Workshop draft paper for *Eidyn Research Center* ‘The Epistemic Aims of Education’ Workshop, University of Edinburgh & IASH Visiting Fellow, October 5, 2016. All rights reserved. Contact author at gsaxtell@radford.edu

**Means-Ends Reciprocity and Aims of Education**

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‘When the task is achieved the result is art: and in art everything is common between means and ends.’ —John Dewey

**Abstract.** In the centennial year of John Dewey’s classic, *Democracy and Education* (1916)*,* this paper revisits his thesis of the reciprocity of means and ends, arguing that it remains of central importance for debate over the aims of education. The paper provides a Deweyan-inspired rebuttal of arguments for an ‘ultimate aim,’ but balances this with a development of the strong overlaps between proponents of pragmatism, intellectual virtues education (Jason Baehr) and critical thinking education (Harvey Siegel). Siegel’s ‘Kantian’ justification of critical thinking as an ultimate aim is critiqued, and contrary to Siegel’s ‘generalist’ focus on logic, the paper concludes with specific suggestions for how the study of ecological rationality and dual-process theories (Gerd Gigerenzer; Keith Stanovich and others) should impact how we teach for critical thinking dispositions.

1. **Introduction**

In his writings on philosophy of education, the pragmatist John Dewey supplies a very general aim for education in ‘growth.’ But this is clearly an open-ended goal, and he refrains from and explicitly rejects argumentation aimed at determining an ‘ultimate’ goal “to which education is subordinate.”[[1]](#endnote-1) Partly this is a rejection of efforts to hold educational curriculums hostage to externally-determined goals. Economic and state interests in the end-use of education and of the workforce may play some legitimate role, but this sort of reasoning cannot establish, and indeed does not even address what goods are internal to the educational process. Whenever such a regime is in place it is guided by assumptions far removed from Dewey’s vision of democratic deliberation, and of education for the whole person. Dewey allowed that “The very idea of education is a freeing of individual capacity in progressive growth directed at social aims”.[[2]](#endnote-2) But besides developing the mutually re-enforcing character of education and democratic processes, what those ‘social’ aims are toward which education should be directed is also a matter that cannot be settled for all times and places. Dewey’s pragmatist conception of the value of education is *experiential*, and his approach to the norms concerning education, as with other social practices, is *experimental*.

Dewey’s rejection of ultimate aims goes further than this. He also rejects the idea that philosophers of education are in the business of seeking to determine an ultimate aim. In education as in most other practices, Dewey holds that ends are not fixed but “worked out and developed in the light of the actual conditions.” So, he continues, “The philosophy of education neither originates nor settles ends. It occupies an intermediate and instrumental or regulative place.” Philosophers, he certainly allows, have an important role, because “ends actually reached, consequences that actually accrue, are [to be] surveyed, and their values estimated in the light of a general scheme of values.”[[3]](#endnote-3) Philosophers of education are concerned with values and aims, but what they ought not do is conceive these as arrived at independent of context, and determinable in a top-down, theory-driven manner. Dewey’s rejection of context-independent final aims invites rather a ‘bottom-up,’ empirically grounded deliberative process to guide educational practice and policy. This means following the example of the sciences in framing working hypotheses, and testing and revising them.

Like John Stuart Mill, Dewey advocated that education for the whole person—liberal education—should be extended universally, and not restricted to certain schools or to the upper class. He saw access to it as a class issue, and a matter of social justice. This extension of educational opportunities is part of what it means for a society to be progressive in contrast to conservative. On these grounds he strongly resisted a sharp division between the universities and vocational [or ‘trade’] schools, much as Mary Wollstonecraft, Harriet Taylor and other equality feminists had earlier resisted a sharp separation of curriculums for men and women. Both of those separations, between education for different classes and for different sexes, were at one time supported by arguments deemed unassailable that the underlying divisions were written into the fabric of nature, or were a part of the plan of God’s creation.

