims his or her singular and uncanny presence makes on us" (*ibid.*, p. 7, emphasis original). Santner writes that this kind of responsibility or answerability "is at the heart of our very aliveness to the world" (p. 9), and the name that he gives to this pressure to be alive to the world, a pressure largely generated by the "uncanny presence of my neighbour", is God. Like Jonathan Lear, and writing under the influence of the Jewish philosopher and theologian Franz Rosenzweig as well as Freud, Santner sees humankind as uneasy with the question of how to live a life, as inclined to erect defences against taking the question to heart. In our everyday life, he writes, we are creatures who spurn that being in the midst of life which is the presence of God. "Everyday life includes possibilities of withdrawing from, defending against, its own aliveness to the world, possibilities of, as it were, not really being there, of dying to the Other's presence" (*ibid.*). We need the therapy that consists in "a labor of traversing, of working through, the fantasies that in one way or another close us off from the midst of life, keep us, as it were, from living every-day life as on a holy-day" (p. 10).

Of course, it would be a mistake to assume we know what Santner means by 'God' and 'holy' here, as if the words bear their common and familiar senses in which, for instance, someone might talk of going to a church service to hear the word of God or remark that Stonehenge seems to have been a holy place for the people who built it. 'The midst of life' is not to be identified with conventional pieties: these may in fact be prominent among the fantasies that close us off from it. What sense can we make of this idea of being in 'the midst of life' if it does not speak directly to us? We might come at it via the idea of an epiphany, the unsettling and brief intuition of a dimension beyond the ordinary. For example, at the beginning of T. S. Eliot's *Burnt Norton*, the first of the Four Quartets, the narrator enters the rose garden of an old country house and senses that it is inhabited by echoes, by unnamed beings "dignified, invisible, / Moving without pressure, over the dead leaves, / In the autumn heat, through the vibrant air…". The very roses "Had the look of flowers that are looked at". The leaves are "full of children, / Hidden excitedly, containing laughter". A bird that has already called out in response to the 'unheard music' of the place now calls again:

> Go, go, go, said the bird: human kind
> Cannot bear very much reality.

The reality we cannot bear is not our quotidian world but what is figured by the epiphany in the garden, the sense of the transcendent of which we are here offered a glimpse.

The plenitude or surplus of meaning here is closely related to the 'too-muchness' of the psyche that psychoanalysis recognises. If it seems odd that psychoanalysis and the Freudian notion of the unconscious are marginal to modern academic, educational and clinical psychology, we might remember Freud's famous words on the essential inefficacy of psychoanalysis. It is one of "those 'impossible' professions in which, even before you can begin, you can be sure you will fall short of complete success. The two others, known about for much longer, are education and government"

(Freud, 2002, p. 203). It is little wonder that modern, institutional psychology, obliged to deliver results to its paymasters, is uncomfortable with this and even perhaps finds it useful to define itself against it. And we might reasonably wonder if there is indeed an element of fantasy in the strength of this repudiation, and in the determination to offer the credentials of statistics and neuroscience, suspecting that these are defences against the irruption of something that cannot be controlled or safely managed.

Formal education—the second impossible profession—perhaps partly because it turns to educational psychology in the hope of dealing with its very impossibility, does not cope well with children's constituent too-muchness. A long and rather dismal story can be told about the way in which in the UK things are regularly declared to have gone too far in the schools, which need to return to the wholesome business of inculcating mental arithmetic and the dates of the kings and queens of England. Yet when children are still given the opportunity for play, whether in the form of the dressing up clothes that can still sometimes be found in the infant classroom or in the relative anarchy of the playground outside the school, it is hard to watch them without concluding that we are seeing this very too-muchness breaking out. So too, in a quieter way—look at their transfixed faces—if you tell them myths and legends from any civilisation or read them a story from the kind of children's writer who understands these things and whose work resonates for them.

Here, one might wonder about the extraordinary success of the Harry Potter books and films and just what repressed capacities and energies they have tapped into. The Boy Wizard bursting with magical powers, whose brushes with death and evil already are reminiscent of Beowulf or Siegfried, sleeps in a cupboard beneath the stairs at Number 4, Privet Drive: an address whose name evokes privation and the bourgeois conventionalism symbolised by the privet hedge. Too-muchness here, we might say, concealed in all-too-little. The magic of the world of Hogwarts seems to be a declaration that, to paraphrase Shakespeare, there are more things in heaven and earth than are usually dreamt of (*Hamlet,* I. 5). Yet this too elides into the instrumentalism that is the modern world's standard mode of rationality: spells and potions are above all particularly efficient and effective devices—a good spell has a near-perfect input/output ratio, requiring only an incantation to secure the result—by which Harry and the other favoured children get their way and achieve their purposes.

It is worth dwelling a little on the quotation from Hamlet. Hamlet and Horatio have just encountered the ghost of Hamlet's father, which would be disturbing for anyone, but particularly shocks the over-rational Horatio:

> Horatio**:** O day and night, but this is wondrous strange!
> Hamlet: And therefore as a stranger give it welcome.
> There are more things in heaven and earth, Horatio,
> Than are dreamt of in your philosophy.

And therefore as a stranger give it welcome. The radical alterity that Horatio is asked to embrace is Santner's 'answerability to my neighbour with an unconscious'. Moreover, 'as a stranger' is ambiguous here: Horatio needs to acknowledge that he is a stranger to himself before he can be hospitable to radical alterity, or perhaps it works in both direction, and cultivating that hospitality will help him acknowledge

his interior otherness (Rubenstein, 2008, p. 78). My neighbour's uncanny presence means that, in a Levinasian way of putting it, responsibility precedes ontology: the hospitality to the 'stranger' demanded of Horatio is unconditional, not contingent on knowing anything essential about the Other. We encounter the Other as a mystery and not on the basis of anthropological or any other kind of knowledge.What is sometimes described as the 'new visibility of religion' or philosophy's 'turn to religion' (de Vries, 1999) is partly a response to what is felt as the demand to conceive alterity and responsibility in these Levinasian terms. This is a religion without religion, or at least without religion as it would usually be understood; perhaps it is 'theology without religion' (Robbins, 2004). This theology is apophatic or negative, the *via negativa* where God is the name for no kind of reality, still less of consolation, but is beyond anything we can conceive—is always beyond, far beyond anything we can expect to be realised or essentialised. The transcendence of God is beyond speech and language; no better do we know how to speak of radical alterity, the *tout autre*. If anyone is uncomfortable with talk of religion or theology here, they can take comfort in the idea that it is a figure of speech, a trope; though we might want to ask them later what they are thereby saying it is not, and what they suppose is the difference between this and negative theology as a trope (we never suggested that they might think of it as *only* a trope). John Caputo sometimes seems tempted to think of Derridean deconstruction in this way:

