

Educating for dependence or understanding:

Framing the debate on academic education

DRAFT

A multi-perspective analysis of:

"We want one class of persons to have a liberal education
and we want another class of persons,
a very much larger class of necessity,
to forgo the privileges of a liberal education."

— Woodrow Wilson (1909)

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1 Introduction

1.1 Academics discussing academic education

*"In Iroquois society, leaders are encouraged to remember seven generations in the past and consider seven generations in the future when making decisions that affect the people."
(Mankiller & Wallis, 1993)*

Surprisingly few academics, led alone the rest of society, have solidly founded opinions of the role of education in society, nor are they fully aware how profoundly a small number of educators influences the lives of students (some of which their own children). While everyone acknowledges that the benefits of education should allow for a long and fulfilling life in a complex society, educational outcomes are measured at school — not in society — and directly as grades and degree attainment — not over a lifetime. Few seem to care whether these numbers are meaningful at all for society as a whole and many educators fail to see the obvious inconsistency between the way they measure educational outcomes and the conviction that education is for life.

The absence of a solid understanding of the role of education in society is paradoxical because academics are used to discuss developments within their discipline with great precision and depth. Apparently the fact that the scope and impact of education is not confined to any single academic discipline, but extends to both the whole of society as well as to future generations, reduces the discourse about academics education to a depth associated to a chitchat about the weather.

Ignoring or trivializing the effects of education on individuals and society changes any discussion about academic qualities or intellectual development into an exercise in futility and an affront to the very academic qualities universities claim to represent. Fortunately this topic is considered in its full richness in some academic cycles, and especially at the strategy-level of the most influential universities. Here many academics have a broad and profound understanding of society and its developments. In fact, a rich vision on the role of education may be a defining characteristic of universities at the top of the University Rankings. However this discussion should not be confined to these: it is too important for that. This text provides a bare minimum context of what educators should know to properly frame debates on the impact of their vocation on individuals, on society as a whole, and over time-scales in the order of generations. Its aim is to put academics on par with Iroquois leaders: which is more ambitious than one might think.

A recent book-size thesis of the University of Utrecht called “The Meaning of Learning and Knowing” addresses and answers the key question of this paper:

Is the current level of learning outcome sufficient to prepare our young people to deal with the growing complexity of society, let alone the possible increase in complexity in the coming decades? Answering that depends on what role graduates are expected to play in society and what kind of society they are expected to play that role in. However, if in democratic society all adults are expected to be able to follow logical and reasoned arguments and to base their choices, political or otherwise, on evidence and reasoned thinking, *we must now conclude that higher education is not preparing our young people*

for the current complexity of society, and so probably not for any future, more complex society. In truth, epistemologically higher education in western democratic society seems to be failing its students and society dismally. With more than three quarters of the general population persisting in at most multiplist thinking [in which one allows for other opinions without the attitude or capacity to critically appraise the quality of the different opinions, TA] well into advanced adulthood, it would seem necessary to — at the very least — bring higher education, but preferably also secondary education, up to a level that students and pupils learn to think well. For the coming decade(s) we would settle for this to come true, before calling for education to teach students to think well, as well as wisely. (van Rossum & Hamer, 2010) (p 518, emphasis added)

The Dutch researchers, van Rossum and Hamer, identify what they call a *watershed* in the intellectual development of students: the transition from “all opinions are valid” to “one opinion is better (supported) than another”. Most higher education students do *not* make this transition during their studies and might never develop into truly autonomous thinkers and actors.

This watershed, or more precisely the balance between modes of being associated with the two sides of the watershed, forms the core of this paper that will be addressed from many different point of view. After a short interlude about the meaning of words like education and training, this theme will be first be illustrated with a recent in-depth analysis by Stanford professor of Education David Labaree outlining how in the course of the twentieth century bureaucrats took control from teachers. This will be followed by a perspective on two modes of dealing with the challenges of daily life as defined by political psychologist Karen Stenner of Princeton. This develops naturally in the role of authority and hierarchy and with that to the implications of education for geopolitics. The next topic to be addressed is a critical comparison between (American) public education and elite schooling that forms the basis for the last part of which the topic is aptly introduced by this quote from the American Association of Colleges and Universities (AACUNational Leadership Council (U.S.), 2007)

With college education more important than ever before, both to individual opportunity and to American prosperity, policy attention has turned to a new set of priorities: the expansion of access, the reduction of costs, and accountability for student success. These issues are important, but something equally important has been left off the table. Across all the discussion of access, affordability, and even accountability, there has been a near-total public and policy silence about what contemporary college graduates need to know and be able to do.

Here the paper returns to the work of van Rossum and Hamer. First to outline the successive stages of intellectual development and secondly to outline how education can facilitate intellectual development. The paper ends with some clear and practical outlines of how to frame a debate on higher education on a level that would not only make Iroquois chiefs proud, but also that should also satisfy Plato had he known that his garden (akadēmeia) would be associated with the quality of the debate.

This paper is only for a small part the author’s paper. I introduced the concept of intellectual classes to connect the work in political psychology to ways to interact with systems and to theories of epistemological development. Apart from that I have based myself on well-formulated deep insights that I need not improve on. This text is therefore for an important part based on direct quotations. It has been a pleasure and a privilege to compile these into a single

narrative. But I urge everyone to study the cited documents in full. All are publicly available.

In addition to the current text, which I consider only an “Academic Education for Dummies”, I highly recommend the five-hour interview with John Taylor Gatto that is available via <http://theultimatehistorylesson.com/> (as DVD’s and research materials and also as YouTube videos, and downloadable podcasts). This five-hour interview puts the topic of education in an even wider context. And while it hardly ever cites the same sources as I have used, it reaches similar conclusions as this paper. In fact there is very little disagreement among scholars who have studied the full impact of education.

1.2 Wilson’s quote

On its web-pages addressing the importance of liberal education the Association of American Colleges and Universities (AAC&U, comparable to the VSNU in The Netherlands) is quite frank about a well-known and well studied educational change initiated about a century ago via a quote of Princeton University president and later United-States President Woodrow Wilson.

"We want one class of persons to have a liberal education and we want another class of persons, a very much larger class of necessity, to forgo the privileges of a liberal education."
— Woodrow Wilson (1909)

Source: http://www.aacu.org/leap/what_is_liberal_education.cfm

This wish is not United-States specific. The processes described in this paper and exemplified by the development in the US have occurred all over the western world. In fact the educational system of the US was based on the Prussian educational system that not only influenced the US, but also all (?) European countries and even Japan.

This paper approaches Wilson’s statement from a number of different perspectives and with different questions about this statement. In all chapters the main conclusion is based on scientific publications, official educational policy documents, or official US-government publications.

Chapter 2 A short History of education

- How was the desired change brought about?
- What are the societal privileges associated with a liberal education?
- Main source: Labaree, D. (2011). How Dewey lost: The victory of David Snedden and social efficiency in the reform of American education. In D. Tröhler, T. Schlag, & F. Ostervalder (Eds.), *Pragmatism and modernities*. Rotterdam: Sense Publishers.

Chapter 3 Full time or part time skills

- What are the intellectual privileges associated with a liberal education?
- What is the most important privilege that Wilson alluded to?
- What are the consequences of forgoing these privileges in daily life?
- Main source: Stenner, K. (2005). *The authoritarian dynamic*. New York: Cambridge University Press.)

Chapter 4 Hierarchy

- What are the consequences of withholding privileged education for the structure of

society?

- What are the benefits of withholding privileged education for the structure of society?
- Main source: Dodd, N. (1954). The Dodd Report to the Reece Committee on Foundations, House of Representatives of the United States of America.

Chapter 5 Intellectual classes

- What kind of classes was Woodrow Wilson actually referring to?
- Who is the “we” and why did they want this?
- What is the mindset from which Wilson’s wish stemmed?
- Main source: Meadows, D. (1999). Leverage points: places to Intervene in a system. Publication of the Sustainability Institute

Chapter 6 Modern schooling

- How do, a century later, modern public and elite schools differ in their goals?
- Is 20-century education still what Wilson’s “we” and the rest of society want?
- Main source: Association of American Colleges and Universities, National Leadership Council (U.S.). (2007). College Learning for the New Global Century. A Report from the National Leadership Council for Liberal Education & America's Promise

Chapter 6 Intellectual development

- How does the process towards learning to understand the full meaning of Wilson’s quote progress.
- Main source: van Rossum, E., & Hamer, R. (2010). The Meaning of Learning and Knowing. (J. Vermunt, Ed.) (pp. 1–638). University of Utrecht.

The aim of this paper is to frame an academic debate on academic education, not to take a position in how education should develop or stall.

1.3 On education and training

The differences between the terms ‘education’ and ‘training’ are sometimes unclear. This is unfortunate because training and education correspond to quite different processes with opposite results, which is immediately clear if one realizes that one can train an animal, but to educate an animal is either impossible or preposterous.

In the New Oxford American dictionary the term schooling is defined as *education or training received, especially at school*. The term word ‘education’ is described as *the process of receiving or giving systematic instruction, esp. at a school or university* and ‘an education’ as *an enlightening experience, where the verb ‘enlighten’ is described as giving (someone) greater knowledge and understanding about a subject or situation*. The word ‘training’ is described as *teach (a person or animal) a particular skill or type of behavior through practice and instruction over a period of time*. Training is important for *particular* activities that rely on precision of execution such as dancing, programming, experimenting, and scientific reporting. The results of training are therefore useful (often essential) in a narrow range of situations and specialisms. In contrast knowledge and understanding are of optimal use if they can be applied at any moment and in any situation. This type of pervasive understanding ‘empowers’, which means *make stronger and more confident, esp. in controlling their life and claiming their rights*.

Traditionally two systems of systematic instructions have existed in parallel, one focusing on general knowledge and understanding and the other as preparation for specific roles

(vocations) in society. Both forms of schooling involve strong components of training, but the first form — the liberal education — aims to 'liberate' and 'empower' the student. Where 'liberate' is defined as *release (someone) from a state or situation that limits freedom of thought or behavior*.

It is up to individual educational institution and society as a whole to find a balance between these forms of schooling. The 2012 Dutch university education policies focus explicitly on the reduction of the cost of education, study efficiency, career services, quality assurance, and etcetera. Student enlightenment and empowerment is hardly mentioned, but not explicitly forbidden. It is desirable to be explicit about the balance between vocational training and personal enlightenment and empowerment so that students who seek (and lecturers that aspire to provide) know where to go.

2 A short history of education

2.1 Liberal and vocational education

During history there has always been a clear division between the education of the elite and the 'training' for the rest of the population. Wilson's desire for a two class society separated by differences in education was a wish of the economic elite of that time, represented by extremely well-financed philanthropies such as the Rockefeller Foundation and the Carnegie endowment later supported by the Ford Foundation (Lionni, 1993). In their eyes, the American economy needed many more workers than thinkers. So a plan was hatched in which the desired transition was brought about through a gradually increased influence of focused education bureaucrats at the cost of teacher control. A point man in this transition was David Snedden. Labaree has analyzed Snedden's role in depth in a recent article "How Dewey lost: The Victory of David Snedden and Social Efficiency in the Reform of American Education" (Labaree, 2011). This article outlines a confrontation of ideas of which Labaree writes:

Snedden's ideas come across as educationally narrow, politically conservative, and quaint. He argues that "social economy" calls for a system of vocational education that prepares the "rank and file" to become efficient "producers," asserting that this form of schooling needs to be separated from liberal education, which — although its purposes "are as yet shrouded in the clouds of mysticism" — may still be useful for those who are the "utilizers". In contrast, Dewey's ideas seem to resonate better with current political, social, and educational, thinking. He charges that Snedden's system of "narrow trade training" leads to "social predestination" and argues instead for a broad vision of vocational education that has "as its supreme regard the development of such intelligent initiative, ingenuity and executive capacity as shall make workers, as far as may be, the masters of their own industrial fate." (P163-164)

The core difference between Snedden and Dewey is 'empowerment'. In Dewey's case making all students master of their own industrial fate. In Snedden's case the separation between the 'producers' and what he refers to as "the utilizers of the rank and file" empowers the utilizers; in fact it makes the utilizers more feudal lords than leaders, and consequently the rank and file 'serfs'. Snedden seemed never to be bothered by or even aware of this attempt to reintroduce servitude.

2.2 Snedden's ideas on education

In a 1900 speech at the Stanford Alumni Society, which won him a professorship at Stanford before even having been involved in master level education, Snedden is quite open about the intentions that were to become the core of the social efficiency movement.

I want especially to consider that education as it affects the rank and file of society; for it we are right in thinking that *training for leadership* will largely become the function of university, it still remains true that the most careful consideration must be given to those who will do duty in the ranks, who will follow, not lead. (Labaree, 2011)(p 171, emphasis added)

So education was explicitly aimed at becoming either a leader or follower, depending on the

type of school one was allowed to go to. Note that Snedden uses the (oxymoronic) phrase “training for leadership.” Snedden never seemed to have a clear conception of education other than training, in fact anything beyond training was — for him — “shrouded in the clouds of mysticism” (Labaree, 2011)(p 171).

Snedden himself was educated in a one-room school in California in the 1870s. One-room schools at the time were organized such that the lower year students were educated by higher year students and the higher years students by the teacher, who, of course, was responsible for the progress and development of all. This ensured that all students saw the material at least twice: once as pupil and once as teacher. This system, as all educators know, provides one with a whole new level of understanding of the material compared to only learning passively. One-room schools had a core-curriculum of literacy, mathematics, and a strong focus on the history of Western thought and attention for practical skills of local significance. Teachers were free to select the topics of interests in accordance to the interests of the students and the availability of material, which was typically not in a simplified form and was revisited multiple times to allow for the development of different levels of understanding of the same material. With so much freedom and a crucial role of the teacher, not all schools may have been up to standards. However, if one reads popular literature of that age or reads letters from ordinary soldiers during the civil war it is easy to be impressed by the high level of active literacy as apparent from the complexity and depth of the arguments and clarity of thought. Overall, this educational system was working well and it allowed the rapid build-up of the United States as an economic, intellectual, creative, and industrial giant. It also led to a highly vocal and effective work-force that the economic elite wanted to bring under control. [Need reference for this]

Whatever the quality of his education, at age 21, in 1889, Snedden became a teacher himself and he started to think about educational reform. Labaree describes:

Snedden's interests in education for social efficiency appeared quite early in his career. As a teacher in the early 1890s, he avidly read the works of Herbert Spencer, which he acknowledged in his memoirs as having "laid de groundwork for [his] subsequent thinking." As a student at Stanford, his strongest connection was with Edward A. Ross, a sociologist who at the time was developing the ideas for his most influential book, published in 1900, called *Social Control*. From these two thinkers, he drew a rather literal understanding of their central constructs — social Darwinism and social control — which shaped all of his later work as an educational reformer. (p165-166)

Informed by these ideas and helped by influential protectors — such as the president of the recently opened Stanford University, the same who offered him the professorship on the condition that he at least finished a master program — Snedden started to contribute to the programme of educational reform that the later US president Woodrow Wilson announced in his 1909 speech. In 1914 Snedden wrote:

It is the writers's conviction that the most useful definition of liberal education now available is that which defines it primarily in terms of education towards higher utilization. Man stands, to the world about him, in a twofold relationship. He is a producer of utilities on the one hand, and on the other, for his own growth and development, he must utilize utilities. That education which trains him to be a producer is vocational education. That education which trains him to be a good utilizer, in the social sense of that term, is liberal education.