Dewey’s growth ideal reflects the aims of *liberal education,* or education for the whole person, but this seemed far too idealistic for many of his critics. We might in retrospect think that Dewey was on the right side of this issue, yet wonder whether Dewey’s approach still holds much value. Arguments for the value of liberal education aside, his ‘growth’ aim has been subject to much criticisms for its vagueness. Furthermore, is there really a difference between Dewey’s positing an ‘inclusive’ or general aim, and someone else asserting a so-called ‘ultimate’ or ‘final’ aim for education? I will return to these questions shortly, but will first pursue how Dewey’s unique thesis of the reciprocity of means and ends supports and adds substance to his scepticism about final or ultimate ends, as just introduced.

Dewey could draw distinctions with the best of them, but was notoriously opposed, methodologically and in relation to his understanding of the shortcomings of Western philosophy, to the drawing of ‘dichotomous distinctions’ or invidious dualisms, as some writers have put it. As a first example, he thought making sense of moral normativity should lead us to deconconstruct Kant’s seminal distinction between hypothetical and categorical imperatives, the first kind based upon a psychology of desires, but the second kind on reason *a priori*. The categorical imperative, representing the force of duty, was presented by Kant as an ‘unconditioned’ demand, and as radically disconnected from psychological desires including the desire for happiness. Desire-based oughts by contrast fell into the catch-all of hypothetical imperatives.

But there are not two separate kinds or levels of value: all ends or aims are conditioned, which is to say that on a naturalized account they all have their source in the valuations of moral agents. Dewey urged “surrender [of] our customary dualism between two kinds of value, one intrinsically higher and one inherently lower”.[[4]](#endnote-4) This applies in a somewhat different way to his criticism of utilitarian ethics, with its ‘Doctrine of fixed-ends: “The entire popular notion of ‘ideals’ is infected with this conception of some fixed end beyond activity at which we should aim….” Dewey’s naturalism leads him to deny that there are fixed ends either in nature *or* in moral life. For example, “The utilitarian sets up pleasure as such an outside-and-beyond, as something necessary to induce action and in which it terminates.”[[5]](#endnote-5) The invidious distinction Dewey thought he saw here was that “in moral life there are fixed means and ends, and that the task of the philosopher is to find out which one it is.”[[6]](#endnote-6)

The positing of a human end or telos invites an impoverished conception of reason or rationality as only a matter of choosing the best means for fulfilling *that* end. ~~‘Best’ will usually be a matter of maximizing efficiency in its achievement.[[7]](#endnote-7)~~ This suggests a “theory of the external and coerced relationship of means and ends,” one where, “When there is one thing that is mean to another that is end, there is nothing common between them, except insofar as the one, the means, produces**,** and the other, the end, receives the product.” When this separation occurs, “Providing and receiving is a strictly one-way process.”[[8]](#endnote-8) The separation of means and ends may appear natural and causal, but is actually a matter of convention, and a disguised “value judgment.”[[9]](#endnote-9) The implied view is that means are valuable in one way, and ends in a wholly different and superior way.Now this view is plausible only if we assume that we can treat ends apart from the conditions of their actual existence—only if we assume this end and this end alone will be brought into existence, and not a whole series of additional consequences. And this assumption is a mistake. My choices in one social role or practice may affect another practice; unintended and additional consequences often accompany the choice of means to promote an end-in-view.

So by contrast to a dualism, the relationship of means and ends is a continuum and as such requires more holistic evaluation. It is because of this that Dewey prefers to speak of “means-consequences activities” than of means-end relations. The “relations” talk associates values with knowledge capable of being demonstrated apart from activity, apart for intelligent *action.* Means-consequences activities draws attention to the need to evaluate consequences of the whole complex of means and ends that we commit to.[[10]](#endnote-10) For with the rejection of fixed ends we can see that nothing really is an end or a means *only;* ends-in-view, once realized, become means to new ends, and so on.