> Derrida finds in negative theology a unique and irreducible idiom for answering the call by which we are all addressed, whether our discursive inclinations are theological, antitheological, or a/theological (or something else). For we are all— this is Derrida's wager— dreaming of the wholly other that will come knocking on our door (like Elijah), and, taking language by surprise, will tie our tongue and strike us dumb (almost), filling us with passion. (Caputo, 1997, p. 3)

Those drawn to the apophatic or negative tradition are often struck by our human propensity to see God, faith and prayer in terms of our familiar world and its mundane fears and aspirations. The *via negativa* requires us to put all these to one side and undertake *kenosis*, an emptying of the soul, a voyage into spiritual darkness. T.S. Eliot puts it thus (*Four Quartets,* East Coker, section III) in words that echo St. John of the Cross:

> I said to my soul, be still, and wait without hope
> For hope would be hope for the wrong thing; wait without love,
> For love would be love of the wrong thing; there is yet faith
> But the faith and the love and the hope are all in the waiting.
> Wait without thought, for you are not ready for thought.

10.3 Towards a Theology of Learning

Negative theology does not offer a mappable path, linear and sequential, nor does it offer us the consolation of feeling that we are moving on, ticking off achievements as we go. Psychology, by contrast, in its applications to education has been strongly

inclined to tell us that children need to learn *this* before they can learn *that*, that there are stages and phases of cognitive and moral development. These are most associated with the work of Jean Piaget, in the field of cognitive psychology, and Lawrence Kohlberg, in moral psychology. Their work has been increasingly criticised from within psychology itself (e.g. Donaldson, 1978), but its influence is profound, not least in the UK National Curriculum which distinguishes four 'key stages' between 5 and 11 years. But perhaps learning is not always a matter of building and progressing: sometimes it involves remembering, forgetting, going backwards and going over the same ground again and again. All this is familiar from Plato and what is often held to be his (or Socrates') protreptic view of philosophy which casts meaningful learning as more like a conversion, a reorientation of the soul, than the steady accumulation of knowledge.

Such reorientation lies in the decentring or 'unselfing' that Simone Weil calls *décréation*, which closely resembles the idea of *kenosis*. "Each man imagines he is situated in the centre of the world" (Weil, 1951, p. 114), and we underestimate the journey of renunciation if we think it involves anything less than the whole of our soul. Where psychology tends to explain intellectual development as the child's increasing deftness in categorising experience, *décréation* requires seeing things and people in their unique particularity:

> Contrary to what is commonly believed, one moves from the general to the particular, from the abstract to the concrete. (This has important consequences for teaching.) … It is art which, best of all, gives us the idea of what is particular…And art has its origin in religion. It is due to religion and art that one can arrive at a representation of what is individual. (Weil, 1978, p. 59)

Resisting the demands of our selfish, nagging egos leads to an altogether different and heightened sense of reality, and the more we achieve that, the more our egoism dwindles and ceases to haunt us. "The soul empties itself of all its own contents in order to receive into itself the being it is looking at, just as he is, in all his truth" (Weil, 1951, p. 115).

There is a strong flavour of both negative theology and of Plato in the writings of Simone Weil: she had Jewish ancestry, and it is sometimes said that she is best understood as a kind of neo-Platonic, Christian mystic. Her vision of humankind is that we reach for the consolations of false versions of religion and surround ourselves with the comfort of fantasy. Like the prisoners in Plato's Cave (*Republic,* Book VII), we mistake shadows for reality and are reluctant to shake off our chains, to leave the warmth of the fire that casts those fascinating shadows and to emerge into the harsh light of the sun. She calls this condition of humankind 'gravity': a condition as natural to us as the propensity of objects to fall to the ground. Our intelligence and capacity for reason and even our moral judgement are untrustworthy guides to us here, for we may use them in the wrong *spirit* (hope would be hope for the wrong thing; love would be love of the wrong thing).

The distinctively negative theology here, reminiscent of the mysticism of Julian of Norwich, or of Zen Buddhism whose guiding idea according to Simone Weil is "to perceive purely, without any admixture of reverie" (Weil, 1951, p. 109), is caught

by the centrality in her thinking of the idea of *attention*. To attend properly is to break out of our usual cloud of private anxiety and fantasy. It is to see in a steady and purified kind of way rather than 'through a glass darkly':

> Attention consists of suspending our thought, leaving it detached, empty, and ready to be penetrated by the object; it means holding in our minds, within reach of this thought, but on a lower level and not in contact with it, the diverse knowledge we have acquired.... (*ibid.*, p. 108)

Moral judgement and discernment are of course vital, yet so far from being a business of stages and phases, moral discernment may come, almost *ex nihilo*, when the quality of our attention is sufficiently pure. This state is what Simone Weil calls *grace* and is what we achieve when, to use the title of one of her works, we 'wait on God' (the faith and the love and the hope are all in the waiting). These are indeed exalted and mystical ideas, but Weil is clear that they apply to and should be grounded in everyday educational practices. She writes that "the development of the faculty of attention forms the real object and almost the sole interest" of school study (*ibid.,* p. 109). An exercise in writing Latin prose, or a geometry problem, can constitute a training in true attending. School study can thus have powerful spiritual effects, Simone Weil insists, "quite apart from any particular religious belief" (*ibid.*, p. 116).[3]

Meanwhile, here in our everyday version of Plato's Cave, we go on preferring the regularity of the linear and the sequential, of developmental stages and phases, of university modules that have prerequisites and co-requisites. These things lend themselves to diagrams and flow charts, and all the rest of the bureaucracy of learning, a bureaucracy in which psychology often seems to be complicit, that comes to seem inevitable:

> while the world moves
> In appetency, on its metalled ways
> Of time past and time future.
>
> (T.S. Eliot, *Four Quartets,* Burnt Norton, section III)

10.4 The Education to Come

Søren Kierkegaard asked himself if he lived in a Christian country. His answer was that 'Christendom' was an 'Enormous Illusion':

> Everyone who is in earnest and also with some clarity of vision considers what is called Christendom, or the condition in a so-called Christian country, must without doubt immediately have serious misgivings. What does it mean, after all, that all these thousands and thousands as a matter of course call themselves Christians! These many, many people, of whom by far the great majority, according to everything that can be discerned, have their lives in entirely different categories, something one can ascertain by the simplest observation! People who perhaps never once go to church, never think about God, never name his name except when they curse! People to whom it has never occurred that their lives should have some duty to God, people who either maintain that a certain civil impunity is the highest or do not find even this to be entirely necessary! Yet all these people, even those who insist that there is no God, they are all Christians, call themselves Christians, are recognized as Christians by the state, are buried as Christians by the Church, are discharged as Christians to eternity! (Kierkegaard, 1998, Part II chapter 1, p. 41)