Note the inconsistency in his reasoning. On the one hand he makes a sweeping statement saying that “man” — denoting each of us — is both a producer and a user of benefits, which is trivially true. But then, seamlessly, he promotes a two-class society in which one type of “man” is trained to be a producer of benefits and the other the type is to become a user of benefits, which contradicts his previous sentences. In addition this quotation shows that he has no understanding whatsoever about what a liberal education actually is other than that it leads, in his eyes, to a class of utilizers. He does however have a clear idea about training. Labaree (2011) describes these (quoting Snedden) as follows.

Vocational preparation needs to take place in separate schools, which "must, to a large extent, reproduce practical processes, must give the pupil many hours of each working day in actual practical work, and must closely correlate theoretical instruction to this practical work." As a result, *"The vocational school should divest itself as completely as possible of the academic atmosphere, and should reproduce as fully as possible the atmosphere of economic endeavor in the field for which it trains."* In addition "the pedagogical methods to be employed must be those involving concentration, painstaking application to detail, and continuity of purpose," and these need to be precisely tailored to the skill demands for each occupational specialty. (P165, italics added)

So an academic atmosphere is seen as a threat to successful vocational preparation. Note that Snedden writes “the field for which it *trains*”. Snedden’s 1914 publications resulted a number of articles in The New Republic where Dewey responded to Snedden’s profoundly practical ideas.

2.3 How bureaucrats took control from educators

Although Dewey was not at all against vocational education he wrote (with a proper use of ‘training’):

“I object to regarding as vocational education any training which does not have as its supreme regard the development of such intelligent initiative, ingenuity, and executive capacity as shall make workers, as far as may be, the masters of their own industrial fate.” (p 167)

Dewey was acutely aware of the social implications of the vocational education as proposed by Snedden, and he urged all committed educators to resist moves in that direction.

“I am regretfully forced to the conclusion that the difference between us is not so much narrowly educational as it is profoundly political and social. The kind of vocational education in which I am interested is not one which will "adapt" workers to the existing industrial regime; I am not sufficiently in love with the regime for that. It seems to me that the business of all who would not be educational time-servers is to resist every move in this direction, and to strive for a kind of vocation education which will first alter the existing industrial system, and ultimately transform it.”

It is interesting that Dewey, who in contrast to Snedden, was a prolific researcher of education, makes a distinction between “educational time-servers”, who simply go through the moves

required from an educator, and educators who care about the quality and content of education that they provide the students with. He urges the latter to alter the existing system and ultimately transform it. Although Dewey had arguments where Snedden had statements and was clearly the winner of the battle of ideas, it was in the end in vain. Snedden's side "won", not because of superior arguments but because:

the old system of common schooling for all, aimed at providing broad education for the citizenry of a republic, seemed increasingly out of touch with the social and economic order, with its radical division of labor, growing class and ethnic differences, and explosive expansive mode of corporate capitalism. This was a time that was primed to be responsive to the argument that the new order required an educational system that aimed to be useful and socially efficient in dealing with the period's emerging social problems. Snedden was just pushing this idea. (Labaree, 2011) (p 182)

In fact Snedden was as, described by Labaree (p183) an academic failure:

He was a self-styled scientist who never did anything that remotely resembled scientific study, an educational sociologist who drew on the clichés of the field — social Darwinism and social control — without ever making an original contribution. In his written work he never used data, and he never cited sources, which made sense, since he rarely drew on sources anyway. His books and journal articles took the form of proclamations, scientific pronouncements without the science; they all read like speeches, and that was likely the source of them.

He had not become a professor in education because he was a deep thinker like Dewey, but exactly the opposite, because he was a shallow thinker: a "producer of utilities" to be used by utilizers. Labaree concludes:

In this sense he was more a propagandist than a theorist or thinker, someone who borrowed ideas without understanding them and then promoted them relentlessly. The ideas sounded authoritative and gave the impression that they were building on into arguments, but they were largely a collection of numbered lists and bullet points. He was a man who would have warmly embraced PowerPoint. In his work, portentousness abounded; it was all about riding the wave of the future and avoiding the undertow of the past. He was an educational leader whose effectiveness arose from being temperamentally a member of the rank and file. He relentlessly promoted vocational education for the socially efficient society of the future by proposing curricula that routinely prepared students for the tasks that characterized the jobs of the past (railway telegrapher, streetcar motorman). He was so eager to be relevant that he gradually made himself irrelevant even within the administrative progressive movement that he helped lead. (p183)

The administrative progressive movement was the main tool the economic elite, referred to as "we" in Woodrow Wilson's quote, had invented to ensure that *a very much larger class, [would] forgo the privileges of a liberal education*. The strategy to bring about desired change is a classic example of the Hegelian dialectic (ref) in which a debate is initially framed in terms of one extreme point of view (thesis), under control of those who want change, to oppose a well-reasoned nuanced approach (antithesis). This leads quite naturally to shift (synthesis) towards the extreme position. Labaree describes this as follows:

Being extreme at this stage of reform is quite useful, whereas the kind of nuanced approach that Dewey took, with its abhorrence of the very dualism that Snedden loved, was not conducive to launching an effective movement of educational reform. Therefore, the administrative progressive movement was able to become firmly established and positioned for growth because of Snedden's flame throwing. Put another way, a useful idiot, who says things that resonate with the emerging ideas of his time and helps clear the ideological way for the rhetorical reframing of a major institution, can have vastly more influence than a great thinker, who make a nuanced and prescient argument that is out of tune with his times and too complex to fit on a battle standard.

In part because Snedden was an Extremist, the tendency in American education leaned strongly his direction and away from Dewey. What we ended up with was a school system that reflected the main elements of the social efficiency agenda: a differentiated curriculum, the de facto tracking by social class, and a school system whose purpose is viewed through a vocational lens (education for human capital development), even if vocational courses never gained more than a relatively marginal part of the curriculum. (p184)

After his role as “agent provocateur” he had outlived his usefulness and his extremism was more a liability than an asset for the bureaucrats of the ‘administrative progressive movement’ that gradually became the force that shaped not only American education, but education all over the Western world. The role Snedden was allowed to play was not to succeed in turning all public schools in vocational schools, but to frame the debate so that control over education was transferred from the dedicated educators to administrators and the “educational time-severs” that, as Dewey warned, were more in love with the regime than with the students under their care. More importantly, it also entailed a transition from teacher control over education to centralized control (by the economic elite (Lionni, 1993)). Allowing a gradual nation-wide control over all aspects of schooling.

Labaree outlines how fragile student-centered education is compared to with one that aims for economic productivity.

The pedagogically progressive vision of education — child-centered, inquiry based, and personally engaging — is a hothouse flower trying to survive in the stony environment of public education. It won't thrive unless conditions are ideal, since, among other things, it requires committed, creative, energetic, and highly educated teachers, who are willing and able to construct education to order for students in the classroom; and it requires broad public and fiscal support for education as an investment in students rather than an investment in economic productivity.

But the administrative progressive visions of education — as a prudent investment in a socially efficient future — is a weed. It will grow almost anywhere. Erratic funding, poorly prepared teachers, high turnover, dated textbooks — all of these may impede the socially efficient outcomes of education, but they do not prevent reformers from putting in place the central structure of social efficiency in the school system: a differentiated curriculum organized around a conception of education for work. The weed of social efficiency grows under difficult conditions, because its primary goal is to be useful in the narrowest sense of the term: It aims for survival rather than beauty. But Dewey's vision of education defines success in her richness of learning that is experienced by the child, and this is not possible without the proper cultivation. (p185)

Snedden was actually a typical product of the type of education he promoted so relentlessly. He was narrow-minded, impervious to arguments, and not at all bothered by inconsistencies or his own lack of knowledge. He adopted ideas without understanding them and pursued them relentlessly. All-in-all he was a prime example of the “producers of utilities” that he aimed to create, but was impervious for that as well. For his handlers he must have been the ultimate irony: the idiot to educate more idiots. He had no clear conception of what made ‘the utilizers’ different from him and at the same time he found it difficult to believe that schooling could be anything else than preparing for servitude. And although he acknowledged class differences he had no idea what made the classes different. For him education beyond training was “shrouded in the clouds of mysticism”. And to varying degrees this is the case for most of the bureaucrats and educational “time-servers” that gradually took over education in the twentieth century and who started to make everything “efficient”, standardized, and measurable. These bureaucrats, and not Snedden, shaped public education in the vision of Woodrow Wilson and his supporters and these ensured that the benefits of a liberal education would most assuredly forego a large class of people: as much in the United States as in the rest of the Western World.

2.4 The demystification of liberal education

This then allows for a natural return to the question what a liberal education taught those who have the privilege to receive it. According to van Rossum who quotes Perry (1970)

Perry says about higher liberal education at Harvard and Radcliffe at that time “...the liberally educated man (...) is one who has learned to think about even his own thoughts, to examine the way he orders his data and the assumptions he is making, and to compare these with other thoughts that other men might have. If he has gone the whole way, as most [75 percent] of our students have done, he has realized that he thinks this way not because his teachers ask him to but because this is how the world “really is.” (van Rossum & Hamer, 2010) (page 125)

The consequences of foregoing the privileges of a liberal education are well known and refer directly to the term liberal. For example a publication called “Liberal Arts Education in the Twenty-First Century” of the American Academy for Liberal Arts Education states:

When we say “liberal” education, we are not, of course, talking about the dreaded “L” word of recent American political sloganeering, nor are we even referring to the free play of ideas as in traditional liberal political theory. We are borrowing and translating a Greek term *eleutherios*, free, a word used most commonly to contrast free people from slaves. [Eleutherios also has connotations of generous, spirited, outspoken, and living the way you want, TA]

A “liberal education” means what a free person ought to know as opposed to what a well educated and trusted slave might know. Such a slave might well know a trade, manage a business, run a bank, cut a deal. Athenian slaves did these quite well from time to time, and sometimes did quite well for themselves, too. Some of them developed a craft or a skill, a *techne*, the Greeks would call it, using the word from which we get “technique” and “technology”. (There is nothing highfalutin’ about the word *techne* in Greek, hence my preference for translating it “skill” rather than “art.”)

Some slaves possessed valuable skills and could be better managers than their masters. What slaves (and women, alas) were not allowed to do, was speak in the assembly, or

participate in any other of the rights and duties of a free citizen, the jury system, diplomacy, war. Those activities also took skills —technai, but skills of a kind quite different from those looked for in a slave.

Our term “liberal arts” is derived directly from a Latin translation of the Greek technai. Since the skills needed to be an effective citizen are so prominent in the Greek conception of a liberal education, it’s not too much of a stretch to retranslate “liberal arts” as “the skills of freedom.” Since freedom or slavery was so often at stake in citizen decision makings, these were, as well, the skills needed to preserve freedom. (Connor, 1998) (p 5).

The difference between a liberal education and a vocational education is one between skills for freedom and slavery: both freedom of the individual mind and freedom (and actual functioning) of democratic society. Learning complex skills and trades and becoming successful in *particular* societal roles is possible with a vocational education, but it does not prepare for other roles. For the Greeks freedom was just as much a matter of mental skills as social position. Consequently the Greeks did not allow the vocationally educated to contribute to matters for which their vocational education had not prepared them, nor did they allow women and slaves to learn the skills of freedom. Freedom for the Greeks, as for Woodrow Wilson, was for the privileged.

The 2009 position paper of the AAC&U ‘College Learning for the New Global Century’ acknowledge the role of mental skills when they describe the schooling policy that followed Wilson’s 1909 quote and the bureaucrat takeover as follows:

In the twentieth century, both school and college studies were organized, reflecting the sensibilities of the industrial age, in terms of modular parts: disciplines, subjects, courses, credit hours. But this modular curriculum, organized a century ago and still largely intact, has become increasingly dysfunctional. The disciplines are taught as ends in themselves, and so too are most courses. Yet students are taking courses in many different disciplines, and often at two or more institutions. *For many, the result is a fragmented and incoherent educational experience rather than steady progress toward deeper and more integrated understandings and capacities.* (AACU National Leadership Council (U.S.), 2007) (page 19, emphasis added)

The differences in mind states between alumni of the two types of schooling are here contrasted as fragmented and incoherent versus deeper and more integrated understandings and capacities. The question then arises what kind of effect this has on those that have received either of the two types of schooling.

3 Full time or part time skills

3.1 The mystification of the narrowly educated

Although Snedden was mystified by the concept of liberal education, there is nothing mysterious at all about liberal education: compared to vocational education that only prepares for a few societal roles and a fraction of a life-time, a liberal education prepares for all roles and all waking moments. It is the difference between part time and full time skills. A liberal education empowers because it educates and trains people *how* to think and learn, not *what* to think and learn, nor *how* to behave. It allows the development of cognition with understanding as opposed to the thought processes without understanding that characterized Snedden. It educates the mind to be critical of all new information and all beliefs and to accept beliefs only provisionally and as long as they do not lead to inconsistencies. Or in Aristotle's words: "It is the mark of an educated mind to be able to entertain a thought without accepting it." The mental education allows the mind to think freely, critically, and creatively towards "ever deeper and more integrated understanding and capacities". And above all it allows people to think and act autonomously.

In contrast, the vocationally educated individual will, outside the narrow bounds of high competence, continually be confronted with the real-world consequences of an uneducated mind. They will have pockets of competence within which they might reason consistently and act effectively, but these will be connected by shallow and never questioned (and therefore questionable) beliefs, with many inconsistencies. The uneducated mind may think killing is wrong and agree to go to war, apparently oblivious that the belief that *all killing is wrong* exists alongside the notion that *killing people they don't even know is justified*. The uneducated mind might know that *advertisements only exist to promote sales* and believe that *a particular product is the best possible choice because advertisements say so*, not realizing that the object of advertisements is not information dissemination but sales. These and millions of other fallacies, inconsistencies, and unfounded beliefs lead to a *fragmented and incoherent experience of the world*. And since the uneducated mind does not know how to spot errors in reasoning and still has to act in the world, this leads to all sorts of self-created predicaments whenever one is not competent. And endless predicaments or series of predicaments unbalanced by personal successes lead to a deep sense of insecurity and a deep distrust in one's ability to self-select a life-course. *And this might be the key privilege that Woodrow Wilson alluded to.*

Deprived like this the uneducated mind will — freely, with positive intentions, and without any realization of self-enslavement — look for authorities of any kind to decide on everything from the most mundane to the spiritual. The truly narrowly educated individual is readily recognizable as one who insists on absolute truths and easy to follow procedures to decide on how to behave and what to do. The only requirement the uneducated minds pose on authorities is that they creates less of a mess than one's own cognitive processes do: all authorities that makes one feel competent (again) in dealing with daily (non-vocational) activities will be clung to and, if called for, defended to the absurd: not because the authority is right, good or proper, but because the alternative — no authority to trust — removes all certitude. While Dewey wrote that he was "not sufficiently in love with the regime," the narrowly educated seem to be truly infatuated with any regime they happen to be part of. Although 'addicted to' is probably a better term for their craving.

The narrowly educated therefore delegate the responsibility for behavior to some authority. They adopt the chosen authority's norms and comply with its commands. They do not have the understanding to more than partially foresee the consequences of applying these norms and commands, nor do they have the independence to refrain from executing commands when these violate their own moral norms: they are the 70% of the volunteers who administered the "lethal" shocks in Milgrams experiments (Milgram & Zimbardo, 2009) and they do it simply because a perceived authority instructs them to do so. They miss the autonomy to disobey perceived authorities.

Note that there is nothing other than a "voluntary" delegating of the responsibility of behavior to others that makes authorities authoritative. The more people delegate aspects of their behavior (and therefore their lives) the more authoritative the authorities become. Because people only delegate the responsibility of their behavior whenever it is an improvement over self-direction this entails two obvious and related ways to enhance the role of arbitrary authorities: reducing the coping capacity to deal with daily challenges by impoverishing education or a by creating a more complex world through complex rules, rapid (social or other) changes, wars, terrorism, etc. The more people are mystified, the more they will delegate responsibility to authority.