Moreover, the means we choose *recast* the possibilities of ends-in-view, limiting, expanding, or transforming them. Far from being of ‘purely instrumental’ value and chosen only on the basis of simple expediency, means enter into and help determine the character of the ends for which they are chosen, and they impact the legitimacy of those ends.[[11]](#endnote-11) This is why "Valuation of ends-in-view is tested by consequences that actually ensue."[[12]](#endnote-12) Indeed, he wrote, "The chief consideration in achieving concrete security of values lies in the perfecting of *methods* of action."[[13]](#endnote-13)

Since all of this is abstract, let me give a one example and then bring this back around to the aims of education. This thesis of the reciprocity of means and ends informs Dewey’s insistence that democratic ends require democratic means—that “the ends of freedom and individuality for all can only be attained by means that accord with those ends.”[[14]](#endnote-14) The attainment of democratic ends and self-restriction to means that respect its core principles “are one and inseparable.” Dewey is reflecting an idea shared with his good friend Jane Addams, who wrote that “Social advance depends as much upon the process through which it is secured as upon the result itself.” A further historical example is provided by Hannah Arendt, in her short but thoughtful book, *On Violence.* Arendt there points out that the justification for a political end-in-view is constantly in danger of being overwhelmed by the means taken to achieve it. “The means used to achieve political goals are more often than not of greater relevance to the future world than the intended goals”: We never know the full consequences of a resort to violent means, but the most likely long term consequence, Arendt suggests, is towards a future of still more violence. The alternative is a kind of ‘teleological suspension of the ethical,’ which is philosophical talk for saying that the ‘end justifies he means,’ or that, given our just cause, it may be promoted “by any means, fair or foul.” The lesson these authors are trying to convey I think looms large for the current uptrend of violence we see today, both of passion-filled commitment of an individual or group to a terroristic act, and on the other side of the war on terror, of an attitude of cool indifference to the cost in ‘collateral damage’ on civilian populations, for the achievement of military objectives.[[15]](#endnote-15)

To return to and summarize the implications of means-end reciprocity for debate over aims of education, I would make note of two related versions of externally-supplied ultimate aims. The first is what Ian Kidd refers to as the *performative* conception that “prioritize[s] standardized examination for quantifiable qualities, such as grades and module pass rates, often to the exclusion of all else”; the other is what he refers to as the *instrumentalist* conception of education “that direct[s] curricular content and pedagogic practice toward the training of students with the skills and knowledge deemed necessary to national economic interests.”[[16]](#endnote-16) Now, Kidd notices that instrumentalism marginalizes virtues; indeed it’s likely that not just certain philosophers but supporters of the value of liberal education more generally oppose both the first view, which Atlie Hardarson calls the technocratic view (or ‘regime of standardization’), and the second, which Michael Oakeshott terms a ‘service industry’ conception of education.[[17]](#endnote-17)

So what I am trying to point out here is how means-end relations are treated by both of these views in ways that Dewey’s reciprocity thesis directly undercuts. [See Chart 1] Indeed, though I won’t detail his arguments, Atli Hardarson (2016) tries to show explicitly how argument over aims entails concern with different conceptions of means-end relations, and how more specifically the two conceptions of education in question both lean heavily for their justification on means-end thinking as characterized in the Left column of his chart. Although he does not refer to pragmatism, one can I think easily read something of Dewey’s emphasis on ‘consummatory experience’ in the right column of Distinction 1; his open-ended ideal of growth and transformation of experience, in the right column of Distinction 2; and his continual revision of aims and means through application of democratic, in the right column of Distinction 3.