Kierkegaard's point was not that there was something especially hypocritical about the Denmark of his time. Nor was it simply that people mistake the forms of religiosity—going to church, having one's children baptised, using a certain kind of language and so on—for a fuller spiritual engagement, though no doubt many did and do. It is more that the reassurance of the conventional practices of religiosity keeps us at a distance from Christianity, and that this is in part why we turn to them. In this way too, we spurn being 'in the midst of life'. They may be a defence against the serious, perhaps terrifying, demands that true Christian commitment would make (Lear, 2003, p. 23). We know of course in our more thoughtful moments that being a Christian is not just a matter of living in a particular kind of society and going to church at the appointed times, but we fail or refuse to make the unease or discomfort which that knowledge should provoke a continual and vivid part of our daily Christian life. We are happy to say, ruefully, 'Ah, I'm only too conscious of how far I fall short'—hardly more reflectively than our instinctive 'sorry' when we come up against somebody in a crowd.

Kierkegaard advises us to think less in terms of 'being a Christian' than 'becoming a Christian'. Christianity and Christendom are always an aspiration, always beyond, always to come, in something like the same way that Derrida writes of justice, hospitality or the gift as always to come, a matter of *l'avenir*. For Kierkegaard, this is connected with the idea, which he takes explicitly from Plato's *Symposium*, that we are by nature passionate, erotic creatures. Passion or *eros* is what he calls 'the genuinely human quality'. *Eros* is yearning and lack: in the *Symposium*, we long to be reunited with the other half of ourselves from which we were severed by Zeus as punishment for our hubris. Not only do we know we lack something, we also sense, in Kierkegaard's account, that we lack the knowledge of just what it is that we lack. Our condition is one of continual and incoherent longing, of forever reaching out for something beyond. This is the movement of becoming that he calls 'existence'.

Does this way of putting things not capture something important about education? If we wonder whether, for all its impressive examination results and other achievements, this school or that college is offering its pupils or students an education, it is not with the expectation that, by making various changes, we should, at some point in the future, be able to sit back and reflect that now we have done it; this is now a truly educational school. So, too, it might be that any progress towards this that we liked to think we were making had something of the character of a defence against acknowledging the shallowness or fundamental ill-conceivedness of our sense of education. A friend tells me that the vice chancellor of his university is fond of telling his students that they should not let their degree get in the way of their education. By this, apparently, he means that it is a pity if they spend 3 years in the library and lecture halls, and neglect the opportunities for playing rugby, making parachute jumps for charity and taking on pastoral roles in their halls of residence. 'In talking like this', my friend reflects, 'he seems to blind himself to the possibility that university study itself might be more educational and less an instrumental business of achieving the good degree that will open the way to a respectable career'. Of course, a properly educational experience of a university might be expensive, would certainly be unquantifiable and would leave the students dissatisfied and with a longing for something unnameable beyond.

The familiar idea that education has intrinsic value, that it exists not for the sake of something else but 'for its own sake', can be understood, at least in part, in the terms I have been sketching. When we say education is simply a good in itself, we gesture in the direction of the beyond and refuse to settle for a determinate purpose or meaning. We know what the conventional forms of 'education for its own sake' look like, just as we do know the conventional forms of Christianity: history or literature or science will be taught with emphasis on the intrinsic interest of the subject and not with a focus on instrumental payoffs in the shape of examination results or opportunities for paid employment. But, again as with Christianity, those conventional forms can stand in the way of pressing the question: yes, but what is educational here?—the question that we try to address when we talk of the expanding of the pupil's horizons, the enrichment of the imagination or the enlargement of humanity. These ways of talking too only point to that 'beyond' whose demands properly inspire us with a sense of the vastness of the task and our own educational shortcomings, our lack of sufficient educatedness which seems to disqualify us for educating others and yet paradoxically, if we bear it in the right spirit, is essential for making the attempt.

10.5 Beyond Psychology

A *conclusion* would seem more than usually unapt here: a closure, wrapping up, a pulling down of the shutters against a glimpse of the beyond. Fortunately, there is nothing conclusive about this chapter. I have argued that theology, of a particular sort, offers us a perspective from which we can make sense of a number of puzzling features of the educational landscape; that it frequently does this at the *very* points where the discipline of psychology provides little illumination. I am tempted to make the uncompromising claim that we should think of theology as the central, or most important, discipline of education. No doubt that would not be taken seriously: it might even be thought tongue-in-cheek or ironic. A further section, if there was space, or perhaps another paper yet to be written, might explore the interesting connections between the inconclusive and the serious and how the one does not preclude the other.

Psychology of course is by contrast a properly serious business and will show us how to make children and young people into more successful learners. The perspective explored in this chapter, however, explains something that psychology cannot: it explains that education is always bound to fail. It fails in the way that praying to win the lottery fails, because just as that was not what prayer was supposed to be about so too we expect education to 'produce the goods', and the wrong kind of goods at that. Education is bound to fall short, because it is the nature of education, no less than of Christianity, that it is always to come. That is why our stance towards it can only and rightly be one of *faith*.

Notes

1. http://www.ldpride.net/learning-style-test-b.html
2. http://www.ldpride.net/learningstyles.MI.htm#Multiple%20Intelligences%20Explained
3. I have drawn in this section on elements of my entry (2001) on Simone Weil in Joy Palmer (Ed), *Fifty Key Educational Thinkers.* Routledge: London.

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Chapter 11
Learning Is Not Education

Nicholas C. Burbules

We are in an era that prioritizes learning in the teaching-learning relation. Educational journals are rife with discussions of learning theories, learning materials, learning outcomes, learning communities, learning networks, the learning society, formal learning, informal learning, group learning, active learning, discovery learning, learning curves, learning cycles, organizational learning, machine learning, learning disabilities, learning management systems, the learning sciences, and—inevitably—metalearning (see Burbules, 2006). My own work lately has been dealing with the idea of 'ubiquitous learning,' or anywhere/anytime learning made possible through portable computers and pervasive wireless connectivity (see Burbules, 2009).