Cognition without understanding makes the narrowly educated the perfect tools for 'utilizers': willing, smart enough to follow orders, and dependent enough not to think or care about the consequences. The narrowly educated can be utterly mystified by the structures around them, the might even fail to notice the more complex and subtle societal structures on which people with a deeper understanding rely on as normal facets of life, such as how much of an effort many people make to keep the social and political environment livable. Like Snedden, they will definitely consider liberal education a complete mystery, something not necessarily to be taken seriously by their practical minds. And in doing so they perpetuate their own state of low autonomy to future generations.

Maslow (1962) the first psychologist to study the psychologically healthy persons, proposed a term for the development process towards gradually more profound and pervasive understanding: self-actualization. He noticed that personal autonomy is a central property of highly self-actualized persons. At some point he contrasts low and high autonomous individuals in a similar vein as above and he couples this, like Dewey, to politics.

Another meaning of autonomy is self-decision, self-government, being an active, responsible, self-disciplined, deciding agent rather than a pawn, or helplessly determined by others, being strong rather than weak. My subjects make up their own minds, come to their own decisions, are self-starters, are responsible for themselves and their own destinies. It is a subtle quality, difficult to describe in words, and yet profoundly important. They taught me to see as profoundly sick, abnormal, or weak what I had always taken for granted as humanly normal: namely that too many people do not make up their own minds, but have their minds made up for them by salesmen, advertisers, parents, propagandists, TV, newspapers, and so on. They are pawns to be moved by others rather than self-moving, self-determining individuals. Therefore they are apt to feel helpless, weak, and totally determined; they are prey for predators, flabby whiners rather than self-determining, responsible persons. What this nonresponsibility means for self-choice politics and economics is of course obvious: it is catastrophic. Democratic self-choice society must have self-movers, self-deciders, self-choosers who make up their own minds, free agents, free-willers. (Maslow, 1962) (p135)

In short, the difference between the liberally educated and the narrowly educated boils down to two key-aspects of human autonomy:

1. individual authority versus external authorities, and
2. cognition with understanding versus cognition without understanding.

Autonomous individuals decide for themselves because they understand the situation they are in, while less autonomous individuals rely on external authorities because they do not understand their situation. These two aspects are the defining characteristics of an important distinction in political psychology: the difference between authoritarians and libertarians, which will be addressed next.

3.2 Authoritarians versus libertarians

The differences between authoritarians and libertarians is analyzed in great detail in “The Authoritarian Dynamic” by Princeton political psychologist Karen Stenner (2005) that addresses a phenomenon called *Authoritarianism*. Stenner had no particular interest in education, nevertheless she developed a simple instrument that can be used to measure degrees of human autonomy to separate the narrowly educated from the liberally educated (in a psychological senses) that we from now on will refer to as authoritarians and libertarians. Stenner defines Authoritarianism as follows (p 13)

... authoritarianism is an individual predisposition concerned with the appropriate balance between group authority and uniformity, on the one hand, and individual authority and diversity, on the other.

In this definition the ‘group authority’ is an external authority and uniformity allows cognition without understanding through the rigorous application of procedures and commands. However, more telling than the definition is Stenner’s way to measure authoritarianism: she asked her participants which of two child rearing qualities were most favorable according to table 1.

Authoritarians	Libertarians
Children should: <ol style="list-style-type: none"> 1. should obey parents 1. follow the rules 1. have respect for elders 2. have good manners 3. be neat and clean 	Children should: <ol style="list-style-type: none"> 1. be responsible for own actions 1. follow their own conscience 1. think for themselves 1. have good sense and sound judgment 2. be interested in how and why things happen

Table 1: Child rearing qualities used to determine authoritarianism.

Participants who consistently choose qualities from the left column were treated as highly authoritarian and those who choose consistently from the right column were treated as highly libertarian. Note that all questions match the two key-aspects of human autonomy as outlined in the previous section. The first question addresses who is supposed to be responsible: parents or the children themselves? The authoritarian children are treated as subservient agents while the libertarian children are treated as self-deciding agents. The second question addresses who decides on the outcome and conduction of behavior: the rules or they *own* conscience. The third what to trust: elders (or other authorities) or the own thought processes. The fourth how to limit behavior: according to proper social expectations or by good sense and sound judgment. And finally what to value more: orderliness and hygiene versus learning to

understand all aspects of the world.

In the libertarian case the child itself is taught responsibility and should learn the qualities that allow it to act responsibly. In the authoritarian case the ideal child is raised to be predictable and subject to established social rules. In the libertarian case the child may be as unpredictable and as different as it wants to be, as long as it has the good sense to act responsibly. So the difference between authoritarianism and libertarianism is very much a difference between the primacy of the norms and authorities in the (social) environment and the primacy in the individual.

For the ideal authoritarian child, all behavior will be severely constrained by the (norms of the social) environment while the ideal libertarian child is only limited by sound judgment and a well-developed conscience. Likewise, an authoritarian child will not be exposed to a broad diversity of behavioral options from which it has to choose independently and for which it needs a broad range of skills. Quite on the contrary, the authoritarian child will be explicitly limited to “good and proper” behavior and will be corrected (lovingly and with the best of intentions) when it steps over social norms or explores beyond what is considered good and proper. The libertarian child in contrast will be allowed to self-generate an ever-increasing range of behavioral options from which it will be coached to choose the sound ones. Indeed: the authoritarian child is trained, the libertarian child is educated. As a consequence a driving emotion of authoritarians is the fear of doing things in a wrong way or to apply the rules inadvertently. In contrast the libertarian is driven by interest in novelty and diversity since that will deepen and broaden understanding.

Note that Stenner’s list addresses the whole of the education of children, not only the official schooling part. Children with a vocational education can still turn out as libertarians if their parents, their character and intelligence, and the rest of the social environment teaches them how to cope with the holes between the pockets of competence learned at school. The probability for that is of course considerably lower.

3.3 Authoritarian versus libertarian behavior

The key to authoritarianism is whether or not the mind is educated: whether it has learned the tools to become gradually more and more competent in coping with the full diversity of life, anywhere, and at any time or only a subset of these. However in many less extreme situations overt behavior of authoritarians and libertarians may be indistinguishable: like the authoritarian, the libertarian may obey its parents, have good manners, be neat and clean, respect elders, and follow the rules. However, the authoritarian did not develop a good sense and sound judgment, is not particularly interested in, or knowledgeable about, how and why things happen, and does not ‘think for himself’ as much as the libertarian. The authoritarian is therefore often limited to cognition without understanding and will prefer rules and regulations over improvisation and exploration in all aspects of life and work.

In addition the authoritarian does not have a strongly developed conscience, but relies on social norms to judge whether behavior is appropriate or not. Adherence to social norms is qualitatively different from a conscience because the last form relies on individual autonomy and understanding so that behavior can be tuned flexibly to specific and novel situations. While authoritarians and libertarians can, and often will, agree on the applicability of social norms and judicial laws; for the authoritarians they form unquestionable origins of their behavior to be adhered to strictly: because if they don’t, they have nothing to fall back to (and chaos looms). For the libertarians social norms and laws are man-made and therefore

malleable and to be applied skillfully and flexibly. For a true libertarian an adapted, more suitable, or even improvised norm that is consistent with higher and more abstract notions of freedom, self-expression, social responsibility, equality, or fairness is fine. While for them norms and laws arise as human social constructs, and are as such mundane, for the authoritarian the origin of norms and laws are inaccessible, their scope eternal (even if they change over time), their character profound, and on the whole of a religious quality that one should not argue with or question.

Social norms, whether or not explicit as regulations, procedures, and laws, are extremely important for authoritarians because they form the basis of their behavior and the essence of their ability to cope. But norms have a very special quality. Authoritarians group those that adhere to their norms as “us” and those that do not as “them”. At the same time, for authoritarians, adherence to the norms means “good” because it keeps life manageable and violation means “bad” behavior because it challenges their coping capacity. While libertarians, in many cases, might agree with qualifications in terms of good and bad, they will rely on their own conscience and not on mere norm adherence or norm violation to decide whether something is good or bad. Consequently, authoritarians and libertarians might easily and fundamentally disagree on what is good and bad. And because they reach conclusions in qualitatively different ways, they might never understand each other.

3.4 Cognitive (in)capacity

Social norms form the eternal and unquestionable basis of authoritarian behavior; consequently they cannot respond flexibly to changing social norms. In fact they respond highly fearful to what Stenner calls normative threats (2005, p17)

I refer to these critical catalysts as "normative threats" or "threat to the normative order". By the "normative order" I simply mean some system of oneness and sameness that makes "us" an "us": some demarcation of people, authorities, institutions, values, and norms that for some folks at some point defines who "we" are, and what "we" believe in. "Normative threads" are then threats to this oneness and sameness. In diverse and complex modern societies, the things that make *us one and the same* are common authority and shared values. The conditions most threatening to oneness and sameness, then, are questioned or questionable authorities and values: that is, disrespect for leaders or leaders unworthy of respect, and lack of conformity to or consensus in group values, norms, and beliefs. [Original emphasis]

Stenner defines normative threads as changes to oneness — adherence to norms — and sameness — how divers the group is in coping behavior. For authoritarians these are *the* central indicators of the adequacy of their coping behaviors and to determine who is good and who is bad. Together they form the well from which all purposeful behavior they are capable of stems from. And when this well cannot generate rich enough behavior to control their environment, they feel trapped in it. So a normative challenge is, for an authoritarian, a direct attack to their ability to cope and therefore their ability to feel in control.

Stenner's work shows a consistent and strong relation between what she calls *cognitive incapacity* and authoritarianism.

I have repeatedly found that authoritarianism is heavily, indeed primarily, determined by cognitive incapacity (along with lack of openness to experience). Any variable that even remotely reflects cognitive incapacity invariably proves a significant determinant of

authoritarianism, whether that involves (lack of) verbal ability, years of education, possession of a college degree, political knowledge, or sophistication/complexity of writing. (Stenner, 2009)

So cognitive incapacity (to deal one's social environment) in combination with reduced "openness of experience" might be driving factors in developing an authoritarian disposition. Openness to experience is one of the "big five" dimensions of personality and involves active imagination, aesthetic sensitivity, attentiveness to inner feelings, preference for variety, and intellectual curiosity. People who are closed to experience tend to be conventional and traditional in their outlook and behavior, prefer familiar routines to new experiences, and generally have a narrower range of interests. Formulated in positive terms; they are as practical and down-to-earth as Snedden. The combination of a narrow or vocational education and a resistance to experiencing novelty and, as a consequence, learning leads to individuals who are of normal intelligence, but who have not learned to cope with many common situations that are judged as (too) complex (that but may not offer any challenge for a libertarian). Stenner (2009) observes that this sets authoritarians apart from conservatives who prefer the current status quo over change.

Status quo conservatism seems to be largely about the rigidity associated with aging. Whereas age (the principal determinant of status quo conservatism) reduces one's ability to cope with change, uncertainty, and instability (i.e., difference over time, things not being closed or settled), cognitive incapacity (the principal determinant of authoritarianism) reduces one's ability to deal with *complexity* (i.e., difference across space, things not being simple). (Emphasis added)

After which she concludes (Stenner 2009)

"that authoritarians are simple-minded avoiders of complexity more than closed-minded avoiders of change. These complexity-avoiders are cognitively limited to begin with."

But it is not only cognitive limitations that determine the difference between libertarians and authoritarians: the evidence shows consistently "that their fears are aroused and their thinking deteriorates still further in the face of threats to oneness and sameness." These fears ... (Stenner 2009)

... and cognitive decline then magnify authoritarian demands for limits on racial diversity, political dissent and moral deviance. But it still seems to me that *authoritarians are not endeavoring to avoid complex thinking so much as a complex world*. [...] Note, most important, that normative threat only invites this kind of fear, cognitive unravelling and outbursts of intolerance among authoritarians, whereas in fact these very same conditions (i.e., the public dissension and criticism of leaders that are the hallmarks of a healthy democracy) induce only greater tranquillity, sharper cognition, and more vigilant defense of tolerance among libertarians. (Emphasis added)

So it is not complexity, but a complex world that is threatening to authoritarians. There is no reason to believe that authoritarians are less intelligent. Generally they are more closed to experience, but this is a personality trait that is unrelated to intelligence. What really characterizes them is that they have not learned more sophisticated and effective approaches to daily societal problems. Within the scope of their interests and vocation they exhibit normal intelligence and normal competence. Like everyone who is faced with challenges beyond coping capacity, they are going to be afraid about their future and motivated to realize a more favorable situation. Unlike libertarians, authoritarians do this by reducing environmental

complexity towards any well-supported social norm or ideology. To summarize:

- Where libertarians see a challenge, authoritarians perceive a threat.
- Where libertarians see diversity and self-expression, authoritarians see moral decline
- Where libertarians are interested, authoritarians are fearful
- Where libertarians propose dialogue, authoritarians propose suppression of dissent

3.5 Authoritarian - libertarian conflicts.

This directly entails an important, but quite subtle, difference between authoritarians and libertarians that plays a role in many organizations and in society as a whole: for an authoritarian it is more stressful to live in a libertarian controlled environment than vice versa. As long as the environment is not too extreme, libertarians can function quite well with the rules, procedures, and control freakishness of, for example, an authoritarian bureaucracy. Just as for authoritarians, these reduce the mental demands daily life poses and it might actually free the mind for worthier matters. The occasional conflict with the rules can often be accommodated, ignored, circumvented, or otherwise be neutralized. Only direct encounters with authoritarians upholding futile rules or applying them in clear violation of human decency annoy the libertarian, but this can be coped with.

But for the authoritarian, libertarians are not just an annoyance, they a threat to the normative order, to the proper functioning of society. A source of anarchist chaos, to be controlled, regulated, curtailed, punished, and monitored for the greater good of an ordered society. Well before libertarians are aware of any problem, authoritarians agree on both the existence of a pressing problem (disorder and moral decline) and the solution (order and enforced regulations). Working together, even a small minority of authoritarians can become a dominant force in an organization. This is the driving force behind the increase in bureaucratization that happens virtually everywhere and has occurred through the ages. This was what Wilson's strategists were counting on. And it worked quite well apparently.

However, when finally united against too much curtailment, bureaucracy, and sometimes outright opposition, libertarians have two formidable weapons to which authoritarians have no real defense: reason and noncompliance. Simply demanding an explanation how rules and regulations contribute to the primary functions of, for example, a university may already erode the certainty of an authoritarian bureaucracy. Persistence and not being discouraged by empty non-answers and threats of insubordination allow the libertarians to gradually identify all the inconsistencies and self-serving structures of the bureaucracy. Exposing and ridiculing these can be enough for fundamental change, since authoritarians go to great lengths to save face. And this change may well be supported by many of the authoritarians, as long as they can interpret it as group authority.

If this doesn't work, the libertarians have a simple but even more powerful weapon. Pervasive noncompliance: this creates chaos in the structured world of the authoritarian in a way that utterly bewilders: not by opposing, but *by denying the very structures in life that provide certitude to authoritarians*. If non-compliance persists, it rapidly erodes the trust of the lower echelons in their "superiors" who are as bewildered as they are. If the libertarians (temporarily) create something that resembles a centralized power structure with a single well-supported spokesperson who negotiates the conditions for resuming something resembling normalcy, the authoritarians will gladly accept any new order if that promises to end the chaos. Authoritarians do not care who is in control as long as the controllers create and maintain the conditions under which they feel (a measure of) competence in their lives.