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|  | **Left column** | **Right column** |
| **Distinction 1:** | Causation | Subsumption |
| **Distinction 2:** | Closed aims (or objectives) | Open aims (or ideals) |
| **Distinction 3:** | Principles of design (top-down) | Principles of reform (bottom-up) |

Source: Atlie Hardarson, ‘Aims of Education: How to Resist the Temptation of Technocratic Models,’ *Journal of Philosophy of Education, Vol. 0, No. 0, 2016* [online March 2016 pre-issue]

In ‘Why the Aims of Education Can’t be Settled,’ Hardarson (2012) argues in what I take to be the Deweyan vein, that “education is radically open-ended in the sense that although we can specify some of its purposes and make general statements to the effect that it aims at improvement or excellence of some sort, we cannot justify any definitive or exhaustive description of its purpose.”[[18]](#endnote-18) He thinks that “disagreement about how to describe the extension of ‘education’ is to be expected as long as people disagree about what human excellences to cultivate and which of them are enhanced by learning.” Dewey would agree, but beyond these reasons for resisting talk of an ultimate aim, it is important to see that what Dewey does *instead* is to try to provide evaluative criteria that citizens themselves can use to evaluate the educational value of practices and institutions. He emphasizes evaluative criteria suitable to progressive societies, rather than analytic definition or determination of final aims. ‘Growth’ is understood more in this sense of evaluation of learning.[[19]](#endnote-19) Also, against those who say Dewey should have but failed to articulate the ‘social aims’ that direct education, his defenders typically perceive this as a strength: “[T]his omission reveals Dewey’s radical antifoundational bent as a thinker. In ‘failing’ to spell out the social, Dewey moves [pragmatists move] away from commonly accepted sources of authority such as tradition, philosophy, or God for determining the ends of education [and towards recognition that choice of ends is in part socio-political]. In another sense, this omission reveals a different kind of political project….The very process of experimental inquiry [that Dewey applies] …develops democracy as the ideal and criteria to guide the definition of the social.’[[20]](#endnote-20)

The next section of this paper tries to triangulate the dispute among philosophers over the aims of education, by taking into account the positions and arguments of proponents of character education and of critical thinking, or simply VT, for virtue theory, and CT, as Harvey Siegel refers to the critical thinking aim. I want to emphasize the overlaps between Deweyans, contemporary virtue theorists, and Siegel, and not just the differences: For all three — again, pragmatists, VT, and CT— education at every level ought to work to develop and support students' ability to think for themselves. Supporters of critical thinking in public schools often call upon Dewey’s work as a harbinger of the critical thinking movement in public schools. From this perspective the differences between them is something of an in-house dispute. While I’m suggesting they need not come apart in fundamental ways over the aims of education, in fact, judged by the current state of debate, they sometimes do. *When* they do, it is usually over very strong, theory-driven claims made by proponents of CT or of character education, that one or the other should be taken as the *more* fundamental, or again, the *ultimate* aim of education. To the extent that there are proponents of such claims, it is primarily the practical details, including problems of identifying a core list of intellectual virtues and workable ways to assess them, that will inform my criticism of the present call for character education to replace CT as we find in papers and a book by Jason Baehr.[[21]](#endnote-21) On the other hand, it is primarily certain philosophical assumptions and starting points of Harvey Siegel’s writings, a certain rationalism I deem untenable in his understanding of autonomy in particular, that will lead me want critique and to seek modifications in the approach to *supporting* CT as an educational aim.

So in the final section I turn from the rationale for ranking habits of critical reasoning highly in the aims of education, to differences between pragmatists and Siegel over the construal of rationality, and of epistemology’s purview. There as time permits, I want to discuss the challenge of *ecological psychology* to what Gerd Gigerenzer calls the ‘classical conception of rationality’, and explore what implications it might have for critical thinking and its pedagogy. I will hope to show that to fulfil both Dewey’s and Siegel’s shared concerns with creating genuinely ‘independent,’ self-directed thinkers, we need a revised curriculum for critical thinking, one that better integrates CT with cognitive and social psychology, and that teaches for the specific critical reasoning dispositions that Keith Stanovich and his colleagues refer to as *fluid rationality.*