The point behind emphasizing learning is that the bringing about of learning can happen through many kinds of influences besides teaching (self-learning, incidental or indirect learning). Furthermore, teaching often does not result in learning. Better understanding the learning process, however, can improve teaching. Psychological accounts of cognition, memory, mastery, and transfer are all key parts of a theory of learning, and these are useful understandings for educators to have. But in this chapter, I want to analyze why a theory of learning is inadequate to support a broader understanding of education—which is a fairly obvious point—but also how framing educational issues solely as *learning* issues neglects crucial dimensions of how learning gets enacted in concrete human activity. This latter argument has implications for assessment and other ways in which we try to *measure learning*.

First, though, I want to say that the shift in focus toward learning has had some beneficial aspects. A focus on learning involves a focus on the student: the student's mind, the student's interests and needs, and the student's 'learning style.' This is important. Too often, teachers think more about what they are trying to teach ('covering

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the material'), what they think is important to talk about, and the ways of organizing ideas that make sense to *them*. None of these necessarily matches up with the student's learning processes. Thinking about the conditions that facilitate and support learning can attune teachers to the range of factors that promote successful learning beyond what they might be aware that they are consciously teaching—for example, pace and timing—or fit with developmental conditions that affect the student's readiness to learn. A general shift of thinking from 'what is taught' to 'what is learned' helps clarify when teaching is an *achievement* verb (i.e., saying that 'teaching' occurred *entails* that learning resulted) and when it is a *trying* verb (i.e., when 'teaching' is used to refer to a set of activities that are intended to produce learning, but which might not actually do so). Because so much of what we write about education is directed toward the point of view of the teacher—teaching improvement, Socratic teaching, emancipatory teaching, and so on—we tend to assume that improving teaching is the necessary locus of improving learning. But as we become more aware of the circumstances by which students often teach themselves, or teach one another, or participate in what I have elsewhere called 'self-educating communities,' the more we realize that the distinct role of the teacher as the focal point of advancing educational attainment may be less central than we imagine it to be (Burbules, 2009). So the account here is not antipsychology or antitheories of learning per se.

11.1

Learning needs to be enacted. Just because something is learned, or because we have mastered an ability to do something, does not mean that we actually do it. A person might have learned to read, but this does not make them an active reader; they *can* do it, but they may have little desire to do it. In some areas, the processes of learning certain things (e.g., forced music lessons) may themselves actually *lessen* the pleasure in and desire to do so on one's own. So learning, even successful learning, is not a sufficient outcome in itself. Something more, something which itself is not exactly 'learned,' is necessary for the enactment of learning, I will argue.

Now, according to behaviorism, *everything* is learned. Motivation and desire to do certain things are themselves 'learned' in the behaviorist sense of operant conditioning: when certain behaviors have been reinforced through prior rewards, we are more likely to continue them even after the rewards are not as consistently forthcoming. I do not think I have to rehearse the arguments here about why this account is inadequate, but I will say that the implied determinism of this model obscures any meaningful consideration of the factors of choice and desire that lead people to enact what they have previously learned how to do; learning by itself does not fill out that picture.

Hence, we need to consider how learning outcomes (learning how, learning that—to paraphrase Gilbert Ryle) come to be manifested in actual doings. One aspect of this process concerns dispositions, motivations, or desires to engage in learned activities; this connection is not automatic, as shown by the examples of reading or playing music. I think it is only by a kind of circularity that one can argue

that the propensity to engage in learned activities is itself learned. These elements (disposition, motivation, or desire) entail *choice*—choices that can sometimes be made and sometimes not. Why people choose to read, what they read, how much they read cannot be seen as learned outcomes themselves: they are too contingent on individual factors, contexts, and circumstances. Two people who have learned the same thing may enact it in different ways; even the same person may enact it in different ways in different circumstances.

There is a great deal of research on the problem of 'transfer': why someone who has successfully learned something and enacts it successfully in context A fails to enact it in context B—the physicist who forgets the laws of physics when driving a car, the physician who smokes, and the teacher who fails in teaching her own children despite having taught thousands of others in the classroom. What the problem of transfer shows is that learning, successfully learning, a particular *how* or *that* might still yield uneven and unpredictable enactment of that learning depending on context, circumstance, and the vagaries of human choice.

Another aspect of the dynamics of context and circumstance is the role of social relations in supporting and motivating the enactment of what is learned. It is often not simply a matter of individual motivation. Peer influences, support, and encouragement—or their opposites, coercion, peer pressure, and fear of peer judgments—also play a role in the dynamics of choosing to enact what is learned. Here again, the disposition or tendency to enact these capabilities cannot themselves simply have been learned if the influence of others is so important in determining when, whether, and how they are enacted.

These considerations bear even more strongly on such aims as *active learning*, *inquiry-based learning*, and *learning how to learn*. In these cases, I hope it is clear, a motivational element is intrinsic even to the conceptualization of the aim itself: these activities require the elements of interest and enthusiasm if one could be even said to have learned them. They are about becoming a certain *kind* of learner, indeed a certain kind of person (i.e., a person who wants and likes to learn).

This then leads to the final point on this aspect, which opens up even larger questions. Is everything that goes into the kind of person we are a function of learning? To me, the answer is clearly no, even though so much of what makes us who we are *is* a matter of learning. But the kind of person we are is not just the sum total of our capabilities, our knowledge, and the varied experiences that have contributed to our learning. When we think about personality and character, we also think about the choices people make and the ways in which they live and express their capabilities and knowledge—and indeed, this is an area in which our moral vocabulary is particularly rich. We talk about integrity, consistency, achievement, productivity, dependability, and a host of other terms to refer to the ways in which people admirably express and enact their (learned) capabilities—and we have a similar set of morally loaded terms to describe those who do not: sloth, wasted potential, unreliability, and inconsistency. These terms are morally loaded not over the question of whether people *have* learned to know or do certain things but over what they do with that learning. It is because these are matters of choice that we morally evaluate them; if they were merely the result of prior operant conditioning, there would be no

point in passing judgment on them. And so we need to focus not only on learning how or learning that but also on the factors beyond learning that influence when and how that learning is enacted or expressed.

11.2

I believe that it follows from this argument that teaching can never be conceived simply as the bringing about of learning (call that narrow sense of teaching 'instruction'). For teaching to be effective in a broader sense, working to promote learning must be accompanied by activities that help to bring about the dispositions, motivations, or desires in students that cause them to enact their learning. And these sorts of activities look different from those intentionally designed to promote learning. They involve activities more like modeling, encouraging, and facilitating the kinds of conditions that make the enactment of learning more likely: acting in ways that express the teacher's own dispositions, motivations, or desires is part of modeling; engaging students affectively to encourage them to care about certain learned activities, and to *want* to enact them, is part of this wider process; and facilitating and creating classroom conditions (including social conditions of peer approval and support) is also key. These are matters of *influence*, not *instruction*. My point is that these are appropriately called teaching activities, but not, if you will, activities directed toward causing learning. And without those wider teaching activities, the bringing about of learning is relatively empty.