4 Hierarchy

4.1 The roots of hierarchy

Since authoritarians seek authorities that are more competent, they spontaneously organize in hierarchies. And these are typically structured according to Stenner's continuum: between minimally autonomous authoritarianism at the bottom and highly capable libertarians at the top. Some capable authoritarians may rise through the ranks to management positions, but the more natural way is that highly (liberally) educated people enter at midlevel and shortcut to the top.

Libertarians can be a dominant force that keeps the hierarchy rational, focused, and efficient. But hierarchies that become dominated by authoritarians — typically by replacing highly skilled and expensive libertarians by lower skilled and cheaper authoritarians — purge understanding in favor of regulations, procedures, order, and control. This entails that budget cuts typically lead to an increased role of authoritarians. Their minimal understanding in combination with the underdeveloped conscience of the authoritarians leads to rot from the inside: the well-known bureaucrat or corporate employee who blindly executes protocols and is incapable of sincere empathy. If the higher echelons of the hierarchy do not correct this tendency it will lead to hierarchies that become increasingly self-serving.

Worse even, the infatuation of authoritarians with their chosen leaders and their lack of understanding makes them highly vulnerable to exploitation. Their fragmented and incoherent minds are wide open for ideologies, propaganda, advertising, and "solutions" from which they themselves experience no ultimate benefit because these end-up near the top of the hierarchy. Now the originally benevolent and maybe even idealistic organization has turned in a (more or less) subtle force of extortion in which the lower echelons contribute to the extortion of others as well as themselves. All hierarchies, corporate, public, as well as state, where the lower and middle echelons do no longer understand the workings of the top are candidate extortionist organizations. Only an educated mind and considerable study gives access to this level of understanding of these organizations. The authoritarians of "the rank and file", incapable of truly criticizing superiors, will as usual appear infatuated by the very people that extort them via indirect means.

The dynamics of hierarchy are known for probably millennia, For example the intellectuals of the Milner groups that spawned many of the think tanks of the twentieth century (Quigley, 1966; 1981) fully understood the contrast authoritarianism — libertarianism and its relation to the very existence of the state. For example Lionel Curtis (1918) writes:

The state differs from any other form of human organization in that the authority which it claims over the conduct of its members is unlimited. It assumes the right to deprive them in the public interest of their property, of their liberty, and of their lives, and it is only while that claim is admitted to a sufficient extent by a sufficient number of its members that the state can exist. For, to put the matter in a nutshell, government can only continue so long as it can depend upon the willingness of a sufficient number of its subjects to sacrifice their lives to the enforcements of its commands. (Page 6)

This goes to the very core of the strategy of behind Wilson's wish for an impoverished education: with it comes a craving for authority, a strengthening of the state and with it a willingness to be deprived of property (increasing inequality), liberty (progressive curtailments

of constitutional rights), and lives (military adventures against non-threatening parties). In addition the main danger facing a state is its citizens not depending on it except for the barest minimum.

4.2 The top of the hierarchy

In strongly authoritarian societies such as in Nazi Germany typical authoritarians existed in the top echelons of the — visible — hierarchy. For example Eichman, who was the bureaucrat responsible for the *Endlösung*, was described by Arendt (1963) as an example of the “banality of evil”:

Throughout the trial, Eichmann tried to clarify, mostly without success, this second point in his plea of "not guilty in the sense of the indictment." The indictment implied not only that he had acted on purpose, which he did not deny, but out of base motives and in full knowledge of the criminal nature of his deeds. As for the base motives, he was perfectly sure that he was not what he called an *innerer Schweinehund*, a dirty bastard in the depths of his heart; and as for his conscience, he remembered perfectly well that he would have had a bad conscience only if he had not done what he had been ordered to do — to ship millions of men, women, and children to their death with great zeal and the most meticulous care. This, admittedly, was hard to take. Half a dozen psychiatrists had certified him as "normal" — "More normal, at any rate, than I am after having examined him," one of them was said to have exclaimed, while another had found that his whole psychological outlook, his attitude toward his wife and children, mother and father, brothers, sisters, and friends, was "not only normal but most desirable" — and finally the minister who had paid regular visits to him in prison after the Supreme Court had finished hearing his appeal reassured everybody by declaring Eichmann to be "a man with very positive ideas."

Eichmann is a perfectly frank authoritarian when he describes his conscience: this is not concerned with his acts, but with whether or not he complies with the commands of authorities. He is the efficient bureaucrat incapable of understanding and empathizing with out-groups. As such authoritarians like Eichmann can do the most horrible things to those they believe adhere to different norms. From a third person perspective (victim or observer) they can be evil. But as the example of Eichmann shows from a second person perspective (such as the, possibly equally authoritarian priest) the authoritarian may have perfectly normal values. From a first person perspective however no authoritarian considers himself deeply evil, they simply miss the independence of thought and behavior to be a source of true evil (or true benevolence for that matter). For them *disobedience is evil*. Authoritarians are the ideal tools of evil because more intellectually capable than them direct them and almost own them. But whether an authoritarian is good or evil is as ill posed as the question whether a bullet that killed is evil or the hammer that builds is good. Eichmann was perfectly honest in his self-analysis, consequently, he was nothing near the real top.

The real top of these multi-layered hierarchies consists more likely of a special class of highly capable libertarians: those with the inclinations, the skills, and the understanding to turn people, hierarchical organizations, and whole societies into instruments of self-enrichment and extortion. People like Woodrow Wilson — who are cable of remembering seven generations in the past and considering seven generation in the future — can create the conditions that make people more prone to join hierarchies. Like with the Iroquois chiefs, these are the real top in society, but unlike Iroquois chiefs they are not acknowledged as such, at least not publicly. In our democratic society they form a stable long-term influence on the politicians that wax and

wane with election cycles. But acknowledged or not, this class of skilled long term thinkers has a profound influence on the lives of everyone.

Their influence is no secret at all, it is maybe not apparent for the narrowly educated, but it is quite obvious when one has a well-developed understanding capacity. One famous and highly relevant report about Wilson's class activities is the 1954 Norman Dodd Report addressing tax-exempt foundations (Dodd, 1954). The Yale educated Norman Dodd was staff director of the *United States House Select Committee to Investigate Tax-Exempt Foundations and Comparable Organizations*, also known as the Reece Commission. This committee was tasked to investigate whether the not for (short term) Foundations were the benign influence that justified their tax-exempt status. For this committee Dodd reported that since the early twentieth century the Ford Foundation, Rockefeller Foundation, and Carnegie Endowment were collaborating closely to a common goal of which Dodd writes:

In summary, our study of these entities and their relationship to each other seems to warrant the inference that they constitute a highly efficient, functioning whole. Its product is apparently an educational curriculum designed to indoctrinate the American student from matriculation to the consummation of his education. It contrasts sharply with the freedom of the individual as the cornerstone of our social structure. For this freedom, it seems to substitute the group, the will of the majority, and a centralized power to enforce this will — presumably in the interest of all. (p 7)

The last two sentences foreshadow Stenner's defining characteristics of Authoritarianism: uniformity via indoctrination and group authority via the centralization of power. The irony still drips from the last statement and begs the question to whom the word "all" actually refers to. Dodds continues with an analysis of the role of Ford foundation that is *without precedence as to size and it is the first Foundation that dedicates itself openly to "problem solving" on a global scale (p 14)*. This early reference to globalization makes one wonder it is the same "all" whose problems are going to be solved. Dodds writes that the Ford Foundation dedicates itself "to take advantage of:"

the wholesale dedication of education to a social purpose —

the need to defend this dedication from criticism —

the need to indoctrinate adults along these lines —

the acceptance by the Executive branch of the Federal Government of responsibility for planning on a national and international scale —

the diminishing power of Congress and the states and the growing power of the Executive Government — and,

the seeming indispensability of control over human behavior. (p 14)

This is a powerful statement outlying the absolute necessity of control over human behavior, using education for social purposes and indoctrination as top priority, that is to be defended at all costs. Furthermore it outlines the erosion of local politics and the legislative branch in favor of stronger executive powers that should accept responsibility for planning on a national and international scale. And this all was to be taken advantage of by some "all" who are interested in problem solving on a global scale.

Problem solving on a global scale for the benefits of "all" references geopolitics: the long-term struggle for control over the earth's resources through controlling people. Targeted resources

are everything of value and can be energy, minerals, land, labor, intellectual or artistic achievements, and even idealism. Money in this game is a tool, not an objective. Climate change and the prospects of a sustainable future are geopolitical issues par excellence because they are about who controls the earth, and which control-strategy will be used. Ultimately, geopolitics is about controlling how we — citizens of the world — understand our world and choose our actions: for the benefit of ourselves or for the benefit of the top of the hierarchies that our dependence requires us join. Geopolitics is applied cognitive science at a global scale and at timescales up to multiple generations.

Ferdinand Magellan's expedition (1519-1522) that circumnavigated the earth — and proved beyond all doubt that the earth was of finite size — was an incentive to control all of the Earth. It is no accident that since that moment Earth has gone from being a shared entity into property (Hall, 2010). The top of the geopolitical hierarchy is therefore not reflected the Forbes list of billionaires as shareholder value: it is only indirectly visible as geopolitical control over energy, minerals, land, labor, intellectual or artistic achievements, and ideals: more difficult to entangle, but much more interesting. For that reason the top of the geopolitical hierarchy might fear nothing more than a careful analysis of who owns or controls what, because it may reveal that sizable fraction of the world in is the hands of a very few who never ever contributed to the total wealth of the Earth. And even authoritarians understand that this is parasitic.

By now, it should be abundantly clear that educational quality — as realized by families, the media, among friends, and at schools — *is* geopolitics. Any discussion on education quality that does not take the geopolitical ramifications of education for dependency or understanding and for democracy or oligarchy into account is missing the key point.

The crisis of Democracy

A fairly modern opinion on the role of democracy in the eyes of the economic elite Wilson represented and Dodd reported on is conveyed in a report called "The crisis of Democracy" (Crozier, Huntington, & Watanuki, 1975) written for the Trilateral Commission that was founded by David Rockefeller and for a long time directed by geopolitical strategist Zbigniew Brzezinski. The crisis of Democracy, as the report describes, it is one of *too much democracy*. The report states:

Al Smith once remarked that "the only cure for the evils of democracy is more democracy." Our analysis suggests that applying that cure at the present time could well be adding fuel to the flames. Instead, some of the problems of governance in the United States today stem from an excess of democracy—an "excess of democracy" in much the same sense in which David Donald used the term to refer to the consequences of the Jacksonian revolution which helped to precipitate the Civil War. Needed, instead, is a greater degree of moderation in democracy.

In practice, this moderation has two major areas of application. First, democracy is only one way of constituting authority, and it is not necessarily a universally applicable one. In many situations the claims of expertise, seniority, experience, and special talents may override the claims of democracy as a way of constituting authority. During the surge of the 1960s, however, the democratic principle was extended to many institutions where it can, in the long run, only frustrate the purposes of those institutions. A university where teaching appointments are subject to approval by students may be a more democratic university but it is not likely to be a better university. In similar fashion, armies in which the commands of

officers have been subject to veto by the collective wisdom of their subordinates have almost invariably come to disaster on the battlefield. The arenas where democratic procedures are appropriate are, in short, limited.

Second, the effective operation of a democratic political system usually requires some measure of apathy and noninvolvement on the part of some individuals and groups. In the past, every democratic society has had a marginal population, of greater or lesser size, which has not actively participated in politics. In itself, this marginality on the part of some groups is inherently undemocratic, but it has also been one of the factors which has enabled democracy to function effectively. Marginal social groups, as in the case of the blacks, are now becoming full participants in the political system. Yet the danger of overloading the political system with demands which extend its functions and undermine its authority still remains. Less marginality on the part of some groups thus needs to be replaced by more self-restraint on the part of all groups. (Crozier et al., 1975) (page 114)

This is a very rich statement, which deserves a full analysis of its own. The issue of increasing popular influence undermining authority is still a topic that is openly discussed within elitist circles. Zbigniew Brzezinski has been addressing this issue now for a few years. In a lecture delivered at Chatham House, London, on November 17- 2008 [link defunct] he addressed the challenges of the then future president Obama. Of which

the first concerns the emergence of global issues pertaining to human wellbeing as critical worldwide political concerns—issues such as climate, environment, starvation, health and social inequality. These issues are becoming more contentious because they have come to the fore in the context of what I have described in my writings as ‘the global political awakening’, itself a truly transformative event on the global scene. For the first time in human history almost all of humanity is politically activated, politically conscious and politically interactive. There are only a few pockets of humanity left in the remotest corners of the world that are not politically alert and engaged with the political turmoil and stirrings that are so widespread today around the world. The resulting global political activism is generating a surge in the quest for personal dignity, cultural respect and economic opportunity in a world painfully scarred by memories of centuries-long alien colonial or imperial domination.

So even with the more or less global strategy to use education to foster authoritarianism, the crisis of democracy is, for the elite, still a serious issue. Brzezinski continues with the observation that

while the lethality of their military might is greater than ever, their capacity to impose control over the politically awakened masses of the world is at a historic low. To put it bluntly: in earlier times, it was easier to control one million people than to physically kill one million people; today, it is infinitely easier to kill one million people than to control one million people. That insight bears directly on the use of force, particularly by societies that are culturally alien even if technologically superior. As a result, in the current post-colonial era, it is too costly to undertake colonial wars. That is a reality some recent American policy-makers failed to assimilate, to America’s detriment.

The world has changed. We-the-people might have more power than ever, and at least part of the elite knows it. It is definitely not easy being the top of an extortionist hierarchy and still

remain in control, especially since authority “can only continue so long as it can depend upon the willingness of a sufficient number of its subjects to sacrifice their lives to the enforcements of its commands” (Curtis, 1918) (page 6).

5 Intellectual classes

5.1 Controlling the system you are part of

Wilson's quote names two classes, which may or may not include his own class. These classes differ in privileges associated with education and, to use the Stenner's term, cognitive capacity. So it is quite possible that Wilson was not referring to social classes, but something that can be called intellectual classes and that reflects a class-specific ability to exert control over society: the super-system each of us is part of.

The natural way to approach this is from the viewpoint of Systems Theory and in particular how those who are part of it understand systems. One paper that addresses this topic has gained some notoriety: it even has its own Wikipedia page. It is called "Leverage points: places to Intervene in a system" by Donella Meadows (1999). Donella Meadows was an expert in complex systems theory and a teacher at Dartmouth College, a liberal arts college in Hanover, New Hampshire. She was also a member of influential think tanks (one of which the Club of Rome for which she authored "Limits to Growth" (Meadows & Club of Rome, 1972)).

In her article Meadows argues that complex systems are not so much 'complex' but counterintuitive. This entails that intuition, as example of cognition without understanding, is often misleading. When one interacts with a system one, per definition, becomes part of a system. One might say that everyone who knows how to influence a system in a desired direction has "power over" the system, but for complex systems it is all too easy to influence the system in undesired ways, which will lead to frustration about the system's behavior and effectively "the system is in control". Which of course is a reason to search for authorities who do know how to produce desired results. What is typically overlooked is that the real cause of the system unwanted behavior is one's own lack of understanding. Assuming that the system is one's social environment and we have a situation that traps the too narrowly educated.

The main message of Meadows' Leverage Points article is, as can be expected, the leverage points themselves. She writes that during a meeting about the design of global trade regimes like GATT, NAFTA and the World Trade Organization she "began to simmer inside" by the attendants ignorance of the complex system they were proposing [Meadows_1999]. This spurred her to formulate a "hit-parade" of leverage points. These leverage points correspond progressively to more and more powerful ways to intervene in complex systems. Meadows' hierarchy is a countdown of twelve leverage points, from the least influential one at the twelfth position to the most effective and powerful at the number one position.