1. **A CRITIQUE OF THE ILL-FRAMED QUESTION OF AN ‘ULTIMATE AIM’**

There are many interesting overlaps between Dewey’s pragmatic naturalism, and some of the more naturalistic versions of virtue theory. His view that a *genuine* means is not merely “an extrinsic causal condition” or “a coerced antecedent of the occurrence of another thing which is wanted’ but an essential part of a consummatory experience, reflects the idea of *goods internal to practice*, and agrees with the Aristotelian view that virtuous dispositions are not merely instrumental to a flourishing life, but partly constitutive of it. In terms of Dewey’s philosophy of education this is reflected in one of his most famous statements, that education should be “a process of living and not a preparation for future living.”[[22]](#endnote-22) [[23]](#endnote-23) [[24]](#endnote-24)

In his broader philosophy, Dewey constantly utilizes the term ‘habit’ to describe naturalistically our human mode of being in the world, a focal term with obvious overlaps with trait-terms including skills, aptitudes, dispositions and virtues. His understanding of epistemology is in this way clearly agent rather than belief-focused. There is quite a contingent of virtue theorists with explicit debts of classical pragmatism; we tend to understand the expansion of epistemology that virtue epistemology promises as connected with the pragmatist conception of epistemology as *theory of inquiry* rather than of one or another specific state or standing. I have sometimes drawn a distinction between Aristotelian, or *phronomic* responsibilism with its strong emphasis on internal motivations, and *zetetic* responsibilism*,* focused instead on strategies of inquiry and with the collective improvement of inquiry. Lorraine Code, Kate Elgin, Susan Haack, Christopher Hookway, and Adam Morton are some of those I describe as responsibilists of this pragmatist sort.[[25]](#endnote-25)

So *my* Dewey, if I can put it that way, is partly a virtue theorist by virtue of his keen focus on habits of inquiry, and on intimate connections between knowing and acting, connections, incidentally, strong in Chinese thought, but far more tenuous in the West where since Early Modern times we have bequeathed to ourselves what Dewey described as a spectator theory of knowing. Dewey makes his position on ‘final aims’ of practices exceedingly clear in his strong ironic claim that while growth is a general aim or criterion of education, “To make an end a final goal is but to arrest growth."

Although there is always a disciplinary bias to think that what we teach is so important that it ought to be basic to all education, I think those like Jason Baehr who are strong promoters of character education ‘taking the driver’s seat,’ so to speak, should consider closer the Deweyan scepticism about arguments in favour of ultimate aims. So we will briefly touch upon the recent exchange between Baehr and Siegel over whose program deserves, philosophically, to be ‘in the driver’s seat’ as a prime example of a competition that Dewey would have us opt out of.[[26]](#endnote-26) I will maintain that Dewey’s stance is a *genuine and plausible third option:* philosophers mis-serve education when they take themselves to be purveyors of an account of an ultimate aim of education.

Now this ‘third option’ could be immediately undercut, I suppose, if there were no difference that makes a difference between Dewey’s affirming “growth” as a general or ‘inclusive’ aim, and his professed opposition to those who want to affirm a ‘fundamental’ or ‘final’ aim of education. But I have already discussed a) differences between asserting *open-ended* goals and criterions from set or final goals, and b) how Hardarson uses means-end reciprocity much like Dewey to argue that the aims of education should be thought of as remaining always open to revision. To add to this start we can turn to a recent paper by Haji and Cuypers (2011). These authors argue that while all philosophers of education try to balance some general, intermediate, and specific goals of education, the positing of an ‘ultimate aim’ by philosophers is different insofar as it is accompanied by certain specific and contentious argumentative strategies.