Elsewhere, I have talked about this dimension of teaching as a part of 'tacit teaching' (Burbules, 2008). It is a different kind of teaching for several reasons. One is that its influences are subtle and indirect—its impact cannot be guaranteed and often cannot even be known for certain. Its lasting effects often show up only much later down the road. Second, it engages students affectively as much or more than cognitively (yet without such influences, cognitive goals are thin and often trivial). Third, as I have been arguing, while tacit teaching (e.g., the activities of apprenticeship and 'legitimate peripheral participation' that Jean Lave and Etienne Wenger (1991) write about) can result in 'learning how' and 'learning that,' the tacit dimension of this approach to teaching often also involves drawing students into a culture, a mindset, a set of practices, and a set of social relationships that make that learning matter. This aspect of teaching, I am suggesting, can *only* be accomplished indirectly, tacitly. And it is not directed at learning outcomes per se, but influences manifested in terms of changed behavior and life choices.

11.3

The considerations I am focused on here reveal the essential normative commitments of 'educating' in the broad sense. If education is not simply the mastery of knowledge and skills, not just about preparation for the demands of work and

adulthood, then it needs to be thought of as the bringing about of a certain kind of person, a person who acts in certain ways, cares about certain things, and can be dependably expected to enact his or her learning in a certain manner. It means bringing about the kind of person with the dispositions, motivations, or desires to enact or express his or her learning. It also means, speaking more broadly, helping to promote a wider social context that encourages and supports the enactment or expression of learned abilities.

Expressions like 'bringing about' or 'becoming' a certain kind of person also indicate that this process unfolds over time. It cannot be measured or demonstrated conclusively, at a specific time, and once and for all. We have already seen that even people who have achieved particular learning outcomes can still be inconsistent and unreliable in their expression or enactment of them. Because it includes elements of wanting or choosing to enact learning, and because the success of 'transfer' in terms of a generalized propensity to act consistently in certain ways can be problematic, this process of *bringing about* (from the standpoint of the teacher) or *becoming* (from the standpoint of the student) is open-ended. It is a different kind of outcome, in which the influence of any teacher may be apparent only long after the fact—or in which that influence may itself only be triggered or activated by later events and circumstances. Sometimes, a process of *unlearning* certain kinds of experiences (e.g., the memories of draconian piano lessons) may be necessary in order for these potentialities of choice and desire to be unlocked. All these sorts of influences are educationally important, even crucial; yet, they need to be understood with a different vocabulary than as learning outcomes.

While it is not my purpose here to put forth an encompassing definition of 'education' or what an 'educated person' looks like, I have tried to emphasize the intrinsic elements of disposition, motivation, and desire in thinking about this sort of person and have tried to highlight the largely tacit and indirect elements of teaching, including especially modeling, in helping these qualities to be formed and sustained in people. Finally, I have also emphasized the importance for education to help foster a wider social context that encourages and supports the enactment of learning. It is not an attainment only of individual persons but also of communities and societies that value learning and its expression. (Here, my account relates more closely to traditions like *paideia* or *Bildung*.[1]) Michael Oakeshott raises a related point, which is how learning in a robust, human manner also entails knowing and understanding *that* we have learned:

> Human learning is not acquiring habits or being trained to perform tricks or functions; it is acquiring something that you can use because you understand it…. Nor is learning a teleological process in which a suppositious seed of *humanitas* in each of us grows and realizes or develops what is already potential in it. The nearest we can get to what may be called a distinguishing 'natural' human equipment is self-consciousness…. [S]elf-consciousness is the condition of all human intellectual and imaginative achievement. (Oakeshott, 1989, p. 22)For Oakeshott, *human* learning has this self-aware and self-constituted character. It is an achievement: he calls learning an 'adventure' with no preordained course or destination—"a predicament, not a journey" (ibid., p. 23).

11.4

Finally, as I have indicated, this argument has implications for the assessment of learning. In the present context, 'assessment' generally means testing, where tests are designed to measure whether students have mastered the capabilities of learning how, or learning that. They measure, in short, what can be measured. But such measures only weakly assess the other dimension I have been describing here: the disposition, motivation, or desire to enact learning. Tests might assess the disposition, motivation, and desire to do well on tests—but clearly this is not the same thing. It is not only hypothetical to suggest that a student might perform very well on a test but utterly fail to enact or express those same capabilities in other contexts.

It is hard to avoid the conclusion that the rise of 'learning' as an object of scientific study has risen alongside the growing importance of testable outcomes as the measure of educational success (and of teacher quality). Together, they have established a conception of *education as the effective production of measurable outcomes*. These trends have emerged from a hope that improved techniques for producing learning outcomes—and more rigorous testing to affirm that this has been done—will produce better and more fair educational results. Such policies have always invoked the principles of meritocracy, equal treatment, and democratic accountability, despite all the evidence that they actually narrow the scope of education, demoralize educators, and disproportionately harm students who are already disadvantaged.

Beyond this, there are Wittgensteinian reasons to doubt a measurement-based approach to assessment. In one of the most famous passages of the *Investigations*, Wittgenstein asks how we can tell if someone has learned a rule: in the example given, a fairly simple and straightforward mathematical rule, add two to a series of numbers (2, 4, 6, 8…). The indicator is when the learner says, "Now I can go on!" and can continue the sequence successfully (see Wittgenstein, 1953, I, § 151). However, Wittgenstein argues, there is an indeterminacy here, because the learner, while able to continue the sequence successfully, may be doing so by a different rule than the one intended. No behavior can affirm for certain which rule has been learned or how it is being applied. And this is for a relatively simple and easily quantified rule; extend the argument for even more complex and subtle rules, or areas of learning that are not so clearly rule-governed at all. So, not only is it doubtful whether test performance can conclusively show what has been learned; it cannot show, except in a highly artificial context, the elements of disposition, motivation, and desire. Perhaps, I *can* 'go on,' but do I *want* to?

These considerations thrown into question, I think, the whole idea of how we seek 'evidence' that learning has taken place. It seems that the most commonly used indicators are indirect evidence, at best, and that even when they are successful at measuring the capabilities that have been learned, they cannot, by their nature, assess the motivational elements that determine when, whether, and how those capabilities will be enacted or expressed—and even less so the capacity for 'transfer' of those capabilities into contexts different in nature from the test-taking context. This seems to me a very profound weakness.