The list progresses from concrete and well-known ways to interact with complex systems to gradually more powerful, more abstract, but at the same time slower ways to shape and control complex systems such as society as a whole. As such the list corresponds to progressively more profound understanding of the system: from ways to interact with the system that demand little or no understanding, via ways that do, to control over the mindset from which the system arose, to ultimately a profound understanding of how different paradigms shape the perception of reality.

Rank	Meadows leverage points	Proposed intellectual classes
	Working for the system	Intellectual slave class
	No leverage points	Characteristics of individuals who have no personal autonomy, typically life-long slaves, highly stressed individuals (abused women, forced prostitution, soldiers in combat) who see no other options than to comply.
	Working with the system	Intellectual lower class
12-10	12 - Constants, parameters, numbers (such as production levels, sales prizes, loans, taxes levels) 11 - The size of buffers and other stabilizing stocks, relative to their flows 10 - Structure of material stocks and flows (such as transport network, population age structures)	Characteristic for individuals who are able to meet the needs of their environments in stable and routine situations, but look for guidance in times of change and uncertainty. These are typically workers, soldiers, lower level civil servants, etc. Who have minimal understanding of the processes they are involved in.
	Making the system work for you	Intellectual middle class
9-7	9 - Length of delays, relative to the rate of system changes 8 - Strength of negative feedback loops, relative to the effect they are trying to correct against 7 - Gain around driving positive feedback loops	Characteristics for individuals who are able to exploit stable and routines situations. They are the more successful and the entrepreneurially minded, higher level civil servants and corporate employees, which include low and medium level politicians, entrepreneurs, and white collar criminals.
	Building and controlling the system	Intellectual upper class
6-4	6 - Structure of information flow (who does and does not have access to what kinds of information) 5 - Rules of the system (such as incentives, punishment, constraints) 4- Power to add, change, evolve, or self-organize system structure	Policy-makers such as high-level lobbyists, cabinet ministers, elected heads-of-state, influential representatives like senators or MP's, high-level judges, CEO's of national corporations, top-military, and the largest investment firms that are able to determine where a society will focus on and how it will develop through capital driven stimuli for particular technology, economic sectors, and legal and cultural reforms.
	Setting the goals	Intellectual elite
3-2	3 - Goal of the system 2 - Mindset or paradigm that the system — its goals, structure, rules, delays, parameters — arises out of	The highest levels of think tanks, Boards of Foundations and media corporations, CEO's of the largest multinationals, intelligence agencies, leaders of organized religions, and a few highly effective communicators in, typically, academia and culture. This is the domain of what one can call the intellectual elite. Effectivity at this level requires both access to the inner circles of power and a deep understanding of the cultures one is influencing.
	Influencing how the world is understood	Intellectual power elite
1	1 - Power to transcend paradigms	A mastery of human nature through determining how the world is understood through the paradigms and ideologies people grow up in and harbor. This determines how the global society develops and reacts to change and challenges. This is the most powerful, and at the same time slowest, level which might be reserved for the intellectual power elite

Understanding here is defined in practical terms, namely as the ability to make your environment (system) work for you or to create environments that spawn subsystems that realize your goals. This may be limited to some aspects of system or to default behavior, which allows the someone without any real understanding to still be effective with procedures, regulations or memorized if-then relations (typically through long experience). Non-default behavior needs either a massive set of these or a measure of real understanding. The difference between the two is of course one of parsimoniousness: understanding is more parsimonious and is typically in the form of general regularities adaptable to a multitude of instances, derived via a process called induction. Both strategies can be effective and may even be difficult to separate (van der Vaart, Verbrugge, & Hemelrijk, 2012).

One might try to couple the twelve leverage points to the capacity to effectively influence and shape one's own life — the most relevant super-system one is part of. People who master only the more tangible levels with the lowest leverage are clearly less empowered than those who master the higher levels. These levels correspond to 6 proposed intellectual classes ordered in term of understanding that are outlined in the next section.

5.2 The social roles of the intellectual classes

Table 1: Meadows' table of leverage points (Meadows, 1999) grouped according to proposed skill-levels associated with 6 levels of intellectual classes and a description of the control over society each represents.

The first three intellectual classes are authoritarian. The intellectual slave class should not exist in our societies, but individuals in this state exist in particular subcultures. Intellectual slaves are utterly dependent on others to direct their behavior and attitudes and even their emotions. The intellectual lower class are can only deal reliably with a subpart of stable or routine social situations. They typically choose a norm complying social context where they weed out any source of diversity and complexity. Appearances are important for them in particular whether one complies with the norm. The intellectual middle class learned how to exploit stable and routine societal and they are separated from the intellectual lower class in their ability to deal with more diversity, which they consider a potential source of opportunity, emotional independence, possibly at the cost of some norm violation, is important for this class.

The first libertarian class is the intellectual upper class. This class understands the behavior of society in all but the more extreme cases, which allows them to control society and add novel elements to it; as such they are conformable in dealing with diversity. Which is of course why the Athenians only allowed the liberally educated to participate in democracy. Personal and intellectual autonomy is characteristic for this class. Many libertarians end at this level. This class contains, among others, active (top) politicians that typically have a scope of one or at best two election cycles. The transition from the intellectual upper class to the intellectual elite is the ability to think out of the confines of traditional societal structures, to consider a time-scope of multiple generations, and to integrate the diversity of human and natural phenomena in a single coherent framework as solid basis for behavior. Basically these (to some extend) self-actualized (Maslow, 1962) individuals have two options: optimizing the common good or achieving self-serving purposes. The first leads to wisdom the second to power. Those who opt for power become highly effective drains of wealth through, typically, the conversion of hierarchies of any kind for self-serving purposes. Those who opt for wisdom become typically inconspicuous centers of sustainable development, self-empowerment, learning, and well-being. Some might become fully actualized individuals, which allows them to transcend paradigms and to become the visionaries of their times.

The last intellectual class, the intellectual power elite — probably predominantly individuals who prefer power over wisdom — actively and purposefully influence the way the world is understood as a such they have an even greater influence. In 1928 Bernays, the father of public relations, wrote a book called *Propaganda* (1928) which he starts, in completely openness, with a description of the *true nature of the ruling power* of the United States that fits with this description of the intellectual power elite:

The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country.

We are governed, our minds are molded, our tastes formed, our ideas suggested, largely by men we have never heard of. This is a logical result of the way in which our democratic society is organized. Vast numbers of human beings must cooperate in this manner if they are to live together as a smoothly functioning society.

Our invisible governors are, in many cases, unaware of the identity of their fellow members in the inner cabinet.

They govern us by their qualities of natural leadership, their ability to supply needed ideas and by their key position in the social structure. Whatever attitude one chooses to take toward this condition, it remains a fact that in almost every act of our daily lives, whether in the sphere of politics or business, in our social conduct or our ethical thinking, we are dominated by the relatively small number of persons—a trifling fraction of our hundred and twenty million—who understand the mental processes and social patterns of the masses. It is they who pull the wires which control the public mind, who harness old social forces and contrive new ways to bind and guide the world.

Bernays suggest that intellectual power elite might be power elite by accident: through the confluence of their “natural leadership” and access. This may be true, but they might also find each other and agree on the long-term pursuit of particular strategies. And if that is the case much of what we think might have been designed for self-serving purposes by these people conform the Dodd Report (Dodd, 1954). In any case they are as inconspicuous, if not more, as those who optimize wisdom.

This formulation of the three most powerful levels is similar to Luke’s “three faces of power” (Luke, 2004, *Power: A Radical View*, Palgrave Macmillan) that focuses on political power. Wikipedia (retrieved September 26th, 2010) describes this concisely as:

This theory claims that governments control people in three ways: through decision-making power, non decision-making power and ideological power. Decision-making power is the most public of the three faces, and is the manner in which governments want to be seen: the power of governments to make policy decisions after widespread consultation with opposition parties and the wider public. Non decision-making power is the power that governments have to control the agenda in debates and make certain issues (such as the possible merits of Communism in the United States) unacceptable for discussion in moderate public forums. The third and most important face of power is ideological power, which is the power to influence people's wishes and thoughts and make them want things opposed to what would benefit them, such as women supporting a patriarchal society.

Decision-making power corresponds to the “building and controlling the system” level. Non decision-making determines what comes on the table and what is palatable or not for public

discussion and corresponds to “setting the goals”. Luke’s most important face of power is ideological power with a typical example of the use of paradigms to coach societies in a desired direction. This paper is an attempt at non-decision making power by framing the debate on academic values, the benefits of a proper debate should lead to ideologies that influence people wishes and thoughts and make them want and realize things that actually benefit them.

5.3 Cognitive (in)capacity and skills

It is possible to graphically depict the different intellectual classes defined above and to connect the particular levels to which the world can be understood to three ingredients introduced before.

1. Cognition without understanding. This is cognition in the form of rules, procedures, examples, instances, habits, and intuitions. These may be effective, but if not integrated in a single framework they allows for many contradictions and as such to potentially maladaptive behavior with adverse consequences.
2. Cognition with understanding. This leads, via induction, to evermore generally applicable regularities that replace large sets of instances, procedures, and examples, etc. by more parsimonious and gradually more pervasive understanding with a much lower associated probability of adverse consequences. This form of understanding is always based on an initial phase of cognition without understanding such as intuition. This entails that it is always a subset of the total competences of an individual.
3. Developing confidence. Understanding can only grow with experience and especially as function of whether one learns to trust and rely on one’s growing understanding as a basis for behavior. This, of course, only occurs when the consequences of truly self-initiated behavior are generally favorable. [This leads to the development of tacit knowledge — knowing how —, Sternberg]

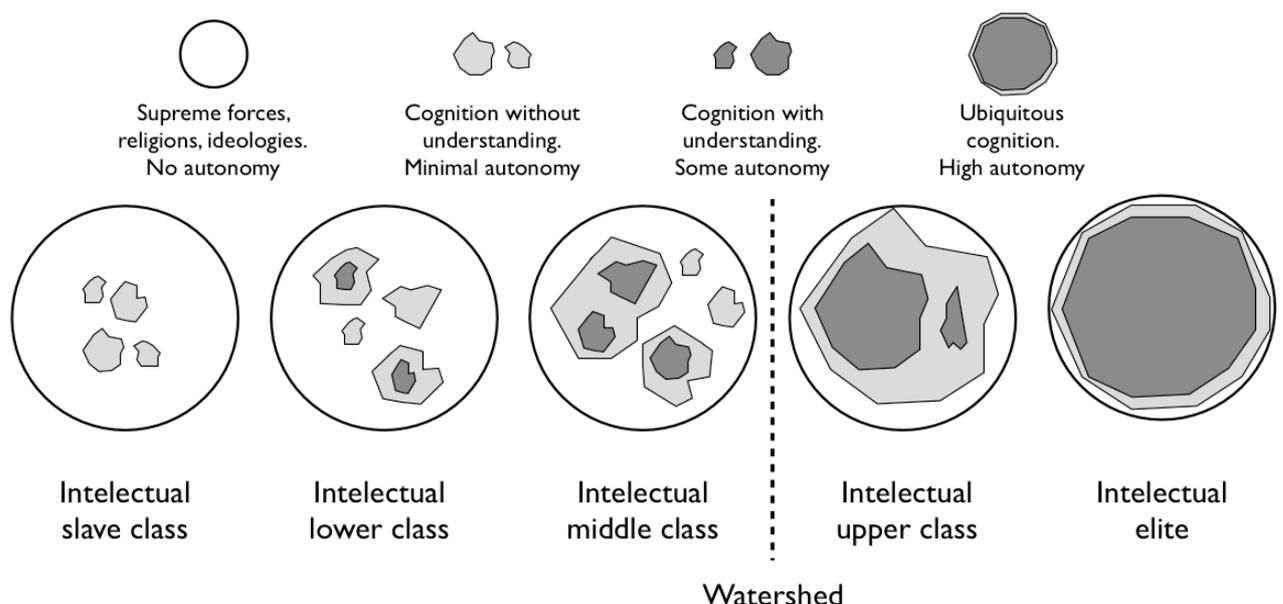


Figure Intellectual classes in terms of which fraction of the time they rely on supreme forces (unquestionable and unquestioned beliefs of “divine” or otherwise profound origin), cognition without understanding (authority provided rules and procedure), cognition with understanding (self-directed and creative actions), and pervasive integrated cognition (fully autonomous behavior). The watershed is denotes the transition between behavior under

strategic control of authorities and the ability (to learn) to generate truly autonomous behavior. The fragmented minds before the watershed are not perturbed by inconsistencies and are therefore easily manipulated by ideologies and misinformation.

The intellectual slave class has no understanding and has no autonomy. Intellectual slaves function on cognition without understanding (the light gray blobs), typically in combination with the suppression of all sources of self-esteem, which prevents the development of cognition with understanding. These individuals do what they are told and have no inkling of any inconsistencies in their behavior whatsoever. They experience much of the structures around them as due to supreme forces that defy human understanding (the white regions around the "cognition" blobs). Consequently they interpret much of what happens in their lifetime as either natural forces or divine intervention and they rely on quite literally interpreted pre-given ideological or religious frameworks. The intellectual lower class is similar but has pockets of understanding and competence. Yet still they have quite fragmented and generally highly inconsistent interpretations of reality. However they have more self-esteem than the slave-class and develop coping capabilities for a growing fraction of the time. The intellectual middle class is one step more integrated and because they learn that different domains of competence are connected and benefit from each other. This deepens and broadens their understanding of daily life and gradually increases the fraction of the time for which they have proper coping skills.

The intellectual upper class has crossed the watershed that separates authoritarianism from libertarianism. These have learned to expect that different domains of knowledge can and should be understood by weeding out internal inconsistencies. In addition they have learned that all experiences and all sources of knowledge are of potential interest so that they gradually become more competent and more autonomous for more and more of the time. The fifth class is the intellectual elite, or what Maslow calls self-actualized individuals. These have a very good grasp on reality and have extended the scope of understanding to most of daily life. These people have ubiquitous cognition and their intellectual autonomy leaves very little room for the supreme forces that bewilder the lower intellectual classes. In fact they might be able to provide the intellectual lower classes with the ideological, religious, and practical guidance that these crave.

The intellectual stratification proposed, is therefore all about a mastery of one's environments. The more one is in command over the environments (of any kind) one is part of, the more one can control environments that trap others and the higher the associated intellectual class. Note that this is not merely a question of intelligence. Someone might score high on IQ-tests and still be quite inadequate or shallow in dealing with the challenges of the daily environment. Put differently, although intelligence is a necessary requirement, it is the breadth and objectivity of understanding one's environment that determines the intellectual class. Dictionary definitions seem to reflect this difference.

Intelligence: the ability to acquire and apply knowledge and skills.

Intellect: the faculty of reasoning and understanding objectively, especially with regard to abstract or academic matters

The six-level list of intellectual classes is a proposal to be tested. It might need adjustment and fine-tuning, but it seems to fit quite well with the qualitative descriptions given so far. The main point is that it correlates mastery over complex systems to social strata in a way that fits with what is known about the effects of the different forms of education.

Matches between the social-economic class and the intellectual class as defined here will not

be perfect because it depends on personal development, which may be incongruent to social-economic class. For example narrow-minded domain experts such as stockbrokers or even scientists can become rich (like Athenian slaves) or influential through the valorization of their skills. But they can still be examples of the intellectual working class if they miss the general sophistication to deal with change and variety in a more extended environment. Conversely, some people of the social-economic lower class may have the sophistication to understand and control their lives to a degree common to the higher classes. They might simply, and for good reasons, not be interested in participating in the social-economic game most of us play.

One can go one step further and conjecture a set of skills associated with the different intellectual classes. These skill range from being able to control a stable and protected environment for the intellectual lower classes to a full mastery of human nature and the associated control. Human nature and the human characteristics it allows are, according to Michael Mann (Mann 1986), the “original source of power”. As such this is taken as the highest level of command over the environment. Table 2 provides a tentative description of the skill’s one might expect for the intellectual classes of table 1.

Rank	Skills and social strata
	Slave-class — Working for the system
6	Unable and unwilling to take responsibility for any facet of the environment. No ability for considering themselves as independent agents.
	Intellectual lower-class — Working with the system
5	Able to successfully attend a small part or facet of one's environment, but unable to fully oversee and understand the dynamics of the direct social, cultural, and economic environment. No ability to evaluate one's situation in a larger context, therefore unable to visualize and reason about cultural differences. Daily decisions are dictated by the current environment which leads to minimal personal autonomy and consequently a high reliance on authorities of all sorts, especially those who solve work-related problems and who are responsible for maintaining a (political, social, political, economic, leisure) context in which one can function adequately.
	Intellectual middle-class — Making the system work for you
4	Able to understand and use the dynamics of the direct social, cultural, and economic environment. The ability to evaluate and adapt one's own situation <i>reactively</i> in a larger social economic context. Able to visualize and understand cultural differences and to relate and interact with these differences in an effective way. Daily decisions in part under strategic control. Increased autonomy and reduced sensitivity to authorities. More likely to challenge authorities when they interfere with own activities, but equally likely to demand that authorities uphold the conditions that allow them 'to make the system work for them'.
	Intellectual upper-class — Controlling the system
3	Able to understand and willing to change the dynamics of society, culture, and economy as a whole. Able to evaluate and to adapt <i>proactively</i> to large scale social-economic developments. Able to visualize, understand, and regulate cultural differences. Daily decisions in the service of strategic (long-term) control by political strategists, think tanks and non-profit Foundations, pressure-groups, etc. A high level of personal autonomy and a willingness and ability to lead overtly and covertly. Able to effectively challenge and influence (other) authorities irrespective whether one is part of the authoritarian structure. In need for strategic coaching to help to choose decisions with maximal efficacy.
	Intellectual elite — Setting the goals
2	Able to reason about the mindset and goals of persons, groups, and social classes in terms of effective behavior manipulation through a match of skills, contexts, needs, and power-structure goals and tasks. Able to reason about a wide range of societal, cultural, technological, and economics influences and their effect on a society as a whole. Able to select, prioritize, and activate social, economic, political, and ideological changes. Full personal autonomy and the skills and willingness to influence and use the mindset of others. Highly independent of the day-to-day workings of authoritarian or political structures and able to use existing and novel structures for goal achievement.
	Intellectual power-elite — Influencing how the world is understood
1	Able to work with human nature as a tool of power. Able and motivated to influence long-term (spanning multiple generations and even centuries) individual and societal developments related to the global distribution of wealth, the distribution of skills over social strata, the geographic and sociological distribution of ideologies and myths, shaping national identities and national likes and dislikes, and global spheres of influence. To operate effectively on this level one needs to work with and from multiple paradigms, have full personal autonomy, near complete access to instruments of power, and the skills to influence the mindset of humanity in intended directions.

6.1 What modern public schools teach

When the combined wealth and intellectual power of the most powerful not-for-short-term-profit Foundations combine to influence education and when they are allowed to do so for a century or more, effects may be expected. In fact more than a few observers has noticed these, but few have reported as eloquently as John Taylor Gatto — New York City Teacher of the Year in 1989, 1990, and 1991, and New York State Teacher of the Year in 1991. Gatto describes 7 “lessons” that are taught from “Harlem to Hollywood Hills” (Gatto, 2002) (also at (“The Seven-Lesson Schoolteacher, ”<http://informationliberation.com/?id=11375>). His first two “lessons” reflect the conclusion of a fragmented and incoherent education noted by the AAC&U and Woodrow Wilson’s vision of a two-class society. However Gatto provides more details about the implicit goals and the methods to achieve these. These are given in table xx.

Goals/Lessons	Method
Confusion	Make it difficult to find meaning through a wealth of disconnected facts. Address topics out of context, without addressing essential relations to other topics and without depth. Teach too many different topics.
Class position	Students and classes are numbered. All students follow predetermined paths with a few branching points determined by school-grades and test-results. This make children expect that their development and place in society is determined by a system, not by their own development and vocation.
Indifference to learning	Maintaining a conflict between asking the students to be totally involved in a lesson, and then, when the bell rings, insist them to leave and be totally involved in another topic. The result is limited involvement and eventually indifference.
Emotional dependence	Ensure situations where the teacher has to maintain control over the children with smiles and frowns, honors and disgraces so that children, to feel good in class, know to surrender to the predestined chain of command.
Intellectual dependence	The teacher determines what to study, for how long, whether it is understood or not. “Successful” students do what the teacher, the expert, and the standard curriculum” says. Curiosity has no place, conformity does.
Provisional self-esteem	Using report cards, grades, and tests to update parents and children on progress. In doing so making self-esteem in part dependent on ‘qualified officials’. So that people are, to some extend, are told what to feel and what they, or their children, are worth.
One can’t hide	Making sure that students have no privacy around school, make sure that they are always watched, praise them if the snitch on others, and claim them at home by offering homework to prevent them learning from unauthorized sources. This convinces children that no one can be trusted and privacy is suspect.

Table xx: Educational outcomes of American public education and the methods to achieve these, according to John Tayer Gatto (“The Seven-Lesson Schoolteacher, ”<http://informationliberation.com/?id=11375>).

Note how well Gatto’s list fits with the concept of authoritarianism as defined by Stenner and the creating of an intellectual lower class. In fact the whole list reads as an authoritarian recipe to educate more authoritarians. Gatto’s analysis may not (yet) be fully applicable internationally (e.g., the last one) and even in the US not all “lessons” will be learned by all the students, nor will they be taught maximally efficiently on all public schools. But these lessons definitely lead to fragmented and incoherent minds and with minimal capacities and confidence outside the vocational roles they were prepared for. As such they comply with the

desired creation of a worker class.

6.2 Modern Liberal arts colleges

The elite do not go to public schools, but to liberal arts colleges. Crown prince Willem Alexander of The Netherlands went, for example, attended Atlantic College in Wales, which provides an International Baccalaureate Diploma Program in a mildly Harry Potter like ambiance. The Atlantic College is explicit about its mission and the skills it aims to develop. Its website states the following:

IB Learners strive to be:	
Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They take responsibility for their own actions and the consequences that accompany them.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values, and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk -Takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Table 4: The Learner Profile of the International Baccalaureate (Source: ...)

The first thing that should be noticed is that it is the ‘learners that strive’, they are the ones with goals, not the educational system as in Gatto’s list. The second thing to be noted is that none of these facets of learning can be measured reliably in the period that the learners spend at Atlantic College. It might be measured in the societal positions of its alumni or in the size of the inheritances that they receive as grateful gesture after a profitable life to the institution that made the difference, but these are long-term measures of success. Short-term performance measures are not for elite schools. Finally this list addresses a range of disparate skills and attitudes that range from enjoying to learn, to accept responsibility for own actions (twice, autonomy to act is definitely of key importance!), openness to other cultures and traditions, risk-taking, and assessing and understanding their strengths and limitations. These skill are all aimed at personal empowerment. In particular it prepares students to autonomously deal with diversity, change, and uncertainty. They will become, directly or indirectly, the sources of guidance (for better or worse) that authoritarians crave.

6.3 Comparing the two modes of education

If one considers education as a process to discover how to interact with “a complex and volatile world” (AAC&U National Leadership Council (U.S.), 2007) one might take the capacity to discover, analyze, decide, act, and learn as essential educational outcomes. A comparison between what elite schools, such as the Atlantic College, and American public education, according to Gatto, teach on these topics leads to the following.

Topic	Elite schools	(American) public education
Discovering	Natural curiosity and skills to use it efficiently, independently, and continually. Be open to other cultures and personal histories	Indifference to the discovery processes.
Analyzing	Explore concepts with in depth knowledge and creativity, and interpret them using a broad and balanced range of disciplines and to communicate about this confidently in more than one language and in different ways	Explore according to a protocol/curriculum, discourage extracurricular exploration
Deciding	Use critical thinking to come to reasoned and ethical decisions of complex problems. Learn and to have respect for perspectives, values, and traditions of the individual, groups and communities	Let the teacher, or other authorities, decide what to do and when, decide on the basis of norm-conformity and reach rapid closure.
Acting	Act with integrity and honesty. Learn to take responsibility for their own actions, and dare to take risks with courage and forethought.	Aimed at compliance with the system, be aware of constant monitoring, noncompliance leads to punishment
Learning	Able to maintain and develop intellectual, emotional, and physical balance through critical self-evaluation and continual learning	Learn what you need to learn for a professional career. Learn to feel good about yourself if qualified experts tell you so.

Table 6: Comparing elite schools with (American) public education

The intended result of elite schooling is people who are in command of their own lives and able to learn whenever possible or required. The intended products of public schools are to a lower or higher extend dependent followers in more or less continual need for authorities to guide them and to help them feel good and competent. Which of course realizes Wilson’s intention.

6.4 The Trivium

Traditionally elite education develops a broad range of skills and teaches general knowledge with a focus on history (especially antiquity), sciences, and arts. These topics are essential to provide a deep understanding of the history of (Western) thought and as such they provide a strong content-base for later. But, more importantly, they are vehicles *to learn how to think*.

In a famous, and highly recommended, Oxford speech called *the Lost tools of Learning* author Dorothy Sayers (1947) starts with a number of questions, observations actually, that reflected her concerns only decades after the start of the “deliberalization” of education. These include the following:

When we think about the remarkably early age at which the young men went up to university in, let us say, Tudor times, and thereafter were held fit to assume responsibility for the conduct of their own affairs, are we altogether comfortable about that artificial prolongation of intellectual childhood and adolescence into the years of physical maturity which is so marked in our own day?

The modern boy and girl are certainly taught more subjects — but does that always mean that they actually know more? Has it ever struck you as odd, or unfortunate, that today, when the proportion of literacy throughout Western Europe is higher than it has ever been, people should have become susceptible to the influence of advertisement and mass propaganda to an extent hitherto unheard of and unimagined? Do you put this down to the mere mechanical fact that the press and the radio and so on have made propaganda much easier to distribute over a wide area? Or do you sometimes have an uneasy suspicion that the product of modern educational methods is less good than he or she might be at disentangling fact from opinion and the proven from the plausible?

Do you ever find that young people, when they have left school, not only forget most of what they have learnt (that is only to be expected), but forget also, or betray that they have never really known, how to tackle a new subject for themselves? Are you often bothered by coming across grown-up men and women who seem unable to distinguish between a book that is sound, scholarly, and properly documented, and one that is, to any trained eye, very conspicuously none of these things?

Do you often come across people for whom, all their lives, a "subject" remains a "subject," divided by watertight bulkheads from all other "subjects," so that they experience very great difficulty in making an immediate mental connection between let us say, algebra and detective fiction, sewage disposal and the price of salmon--or, more generally, between such spheres of knowledge as philosophy and economics, or chemistry and art?

In these questions Sayers addresses many topics addressed earlier. She then proceeds to outline the Trivium of grammar, logic, and rhetoric — in that order — that formed since the antiquities the core of a liberal education. She introduces the Trivium as follows:

The whole of the Trivium was, in fact, intended to teach the pupil the proper use of the tools of learning, before he began to apply them to "subjects" at all. First, he learned a language; not just how to order a meal in a foreign language, but the structure of a language, and hence of language itself--what it was, how it was put together, and how it worked. Secondly, he learned how to use language; how to define his terms and make

accurate statements; how to construct an argument and how to detect fallacies in argument. Dialectic, that is to say, embraced Logic and Disputation. Thirdly, he learned to express himself in language — how to say what he had to say elegantly and persuasively.

At the end of his course, he was required to compose a thesis upon some theme set by his masters or chosen by himself, and afterwards to defend his thesis against the criticism of the faculty. By this time, he would have learned — or woe betide him — not merely to write an essay on paper, but to speak audibly and intelligibly from a platform, and to use his wits quickly when heckled. There would also be questions, cogent and shrewd, from those who had already run the gauntlet of debate. (Sayers, 1947) (p 4)

In more modern terms the grammar phase focuses on acquiring facts and learning to see structure, the logic phase extracts reliable information from the facts and structure by weeding out inconsistencies, and in the rhetoric phase the focus is on learning to apply the acquired sound and consistent basis of knowledge and understanding for constructive and self-empowering purposes. The result of a liberal education is not only a knowledgeable mind, but in the first place *a mind that knows how to think and dares to take responsibility for its actions.*

Sayers makes an argument that the Trivium, when properly timed, uses the natural inclinations of children to learn.

My views about child psychology are, I admit, neither orthodox nor enlightened. Looking back upon myself (since I am the child I know best and the only child I can pretend to know from inside) I recognize three states of development. These, in a rough-and-ready fashion, I will call the Poll-Parrot, the Pert, and the Poetic — the latter coinciding, approximately, with the onset of puberty. The Poll-Parrot stage is the one in which learning by heart is easy and, on the whole, pleasurable; whereas reasoning is difficult and, on the whole, little relished. At this age, one readily memorizes the shapes and appearances of things; one likes to recite the number-plates of cars; one rejoices in the chanting of rhymes and the rumble and thunder of unintelligible polysyllables; one enjoys the mere accumulation of things.

The Pert age, which follows upon this (and, naturally, overlaps it to some extent), is characterized by contradicting, answering back, liking to "catch people out" (especially one's elders); and by the propounding of conundrums. Its nuisance-value is extremely high. It usually sets in about the Fourth Form.

The Poetic age is popularly known as the "difficult" age. It is self-centered; it yearns to express itself; it rather specializes in being misunderstood; it is restless and tries to achieve independence; and, with good luck and good guidance, it should show the beginnings of creativeness; a reaching out towards a synthesis of what it already knows, and a deliberate eagerness to know and do some one thing in preference to all others. Now it seems to me that the layout of the Trivium adapts itself with a singular appropriateness to these three ages: Grammar to the Poll-Parrot, Dialectic to the Pert, and Rhetoric to the Poetic age.

This analysis is supported by a recent valedictorian speech by Erica Goldson (2010 <http://americaviaerica.blogspot.com/2010/07/coxsackie-athens-valedictorian-speech.html>) lamenting the low quality and the missed opportunities of her education. She quotes John Taylor Gatto:

"We could encourage the best qualities of youthfulness — curiosity, adventure, resilience, the capacity for surprising insight simply by being more flexible about time,

texts, and tests, by introducing kids into truly competent adults, and by giving each student what autonomy he or she needs in order to take a risk every now and then. But we don't do that."

Modern ideas about the development of intellectual development support these ideas that learning to think is a complex, but at the same time very natural progression of intellectual development.

7 Intellectual development

7.1 21st century education.

In a position paper (Association of American Colleges and Universities, 2009, 'College Learning for the New Global Century', http://www.aacu.org/leap/documents/GlobalCentury_final.pdf) about the (renewed) importance of a liberal education for all (future) Americans the Association of American Colleges and Universities remark the following when they describe 20th century education:

With college education more important than ever before, both to individual opportunity and to American prosperity, policy attention has turned to a new set of priorities: the expansion of access, the reduction of costs, and accountability for student success. These issues are important, but something equally important has been left off the table. Across all the discussion of access, affordability, and even accountability, there has been a near-total public and policy silence about what contemporary college graduates need to know and be able to do. This report fills that void. It builds from the recognition, already widely shared, that in a demanding economic and international environment, Americans will need further learning beyond high school.