11.5

My argument here is not meant to denigrate the value of psychological theories of learning but simply to 'put them in their place.' There are things they can tell us and things they cannot. As I said at the outset, a shift of emphasis toward the needs and capabilities of the learner can be an important corrective to the more teacher-centered ways of thinking many of us bring to discussions of education (because we see ourselves as teachers and want to do it well). Certainly, it can be invaluable information for us to know, as teachers, how students receive, interpret, and attempt to make sense of what we are trying to teach them. Diversity of learning styles is, I think, especially important in this regard, because our natural tendency is to teach all students in the same way—especially in large-group settings. There can be little doubt that simply 'covering' the material, telling students what we think is important, and even offering explanations (that makes sense to *us*) may lead to several kinds of misconnections when they are viewed from the learner point of view.

But I have argued that the notion that everything that makes us into an educated person can be reduced to elements that have been *learned* leaves out crucial elements that cannot be seen as having been acquired through learning—elements without which learning is more or less empty and ineffectual. One way to think about this is a field/background issue: it is what students have learned that might be most salient as a proximate educational outcome, but it is the more latent nimbus of dispositions, motivations, and desires that make such learning worthwhile. Yet these elements are often not so easily observed, especially from the standpoint of transfer to other contexts outside the specifically educational one, because we only observe and interact with our students, generally speaking, within that particular context. If students do not apply their learning in other contexts beyond our control, we can hardly be said to have been successful as teachers.

In closing, and further along these lines, I want to refer to a paper given by our colleagues Maarten Simons and Jan Masschelein at this very conference a couple of years ago (see Simons & Masschelein, 2008). In a 'learning society,' there is the potential of *always learning*—learning in a continuous, ongoing developmental manner. I find something appealing in the idea that our learning is never finished, that it extends throughout our lives. But for Simons and Masschelein, a culture of governmentality takes that potential to be always learning and turns it into a mandate: you *must* always be learning; your work and societal expectations enforce a treadmill of faster and faster obsolescence of learning and hence the urgent need to learn what is new. This turns learning into yet another disciplinary system that emphasizes performativity over the *educational* value of learning. I think they are entirely correct about this. But what their argument also shows is the consequence, in terms of my argument here, of neglecting the elements of disposition and motivation that make us *want* to learn, in favor of a disciplinary system that tells us we *have* to learn. The absence of attention to these factors of choice and desire within some psychological discourses about learning seems to be a significant factor in supporting such a coercive system.[2]

Notes

1. See, for example, the August 2002 issue of the *Journal of Philosophy of Education* (36, 3), which contains several articles on *Bildung*.
2. This chapter benefitted from the comments and suggestions of the FWO Flanders-supported Research Community on the Philosophy and History of the Discipline of Education. I am grateful also to Chris Higgins for the Oakeshott reference.

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Chapter 12
Attention, Commitment and Imagination in Educational Research: Open the Universe a Little More!

Stijn Mus

In the preceding chapters, different angles were taken to illuminate the current appeal of psychology in education and educational research today. The different contributions of this book have spanned a wide range of psychological paradigms and subdisciplines, going from behaviourism and psychoanalysis over psychometrics, developmental psychology and educational psychology to present-day neurobiology. As a result, the attractions that have been identified are equally varied. While the extensiveness of the analysis that is offered provides a very rich picture, it is also prone to generate some conceptual confusion, which makes the jump to general, overarching conclusions particularly tricky. Nevertheless, it is possible to discern some broad lines and to identify some recurrent critiques which accompanied the examined attractions of psychology. In this chapter, Marc Depaepe[1] sets the scene under four headings:

- *Far too easy hypotheses?*
- *Far too easy phrasing of the questions?*
- *Far too superficial conclusions?*
- *Far too broad generalisations?*

These headlines can be read as critiques on the features of certain psychological methodologies as they are exerted within the field of educational research, but they might equally be read as warnings for our evaluation of the attractions psychology seems to offer. As a general observation, psychology appears throughout the volume as a very adaptable social science, which seems to succeed particularly well to transform itself to its 'host discipline'—one could say in this regard that psychology superimposes upon the 'philosophy' of disciplines it attaches itself to. Each of these metamorphoses, however, carries its own properties and troubles, some of which are present throughout the psychological discipline and others which are especially prominent in specific subdisciplines.

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Let us turn to some patterns which have been identified throughout the chapters in this book. I shall first discuss the nature of the attractions itself. Next, I will discuss some of the evaluations or critiques on these attractions. Finally, I will discuss the consequences of the fact that psychology has become the default auxiliary science of education and what this means for educational theory.

At first, a lot of the contributors attribute a part of the attractiveness of psychology in education to (a number of) extra-scientific pretensions psychology seems to make—ironically on the basis of its self-assumed scientific ethos. This entails these qualities that are claimed to emanate from psychology's paradigmatic allegiance to the natural sciences, with the adoption of the latter's methodological apparatus, vocabulary and the relation to its object. Testimonies to this are the high regard for randomised controlled trials; the vocabulary of significance, robustness and evidence-based practices; and the accompanied promise that will tell us what works. Amongst the appeals identified under this category, we can mention the attraction of the assumed professionalism—or rather the status of professionalism—its scientific creed entails. Psychology—with its excessive methodological apparatus—promises to objectify the baneful normative inheritance which continues to mortgage educational practice, theory and research. At last, educational science—transfigured to educational psychology—has found the track to quickly mature into a full-fledged evidence-based (and thus by the Western psyche approved) science.

Related to the former, the rationalistic discourse and the scientific creed of psychology seem to collude nicely with the contemporary vogue for managerialism. In an era that is marked by uncertainty and loss of meaning, scientific psychology advertises noticeable progress. By breaking down the holistic nature of education into smaller units or 'tasks', psychology seems to offer nothing less than the possibility of educational *perfectionism*. As Suissa and Ramaekers put it,

> the existential anxiety in the face of the enormity of the reality of 'being a parent' is broken down into a series of well-defined tasks: establishing sleeping routines, toilet-training, controlling meal-time behaviour, etc., and replaced by a focused anxiety over whether one is succeeding at performing these tasks well etc. All our focus then shifts to individuals and how they perform, and, likewise, the potential of 'perfect parenting' becomes a real vision.