The National Leadership Council for Liberal Education and America's Promise believes that the policy commitment to expanded college access must be anchored in an equally strong commitment to educational excellence. Student success in college cannot be documented—as it usually is—only in terms of enrollment, persistence, and degree attainment. These widely used metrics, while important, miss entirely the question of whether students who have placed their hopes for the future in higher education are actually achieving the kind of learning they need for a complex and volatile world. (AACUNational Leadership Council (U.S.), 2007) (page 1)

This report, endorsed by interestingly enough the Rockefeller and the Carnegie Foundations and partially paid for by the Mellon Foundation, addresses the question "what contemporary college graduates need to know and be able to do" and what "they need for a complex and volatile world" to play particular roles in their multi-generational plans. The position paper takes "the wholesale dedication of education to a social purpose", which Dodd (1954) reported on, still literally because it is explicitly aimed for a particular kind of global citizenship. In fact the report is quite explicit in that it aims to create Americans as the de facto leaders of the 21st century, who are comfortably able to deal with the diversity of a multi-cultural world. This of course entails that American students are still considered as pawns to be manipulated and that the rest of the world is treated as something to rule over. Not much is new in this respect.

However US-education is not quite at this stage. In fact the position paper is quite alarming when it reports that only *six percent of college seniors are "proficient" in critical thinking, 77 percent are "not proficient"*. Probably something similar holds for their teachers. In addition it concludes that the silence about what matter in education is dangerous because:

To students, it can send the self-defeating message that the diploma itself—rather than the quality of learning it represents—is the key to the future. Many students, in fact, speak of college in just that way, and they view the degree as a ticket to be stamped before they can move forward. "It's just a piece of paper. But that piece of paper will get you the interview at whatever job you want." (p 8)

Whether you get the job is another matter because many jobs are outsourced to low-cost countries. In addition the costs of college education have risen so much that many face a life of debt-servitude: even have they obtained the degree [ref]. Nevertheless when stripped of its US-particulars the position paper is interesting and a useful inspiration for improved academic education elsewhere. For example the position paper is precise about what kind of attitude they would like to foster:

“Liberally educated students are curious about new intellectual questions, open to alternative ways of viewing a situation or problem, disciplined to follow intellectual methods to conclusions, capable of accepting criticism from others, tolerant of ambiguity, and respectful of others with different views. They understand and accept the imperative of academic honesty. Personal development is a very real part of intellectual development.” - AAC&U Board of Directors’ statement on Academic Freedom and Educational Responsibility (p 23).

As a widely supported goal for university or college education it is definitely laudable. Achieving it would entail a crossing of the watershed in the intellectual development of students: the transition from “all opinions are valid” to “one opinion is better (supported) than another” (van Rossum & Hamer, 2010), which van Rossum and Hamer, identified this as of key importance for the development of truly autonomous individuals. In fact this paper has addressed many properties particular to pre and post watershed cognition. Table xx lists a number of these.

Author	Pre watershed	Post watershed
Wilson	Not privileged	Privileged
Snedden	Producer of utilities	User of utilities
Dewey	No master of own industrial fate	Master of own industrial fate
Labaree	Cognition without understanding	Cognition with understanding
Connor	Unsuitable for democracy	Suitable for democracy
AAC&U	Fragmented and incoherent	Integrated understanding
Maslow	Pawns to be moved by others	Self-movers, self-deciders, self-choosers
Stenner	Authoritarians	Libertarians
Stenner	Cognitive incapacity	Cognitive capacity
Meadows	Cannot control environment	Can control environment
Van Rossum and Hamer	All opinions are valid	Some opinions are better supported

Table xx Pre and post watershed properties organized by author.

Finally, after many excursions into the history of 20-century education and a diversity of approaches addressing the societal consequence of education, it is now time to address what is happening in students and teachers when they engage in the joint process of education. This is the final requisite to frame an academic-level debate on academic education in the 21-century.

Because the seminal work of van Rossum and Hamer (van Rossum & Hamer, 2010) — “The meaning or Learning and Knowing” — is so accessible and so relevant, the next sections will consists predominantly of verbatim selections (with permission graciously given). Especially chapters 1 and are a must-read for anyone interested in the processes of learning, teaching,

and intellectual development known as epistemological development.

7.2 Conceptions of Intelligence

Academic development involves the development of the intellect. Van Rossum and Hamer have proposed a theoretical framework that involves at least 6 levels of intellectual development. Each of these levels corresponds to a particular conception of intelligence. These six levels were the outcome of hundreds of analysis of essays on the basis of open-ended questions. The subjects were Hotel-school students in The Hague, a school of higher professional education (HBO) in the Netherlands. One of the essay question addressed the student's conception of intelligence. This led to 6 conceptions of intelligence outlined in table xx. These are later combined with how students conceptualize learning and teachers conceptualize teaching.

Level	Conception of Intelligence
1	No concept of intelligence
2	As learning at this level of thinking, intelligence is seen as a one-dimensional, self-evident concept: it says something about how smart you are, how little trouble you have with learning. However, intelligence is something that is not necessarily connected to 'knowing a lot'; it's more an innate talent.
3	Students at this third level of thinking about learning and teaching still feel that intelligence (IQ) is fixed and innate, but that intelligent behaviour is something that can be learned. The focus at this level is on applying or using one's innate intelligence, the more one uses it, the more intelligent one's behaviour.
4	By students that see learning as understanding - and applying what is learned based on this understanding, both in academic areas and in everyday life – intelligence is viewed in a logically coherent way, as the ability to function well and independently in everyday life: as one student puts it, intelligence is "a way of life". Intelligence is also something that can be developed. It loses its absolutist interpretation and it leads to reflection about many things.
5	At his level, intelligence is sometimes seen as problem solving in the broadest sense. It includes a view on which (problem solving) skills are most necessary in society for it to function well, and intelligence is clearly seen as something that can be developed, and needs to be developed when society needs it.
6	At this level, views on intelligence include cognitive and affective aspects, seeing it as a comprehensive, intellectual and non-intellectual phenomenon. Where at the previous level intelligence was seen as problem solving, here it is seen as a creative process. Perhaps the distinction is between problem solving (5) and problem posing (6).

Table: Conceptions of Intelligence ((van Rossum & Hamer, 2010), p 21-24

The development of conceptions of intelligence can be explained in terms of developing agency (the capacity to be an autonomous source of behavior). At level 1 there is very minimal agency, the student does as told and has no notion of its role in the process. At level 2 the student sees intelligence as 'ease of learning' that is beyond control. At level 3 the student begins to realize that learning and intellectual development depends on practice and is therefore in part under control.

Level 4 is the first stage beyond the watershed and reflects the transition from cognition without and cognition with understanding. At level 4 intelligence is no longer apparent as way of learning things, but apparent from how one understands the things one does and now intelligence can come under full control, which leads to completely new levels of self-direction. At level 5 intelligence develops further from personal empowerment to creating the

conditions of a society in which one wants to live, with the consequence that the individual sees himself (for the first time in its intellectual development) as an active non-negligible contributor to the solutions of societal problems. At level 6 the individual integrates intellectual and affective behavior in a more reflective stance towards societal functioning, which may include a more critical, creative and independent attitude towards societal functioning and development.

For their sample of the Hotel School van Rossum and Hamer found only a minority of 25% that had crossed the watershed. Although the reported results in the next section pertain to higher professional education and not scientific education, the researchers warn for expectations that the epistemological development during university education is necessarily much different from the results reported below. In particular they expect that the majority of (Dutch) university bachelors will not exceed level 3.

7.3 Learning and teaching conceptions

Equally interesting are the conceptions of learning and teaching. These match the development of conceptions of intelligence. In particular

Learning-teaching conceptions 1 through 3 can be associated with surface-level processing and learning outcomes that are mostly of a reproductive nature. Learning-teaching conceptions 4 through 6 in turn can be associated with deep-level processing and learning outcomes that are mostly of a constructive nature. (van Rossum & Hamer, 2010) (p 30)

The next extensive quote provides a careful analysis of the 6 different levels they identified for conceptualization of learning and teaching. This is especially useful to apply to existing policy documents to determine from which level from which they originate.

In learning-teaching conception 1, learning is not reflected upon: it is simply something "everybody does," like breathing. Learning is described as a list of activities or synonyms. Students with this learning conception view teaching as the transfer of knowledge. The role of the student is minimal and the teaching-learning process is defined entirely by the teacher.

To students with learning-teaching conception 2, learning is equal to memorizing and the ability to reproduce what is memorized, usually in a school test setting. Level-two-thinkers see learning in quantitative terms: learning more is being able to reproduce more, but they also have a budding awareness of not having to learn everything, being able to make a selection of the facts to be memorized. For these students teaching needs to be clear, orderly, efficient, entertaining and must include opportunities to ask questions, implying a limited type of student-teacher interaction in a still very teacher-dominated environment.

At learning-teaching conception 3, the process of learning is selecting and memorizing those facts, procedures, ideas, etcetera which may prove useful later in life. Learning and understanding both are interpreted as being able to apply what is learned in the future. The major focus of learning is still quantitative and reproductive, and neither the learner nor what is learned is changed in any way. Teaching is characterized by teacher-dominated discussion, up-to-date examples, cases from practice, and an enthusiastic teacher who shapes and motivates the students using positive and negative feedback. These students attach a lot of importance to being heard, to giving them the opportunity to express their

opinions. They feel any opinion is as good as any other.

About three quarters of all our students could be allocated to one of the three reproduction oriented learning-teaching conceptions described above.

In moving to learning-teaching conception 4, students move across what we call the watershed: the focus shifts from taking in ready-made things (facts, procedures) existing 'out there' to actively constructing meaning. Such students prefer teachers who: 1) challenge students to (start to) think for themselves, 2) encourage students to realize that multiple informed approaches and solutions to problems are possible, 3) encourage and coach students to develop "a way of (disciplinary) thinking" through 4) a less formal — confidence building — interpersonal relationship. Level-four-thinkers have become active participants in the teaching-learning process. Student and teacher both focus on understanding and finding evidence-based solutions within a particular discipline. *They realize that most knowledge is uncertain and consequently authorities lose the exclusive ownership of it [emphasis, TA].* Everybody may develop a point of view based on a set of arguments using the rules of the discipline. About one in four of our students had crossed this watershed to a way of thinking that is generally accepted as the outcome of higher education, on average about 20% of our students was allocated to this particular way of knowing at any time.

For students functioning at the fifth level of thinking, learning has acquired a more personal meaning as opposed to the relatively technical view on learning in the previous stage. This way of thinking is characterized by notions such as broadening one's outlook on things, opening one's mind, widening horizons, or looking "at the world with those eyes". By changing the eyes one sees with, students can transform the way they perceive reality (i.e. self-transformation). Level-five-thinkers appreciate a teaching environment based on dialogue, where teachers and students become equal partners in the mutual construction of knowledge. About 4% of our students could at any time be allocated to this category of description. [Note that the AAC&U Board of Directors' statement on Academic Freedom and Educational Responsibility on the goal of liberal education corresponds closely to the description of level 5, TA]

The most sophisticated learning conception that we have found in our student data is characterized by an existential dimension, the self of the learner seems to have become the focus of learning. This position is extremely rare, only slightly more than 1% of all our students studied over about three decades was identified as making meaning in this way. The process aspect of this conception is growing self-awareness, looking for answers to the question "Who am I?" The self has become the ultimate object of reflection. The product is self-realization: becoming or defining the person you feel you are (i.e. self-definition). Good teaching to level-six-thinkers seems to be defined almost exclusively in language referring to emotion, autonomy and reciprocal relationships and it boils down to mutual trust and caring while showing an almost dismissive approach to teaching techniques and methods.

Learning-teaching conception 4 can be interpreted as the expression of academic or scientific thinking: the ability to use the full range of rules and assumptions of a discipline or system such as scientific thought. The move from reproductive to constructive thinking, the move from learning-teaching conception 3 to 4, is the largest and most difficult one to effectuate in higher education: we refer to this move as crossing the watershed (van Rossum & Hamer, 2010), page 30-31.

This leads to a summary table, including references to the conceptions of intelligence, are provide below.

Level	Learning conception	Object of reflection	Teaching conception	Conception of intelligence
1	Increasing knowledge	none	Imparting clear/well structured knowledge	-
2	Memorizing	Exam relevancy	Transmitting structured knowledge (acknowledging receiver)	Innate and fixed IQ
3	Reproductive understanding/ application or application foreseen	Usefulness later on	Interacting and Shaping	Innate and fixed IQ versus intelligent behavior
4	Understanding subject matter	Subject matter meaning	Challenging to think for yourself / developing a way of thinking	Not fixed anymore Independently thinking and solving everyday problems with ease
5	Widening horizons	Personal development	Dialogue teaching	Personal development Problem solving skills, as needed in society
6	Growing self awareness	Self	Mutual trust and authentic relationships: Caring	Intelligence is intellect and affect

Table 1.2. Developmental model of students' learning and teaching conceptions (van Rossum & Hamer, 2010)

Van Rossum and Hamer validate their 6 level approach with comparison with other accounts of intellectual developments (e.g. (van Rossum & Hamer, 2010) p 145).

7.4 What drives intellectual development?

Both Sayers and Gatto have argued that normal intellectual development is a natural process. Van Rossum and Hamer agree and describe its driving dynamic as follows.

After describing the various developmental stages (see especially Table 1.2 before), one might wonder about the logic of why students develop at all. What is the process and what are the questions that may drive development? We feel that it may be a series of cycles of differentiation and integration. Because the majority of students start higher education as level-two-thinkers we start with them, and not the level-one-thinkers who are not aware of the option of reflection.

In traditional secondary education level-two-thinkers have learnt to focus on what is important to pass examinations, addressing the important issue of "How do I pass exams?" So exams define what to learn and know.

After a while, perhaps confronted with the demands of higher education and life, level-two-thinkers may experience discomfort with memorizing and passing exams alone, and the need for (reproductive) meaning making and application differentiates out of learning conception 2 into learning conception 3. Learners then become level-three-thinkers trying to answer the issue “What is useful for me to know?” For level-three-thinkers later work or practice define what to learn and know.

The imminent future as a successful professional — or working experiences — may stimulate learners to develop into level-four-thinkers (learning conception 4), where the way of thinking of level-two-thinkers and level-three-thinkers become elements in an integrated system focusing on autonomy and understanding within a context, addressing the issue of “How should I think?” or “How do I make sense of reality?” This is a big change in thinking and we have referred to this shift as the watershed in epistemology within our six-stage model. The learning and knowing of level-four-thinkers is defined by a professional’s (disciplinary) way of thinking.

The realization that there may be more contexts including other autonomous people, leads to the differentiating move into learning conception 5. Level-five-thinkers focus on connection and multiple perspectives: “How do I relate to other people and perspectives?” and their learning and knowing is still defined externally by these perspectives. (van Rossum & Hamer, 2010) (page 26 and 27)

Since universities are *par excellence* institutions where intellectual development is encouraged, it makes sense to speculate about intellectual development well beyond what is possible or likely within the bounds of organized academia, but is nevertheless facilitated by the presence of a university. Fortunately van Rossum and Hamer dare to speculate.

These five first tiers of development seem to focus on epistemology: knowledge and knowing. We have referred to this first set of five as a model of “learning to know”, introducing a second shift in focus within our original six-stage developmental model. We have discussed this second shift, and the provisional second tier of development introduced below, which focuses on “learning to be”.

Learning conception 6 can be seen either as the final stage or the first of a second type of development. Either way it is characterized by the integration of autonomy (level-four-thinkers) and connection (level-five-thinkers) into a new structure addressing more ethical issues such as “Who am I?” Here, for the first time the self becomes ‘the boss’ who defines learning and knowing. Level-six-thinkers have made a step upwards to another, ontological plane which led us before to propose a change of nomenclature: learning to be me or “knowing me”.

In response to a query what then would constitute learning to be 2 and beyond, we have used both the idea of differentiation and integration used above, as well as the idea of ‘stepping out of embeddedness’ that Kegan introduced (see chapter 3) to extrapolate a possible developmental trajectory. So if level-six-thinkers ask “Who am I?”, level-seven-thinkers might focus on differentiation and finding out “Who are you?”, embracing the other in a new way of knowing Parker Palmer might be referring to when he says “a way of knowing and of living that has moved beyond fear of the other into respect for, even a need for, its otherness”. Level-eight-thinkers then — stepping out of ‘you-and-I’ — might integrate

this into the question “What defines humanity (to me)?” [...]

And after considering humanity, in becoming a level-nine-thinker, one might differentiate towards non-human life: “What about all other living things?”, perhaps in time progressing towards a new structure. Becoming a level-ten-thinker could mean addressing the issue of “What is humanity’s place and responsibility in the system, in and towards the ecology and the planet we live on, in short ‘life as we know it’?” Although, this speculation seems to call us “to boldly go where no-one has gone before”, we choose to leave the contemplation of “life, not as we know it” to another time and place.

This leaves the issue why people ask these questions undecided, although some schools of thought believe that making sense of our environment by asking questions (inquiry) may be “hard wired” into our brain.

This analysis dovetails with the highest level in the section on Intellectual Classes: being able to understand how the world is understood through an independence of and flexible use of paradigms. In addition it fits also with the concept to self-actualization that was introduced by Maslow to denote the process towards realizing full personal potential (Maslow, 1962). Maslow was the first (and arguably the wisest) researcher to study the full potential of being human. Although he based himself on a low number of examples, and possibly a somewhat biased set, he found a cluster of 14 characteristics that distinguish self-actualized individuals. The main characteristic was a very good grasp on reality. In addition

... these characteristics define individuals who are accepting of themselves and others, are relatively independent of the culture or society in which they live, are somewhat detached but with very close personal ties to a few other people, and are deeply committed to solving problems that they deem important. Additionally, self-actualized individuals intensely appreciate simple or natural events, such as a sunrise, and they sometimes experience profound changes that Maslow termed peak experiences. Although difficult to describe, peak experiences often involve a momentary loss of self and feelings of transcendence. Reports of peak experiences also include the feeling of limitless horizons opening up and of being simultaneously very powerful, yet weak. Peak experiences are extremely positive in nature and often cause an individual to change the direction of his or her future behaviour. Maslow believed that everyone is capable of having peak experiences, but he believed that self-actualized persons have these experiences more often. (Source: Encyclopedia Britannica, Motivation)

Peak experiences as moments in which structure is seen and where previously complexly connected epistemological structures become simple and in doing so free mind-space for further epistemological development. Maybe that is also the reason why they are so pleasurable.

In accordance with Sayer and Gatto, Van Rossum and Hamer conclude:

Furthermore, we feel that this general intellectual development is a naturally occurring one, and one that is crucial to the proper functioning in a complex society including many groups, competing interests and value systems. It might even be crucial to the survival of our planet. It is a development that can be accelerated by formal (higher) education that

focuses on systemic thinking, different perspectives or paradoxes. The development can sometimes be greatly accelerated by formal education or life's turns and twists. However, it can also be arrested for long periods of time in 'traditional cultures', e.g. strongly traditional education, focusing on lectures, memorization and reproduction. (p 574-575)

Intellectual development and intellectual classes

It is fairly straightforward to connect the five intellectual classes as proposed earlier to the six-stage development sketched by van Rossum and Hamer. For example the intellectual slave class has no personal autonomy and conform level 1 "the teaching-learning process is defined entirely by the teacher". The intellectual lower class has learned certain competences under the guidance of others which complies with a level 2 description that "Learning more is being able to reproduce more in a teacher dominated environment." This translates easily to "Working is being able to produce under supervision" as typical lower (social) class description.

Level 5 was described as broadening one's outlook on things, opening one's mind, widening horizons, or looking "at the world with those eyes", which dovetails with the intellectual upper class description as "they have learned that all experiences and all sources of knowledge are of potential interest so that they gradually become more competent and more autonomous for more and more of the time." The intellectual elite was described as self-actualizing individuals who, as outlined in the previous section, gradually bring more pervasive aspects of life part of their understanding.

To completely match the 6 levels of intellectual development with the intellectual classes it is possible to split the intellectual middle class into a lower-middle class and an upper-middle class. The first one corresponds to level 3, just below the watershed, and the second to level 4 above the watershed. The key difference separating the intellectual lower-middle class from the upper-middle class may be the discovery that all knowledge is connected; that it doesn't really matter what you learn as long as it is connected to the other things you know so that it can be made serviceable at arbitrary moments in the future. This leads to the awareness that knowledge in principle can be integrated (understood) and used pervasively through life. To quote part of the learning and teaching conception of level 4:

Such students prefer teachers who: 1) challenge students to (start to) think for themselves, 2) encourage students to realize that multiple informed approaches and solutions to problems are possible, 3) encourage and coach students to develop "a way of (disciplinary) thinking" through 4) a less formal — confidence building — interpersonal relationship. (van Rossum & Hamer, 2010) (page 31)

For the first time in life, this inspires the student to take partial control over its own learning process, which forms the basis of true autonomy and it is therefore highly empowering. At the same time these first steps towards further confidence building for future autonomy may be a bit frightening and are likely to benefit from a supportive environment that they search for.

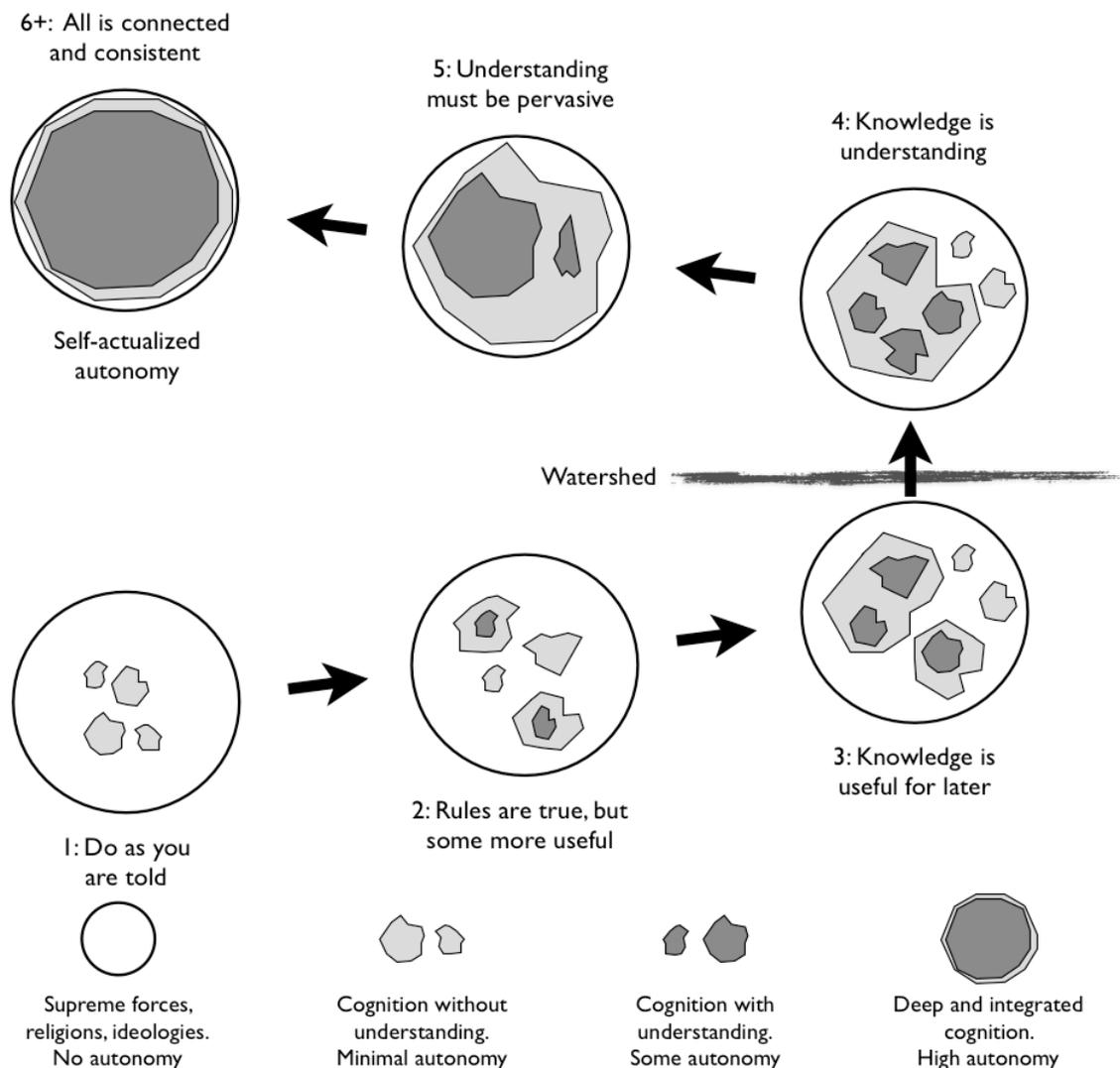


Figure: Epistemological development as increasing control over more and more of life.

This then lead to the following development shown in Figure <Epistemological development>. The modern AAC&U goal for higher education is to aim for level 5 (AACUNational Leadership Council (U.S.), 2007), well above the watershed and probably quite ambitious.

The role of teachers

Van Rossum and Hamer describe a potential trap that occurs when educators below the watershed, who favor reproduction over the construction of meaning, become the teachers of a new generation of teachers. They conclude that:

teachers are indeed nothing other than students grown-up, meaning that they view learning and teaching in essentially the same ways as students. It is true that teachers — in part because of their participation in higher education and their greater life experience — on average are further along the epistemological development we have sketched above, but still there are many teachers who view learning and teaching from a profoundly reproductive perspective (mainly learning-teaching conception 3). When not addressed in teacher training this reproductive view may perpetuate itself through generations of teachers who have failed to experience epistemological growth towards constructivism in higher

education. Each generation of these fundamentally reproduction oriented teachers in turn instilling the same reproductive way of knowing in their students and thereby undermining the purpose of education: teaching people to think for themselves, to evaluate evidence and to be capable of formulating an informed opinion. This means that in particular in teacher education it is important to address the more philosophical issues regarding the nature of disciplinary knowledge and theory-laden observation, as well as addressing beliefs about truth, learning, motivation, effort, talent, etcetera. We would suggest to pay particular attention to this in teacher education for the natural and applied sciences (e.g. physics, mathematics, law, accounting, business administration) as it may, at least initially, go against the grain of existing and future teachers. Not only will this make a start towards breaking the chain of perpetuation of reproductive epistemology, it will help teachers implement future more constructivist educational innovations more successfully. (van Rossum & Hamer, 2010) (p 576)

Universities run this risk as well. However universities, more than other educational institutes, harbor a wide range of educators and researchers. At one end exists typical domain specialists who might not have developed beyond level 3 (Snedden was professor at Stanford), but who are still great sources of expertise and the can help to learn students how to think albeit within a fairly narrow domain or to their own intellectual development. But university staff comprises also of many members who are progressed far in intellectual development and who are now only an informal resource for students who want to make the most of their intellectual development. Ensuring that these educators are more explicitly and more effectively involved in the intellectual development of students may result in students that progress much quicker and therefore farther along the path of intellectual development.

This untapped resource may lead not only to students that enrich society with independence, autonomy, stability, and wisdom but they will also spawn researchers who are able to connect and unify fields of science and who easily transfer research outcomes to society. These will be the scientific leaders of the future, and they will elevate the reputation of the university that educated them. In addition they will form the educators of future students. This explains why top-universities take educational quality as serious as they do.

8 References

- AACU, A. O. A. C. U., National Leadership Council (U.S.). (2007). *College Learning for the New Global Century*. A Report from the National Leadership Council for Liberal Education & America's Promise (p. 62). Washington: Association of American Colleges and Universities.
- Arendt, H. (1963). *Eichmann in Jerusalem* (pp. 1–149). Vikin Press.
- Bernays, E. L. (1928). *Propaganda* (p. 159). New York: Horace Liveright.
- Connor, W. (1998). *Liberal arts education in the twenty-first century*. *American Academy for Liberal Arts Education*, <http://www.aale.org>, An AALE Scholars Essay (pp. 1–12). American Academy for Liberal Arts Education. Retrieved from <http://www.aale.org>
- Crozier, M. J., Huntington, S. P., & Watanuki, J. (1975). *The Crisis Of Democracy*. Report on the Governability of Democracies to the Trilateral Commission (pp. 1–227). New York University Press.
- Curtis, L. (1918). *The Commonwealth of Nations*. An inquiry into the nature of citizenship in the British Empire, and into the mutual relations of the several communities thereof - Part 1 (London. pp. 1–778). Macmillan and Co.
- Dodd, N. (1954). *The Dodd Report to the Reece Committee on Foundations* (pp. 1–16). New York: House of Representatives of the United States of America.
- Gatto, J. T. (2002). *Dumbing us down : the hidden curriculum of compulsory schooling*. Gabriola Island, B.C.: New Society Publishers.
- Hall, A. J. (2010). *Earth into Property. ; Colonization, Decolonization, and Capitalism*. McGill-Queen's University Press.
- Labaree, D. (2011). How Dewey lost: The victory of David Snedden and social efficiency in the reform of American education. In D. Tröhler, T. Schlag, & F. Ostervalder (Eds.), *Pragmatism and modernities*. Rotterdam: Sense Publishers.
- Lionni, P. (1993). *Leipzig connection : a report of the origins and growth of educational psychology*. [S.l.]: Heron Books.
- Mankiller, W., & Wallis, M. (1993). *Mankiller: A Chief and Her People*. An Autobiography by the Principal Chief of the Cherokee Nation (p. 372). St. Martin's Griffin.
- Maslow, A. H. (1962). *Toward A Psychology of Being* (p. 226). D. van Nostrand company inc.
- Meadows, D. (1999). Leverage points: places to Intervene in a system. *Publication of the Sustainability Institute*, 1–21.
- Meadows, D. H., & Club of Rome. (1972). *The Limits to growth : a report for the Club of Rome's project on the predicament of mankind*. London: Pan Books.
- Milgram, S., & Zimbardo, P. G. (2009). *Obedience to authority : an experimental view*. New York: Harper Perennial/Modern Thought.
- Perry, W. G. (1970). Forms of intellectual and ethical development in the college years: A scheme. New York: Holt, Rinehart & Winston.
- Quigley, C. (1966). *Tragedy and hope : A history of the world in our time*. New York: Macmillan London: Collier-Macmillan.
- Quigley, C. (1981). *The Anglo-American establishment: from Rhodes to Cliveden*. New York, N.Y.: Books in Focus.
- Sayers, D. (1947). The Lost Tools of Learning. In *The Poetry of Search and the Poetry of Statement*. Gollancz.
- Stenner, K. (2005). *The authoritarian dynamic* (First Edition. p. 392). New York: Cambridge University Press.
- Stenner, K. (2009). "Conservatism," Context-Dependence, and Cognitive Incapacity. *Psychological Inquiry*, 20(2), 189–195.
- van der Vaart, E., Verbrugge, R., & Hemelrijk, C. K. (2012). Corvid Re-Caching without "Theory of Mind": A Model. *PLoS One*, 7(3), 8. American Psychological Association.

van Rossum, E., & Hamer, R. (2010). *The Meaning of Learning and Knowing*. (J. Vermunt, Ed.) (pp. 1–638). University of Utrecht.