Thus, psychology seems to offer efficient, step-by-step solutions that replace the traditional—and unconcealed normative—frames of reference, which not just look out of date, but are simply considered beside the point of the social scientific pursuit. Still within the category of extra-scientific appeal, it is obvious that psychological discourse—which adorns itself with the scientific label as quality indicator—has a very strong rhetorical force, hence its popularity and attractiveness within domains of policymaking and governmental planning. While the former hypotheses seem to present a rather instrumental picture of psychology's scientific attractions, this image seems to deteriorate even further if we consider the record of its scientific back-up. As Fendler argues, in a lot of domains, psychology fails to deliver on its scientific promises:

> Educational psychologists typically differentiate their own expertise from that of other subfields in education by saying that […] educational psychology is science driven and evidence based. However, we have found that that claim is itself not science driven or evidence based.

Backed up by her research in the domain of teacher education, Fendler shows that when it comes to efficacy (and professionalism), there does not seem to exist 'scientific' evidence that psychology's 'scientific' approach actually works. Other contributors to this volume make similar observations (see, e.g., Smith). In other words, psychology itself often fails to meet the criteria on which it claims scientific superiority. What takes its place, then, is usually a postulation of psychology's extraordinary qualities on the basis of a scientific *ideology*. And wasn't psychology's scientific outlook not primarily praised for its ability to *eliminate* ideology? Thus, scientific psychology's alleged value-neutrality, its 'scientific' apparatus—which entails nothing less than a licence to produce objective and incontestable truth—and its preference for the individual subject as the primary locus to explain human behaviour make it a very powerful device for ideological employability, by presenting its findings as results of natural kinds instead of acknowledging their indebtedness to contemporary values. In this regard, Croizet extensively and convincingly shows that even very dubious moral claims receive surprisingly little contestation when they are framed as psychometric *facts*. The attraction he lays bare may well be the gloomiest in this collection:

> The social hierarchy generated by the use of standardized testing and school grades is not so different than the one based on social origins. … reliance on standardized testing, far from being the technology that would allow the construction of a more meritocratic society, contributes actively to the legitimatization and reproduction of inequality.

Backed up with an impressive amount of supporting evidence, Croizet's rather bold message is sobering indeed. And while it would obviously be ludicrous to mark every psychometrician as a crude racist, Croizet's skilful analysis points us to an—equally harmful—institutionally embedded form of racism:

> According to several psychologists, this outcome is the mere structural reflection of individual differences in cognitive ability. However, research reviewed in this paper suggests that such an interpretation is questionable because what intelligence test measures is not an innate feature of individuals, it is a social process of domination partly embedded in the testing situation itself.

What makes this remarkable is that, from a philosophical perspective, this observation is a particularly obvious one. We might comfortably call it a 'standard critique' which would hardly be challenged by anyone. So while it seems tempting to ridicule the naivety which the belief in such objective measures reflects, it is highly unlikely that this critique has never been considered within the discipline of psychometrics itself. Might it be, then, that the fostering of these mythologies is part of the resilience that is necessary for the self-preservation of the discipline? Too much is already been invested—not just financially but also affectively—to acknowledge the depth of the critique and, subsequently, to accept its consequences. Thus, psychometric modelling continues to operate as the handmaiden for a meritocratic ideology, providing supposedly 'objective' evidence for its fairness and obscuring its flaws.

Another aspect that seems a cause for concern is that the popularity of framing educational issues in psychological terms—through its excessive adaptability—tends to make other vocabularies to make sense of education fall into oblivion. Few will need to be convinced of the popularity of psychological discourse today.

Testimony to this trend is its ubiquity in common parlance and as Suissa and Ramaekers argued: 'the fact that the language of developmental psychology has become part of our everyday way of speaking about child rearing and the parent-child relationship'. Yet in this case, the popularity is proportionate to its risks, for the more this discourse becomes the default way of speaking, the more difficult it becomes to conceive of other modes into which educational issues may be framed. Not only does this language risk depriving the educational relation of all but its instrumental value, but, more significantly, it seems unable to articulate the existential dimension which is constitutive for the educational relationship.

In this regard, it is notable that psychological jargon reconfigures ordinary concepts, which are being returned to society in a transfigured form, which delimits the scope of their application. For example, intellect becomes intelligence, education is reduced to learning and a family becomes a 'self-regulating system'. Thus, these originally rich concepts become very thin concepts, which are no longer subject of a moral and cultural conversation. In this process, the normative commitments in educational theory and research risk to fall into oblivion. Next to an *educationalisation* of social problems, we can speak, then, of the psychologisation of social phenomena. In this regard, the task of educational theory can be set as one to answer the need for a reappropriation of those concepts to rebalance the weight played out on them by the hegemony of psychological discourses.

In order to do so, some chapters refer to the invaluable contribution of the humanities for education and educational research. They point out that while scientific psychology might yield some successes in fairly rationalised and instrumentally defined goals, it is bound to fail when it comes to these existential meanings. This critique is not a light one, and what is at stake is in need of defence indeed, yet appropriate as it may be, it is equally important to guard oneself against the temptation of the 'mischievous thrill' which Standish so aptly identified in the circles of philosophy of education: the default scepticism and sometimes lofty contempt for psychology that tend to reduce it to its behaviourist forms. More specifically, while the extra-scientific hypotheses for what makes psychology so attractive today, status, prestige, professionalisation, manageability, etc. are convincingly presented, it would be all too easy to reduce its popularity to these external factors. Might it be, then, that the attraction of psychology 'fits in' with the demands and hunger for certainty at times that are characterised by unsteadiness? In that sense, it may be that psychology offers an answer that 'works' or at least seems to give an answer to a need which is invoked by the current spirit of the age. For all its flaws, assessed by how it continues to thrive in an increasingly competitive marked, its popularity does not seem fundamentally in decline.

Taken from this vantage point, the attraction and popularity of psychology and psychological discourse could offer us an occasion to reflect upon our own discipline and how it connects to the demands of our age. Going back to the pervasiveness and hegemony of psychological jargon in education today, we might reconsider the question and ask whether this situation has resulted from psychology's extra-scientific connotations and promises or, as Kraft suggests, 'whether such developments do not also reveal weaknesses and deficits in the formulation of pedagogical theory'.

Or stated differently: where did philosophy and history loose their grip on these educational domains and allowed psychology to become the default auxiliary science for education? Has educational theory left this terrain too long uncultivated, ready for others to take this up?

Yet it remains to be seen whether the adoption of certain themes would be sufficient to recapture a domain. Let me elaborate this in some detail. Psychology is criticised for its scientific pretensions which actually serve to hook up with extra-scientific or metaphysical claims (guaranteed objectivity, evidence based, quality assured, etc.) which Fendler appropriately termed 'a belief in magic'. In a, for our purpose, suitable example from contemporary neuroscience, Kraft observes:

> we see the typical logic of neuroscientific texts dealing with classroom education and schools, namely the conflation of cause and effect. The cause is encoded in neuroscience and is stated in neuroscientific terminology, while the effect is stated in everyday language with no reference to the results of research in pedagogy and education.

He then argues that the tacitly upheld presupposition seems to be that 'it is possible to proceed directly from neuroscience to pedagogy, making the pedagogical conclusions seem grounded in neuroscience'. In other words, once we get an understanding of how the neuron system works, the pedagogical conclusions follow *by default*. Ironically, this seems only a breath away from Smith's cited parody that 'the Large Hadron Collider might identify a sub-atomic educational particle whose discovery would render all other ways of understanding education redundant'. Even worse, the language employed by Bauer, from whom Kraft derives his example, is no less incomprehensible than the processes operative in the LHC:

> Thus we read in [Bauer's] manual for teacher coaching groups that it is 'crucial neurobiological hot buttons on which the effects of interpersonal experiences make themselves felt, (i.e.) the motivation systems of the midbrain (release of dopamine, endogenic opioids and oxytocin), and the fear and stress systems (amygdala), release of the exciter neurotransmitter glutamate activating the hypothalamus-hypophysis axis of the adrenal gland (activation of the stress gene CRH and of the stress hormone cortisol), plus activation of the caudex cerebri (release of noradrenaline)'.

So in effect, we can say that what we are invited to do is to accept as the incontestable basis for education a model which is in fact only comprehensible for a small group of initiates. But what I wanted to focus on is that under these circumstances—that is, if psychology and neuroscience assume priority over cultured ways of understanding, indeed rendering them *redundant, as Kraft's example suggests and Smith states*—it remains to be seen whether a renewed engagement with educational themes which have lately been claimed by one of psychology's subdisciplines will be enough to turn the tides. If the appeal of psychology is extra-scientific or even metaphysical in nature—by the acceptance of its value without any demand on its deliverance—it might be wishful thinking that a different paradigmatic take on the issue will suffice for this purpose.

This does not, of course, imply that these kinds of exercises would be pointless or that it would be a wise idea to take this as an argument not to turn a critical eye on our own discipline. Quite the contrary, as I mentioned earlier, the task of educational theory can be said to include the reappropriation of concepts and by extension, the

provision of alternative, imaginative modes of understanding that are able to illuminate aspects of human reality that currently risk to fall into oblivion.

On top of that, however, I do think educational theory still has a task to fulfil in the revaluation and defence of the humanities as a source to understand human experience and the human condition. More precisely, it has a task to continuously unmask the mythologies and false models of human being upon which scientific psychology breeds. This includes, amongst other things, the defence of the normative, evaluative and moral dimension of human knowledge. It entails the building of arguments which show that a valuation of subjectivity does not constitute a deterioration of the quest for truth but, on the contrary, that—by an abandonment of scientific objectivity—something can be *gained* as well. As Roland Barthes wrote in a reply to the common reproach on subjectivity that it is 'nothing more than the anarchical and chattily long-winded expression of individual feelings' which therefore should be eliminated:

> a subjectivity which is systematized, that is to say cultivated (belonging to culture), subjected to enormous constraints, which themselves had their source in the symbols of the work, has, perhaps, a greater chance of coming close to the literary object than an uncultivated objectivity, blind to itself and sheltering behind literalness as if it were a natural phenomenon. (Barthes, 1987, p. 35)

In other words, educational theory should not only take up the task to cultivate what passively risks to fall into oblivion but should also show how the very claims of scientism—lately again invigorated by the advent of neurosciences—might actively *blind* us for the social dimension which always constitute the background for the negotiation between scientific facts and their meanings. As the previous example clearly showed, the aspiration to bypass the social stratum in the social science did not wither away with behaviourism's loss of appeal but continues to transmute itself in novel forms.

Where does this leave educational theory? Far from defining itself against psychology, I think it has a task in illuminating what education requires beside the insights psychology might be able to deliver. Rather than abstracting down from the particular, a cultured understanding of education requires a quest for meaning by entertaining the particular against the background of a common world. A world which is not primarily constituted by abstracted singularities but by *things* (not objects, as Standish noted elsewhere in this book) which have a meaningful, holistic relation to each other and we ourselves to them. It is by the permanent search and reconstitution of these relations and meanings that this world is recreated, a search which might reflect the nature of the fragile particularities which make education as a meaningful endeavour worthwhile.

The commitment to and cultivation of attention for these shifting subtleties and outbursts of meaning might indeed have a greater chance of providing us a glimpse of living human culture than the robustness of the scientific toolkit. Yet, as Smith appropriately pointed out in this book, even *this* way of speaking is in danger to collapse into the very same conventionalism it was evoked to combat:

> We know what the conventional forms of 'education for its own sake' look like, just as we do the conventional forms of Christianity: history or literature or science will be taught with emphasis on the intrinsic interest of the subject, and not with a focus on instrumental

> payoffs in the shape of examination results or opportunities for paid employment. But, again as with Christianity, those conventional forms can stand in the way of pressing the question: yes, but what is educational here?

Obviously, commonplaces and truisms will not provide us with an easy way out here. Neither does the certainty psychology promises us to provide with. Conventionalism is not outwitted by taking refuge in *closure*. To see genuinely, to paraphrase Standish again, is to *open up* a world—a task which does not so much require an infallible methodology but a cultured form of imagination. The result of which, by its very conception, is to become yet another dying convention, making us permanently reaching out for something beyond.

> There's a beautiful image in Saul Bellow's latest novel, The Dean's December. The central character, the Dean, Corde, hears a dog barking wildly somewhere. He imagines that the barking is the dog's protest against the limit of dog experience. 'For God's sake,' the dog is saying, 'open the universe a little more!' And because Bellow is, of course, not really talking about dogs, or not only about dogs, I have the feeling that the dog's rage, and its desire, is also mine, ours, everyone's. 'For God's sake, open the universe a little more!' (Rushdie, 1991, p. 21)

Note

1. Unless otherwise indicated, all references are to chapters in the collection by Smeyers and Depaepe (2012).

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of Mathematics, Sociology of Mathematics, and Mathematics Education (jointly edited with Bart Van Kerkhove, Dordrecht: Springer/Kluwer Academic, 2006); *Philosophical Dimensions in Mathematics Education* (jointly edited with Karen François, New York: Springer, 2007, Mathematics Education Library 42); and 'Mathematical Arguments in Context' (co-author Bart Van Kerkhove, *Foundations of Science*, 2009). His personal website is to be found at http://www.vub.ac.be/CLWF/members/jean/index.shtml.

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