After surveying the history of such attempts to settle aims, Haji and Cuypers generalize that they typically employ one of two specific argumentative strategies: “The first associates these aims with a normative standpoint, such as the moral, prudential, or aesthetic, which is overriding…. The second associates education’s ultimate aims with the intrinsic value of personal well-being.” Now, this is highly pertinent to my attempt to *triangulate* the debate, because Siegel’s transcendental or Kantian ‘moral overridingness’ argument in his book *Educating Reasons*, an argument about the essential dignity of persons, is used by these authors to exemplify the first argumentative strategy, and they identify the second strategy as generally eudemonistic or Aristotelian, which of course fits Baehr’s “personal worth” argument for the value of virtues and by extension for character education.[[27]](#endnote-27) In discussion of the first they feature Siegel’s argument in defense of the claims that ‘‘[T]he fostering of rationality and critical thinking is the central aim, and the overriding ideal, of education”; and again that “Critical thinking is, at a minimum, ‘first among equals’ in the pantheon of educational ideals.…[It] is rightfully seen…more dramatically, as the ultimate educational ideal.’’[[28]](#endnote-28) These authors then submit to criticism these two strategies for establishing a final aim, contending that no version of these arguments for a final aim of education has at least as yet made its case. While we might follow these authors along further to detail these argumentative strategies and the problems they find with them, I cannot do better on this than they have done, and so prefer to return now to my project of ‘triangulating’ this debate over aims.[[29]](#endnote-29)

Now, one major attraction of virtue theory is the common ground it allows to be tilled between secular and religious thought. Socrates wanted us to talk about virtue every day as a means of self-knowledge, and I take aretaic concepts as vital to the mediating role which philosophy can play between religious and secular society. Another attractive feature is the manner in which virtue theorists regularly propose and articulate "new virtues" as ways to address problems we today face in our changing social and natural environment. The list of virtues for virtue responsibilists is quite fluid, and the positing of new virtues like epistemic justice and vices like epistemic injustice have been and I suspect will continue to be at the forefront of a lot of the best socially engaged philosophy. This is why virtue responsibilism has such strong and inviting connections with social and feminist epistemology, and with deliberative democratic theory. It is also why responsibilism and reliabilism are *both* draw from empirical work in the cognitive sciences in ways that help us control for implicit biases and other aspects of self-ignorance that empirical studies are revealing.

But these two attractive features of contemporary virtue theory also appear to me to be problematic in regard to attempts to establish by philosophical argument that inculcating virtue should be front and center as the aim of education. I think of them as pulling in somewhat different directions. Historically, calls for *character education* have occurred in waves, and not infrequently. A common feature of these reform movements to date has been their innate conservativism, as they are so often a reflection of religiously-based dissatisfaction with public schooling and with science or liberal education curriculums, in particular.

Given especially the makeup of the people working in the field of virtue epistemology, where majority of the leading authors are also self-described Christian philosophers, and where the dominance of Aristotelian models of virtue reflects this theological influence, it is not outlandish to suggest that the list of virtues promoted by proponents of character education, and the specific thick descriptions provided for them might not be as religiously neutral as they appear when presented as purely philosophical research. Depending on the author, it strikes me as very possible that the list and presentation of intellectual and moral virtues are in fact thought of as sub-serving a list of traditional *religious virtues*, even if the latter are only mentioned explicitly in a smaller number of publications. This may be appropriate in private schools or again in countries which have no separation of church and state, but this again is a point about how *contextual* is a discussion of aims of education.

I am taking it that the debate among philosophers of education, if it has a common focus, *is* about public schools, and about education in the context of a religiously neutral state-run system. In *that* context secularist concerns about the new wave of calls for character education and how they might dictate what intellectual virtues and exemplars of those virtues to admire, rather than letting students decide this for themselves, deserves to be taken seriously. Such responses to concern over the neutrality of teaching for virtue is usually deflected simply by saying that the call is only for *intellectual*, or perhaps—though the difference is rarely made precise—*epistemic* virtue (Baehr). This appeal to their identification through a simple instrumental construal of them as those that promote epistemic goods is arguably in tension with the robust, eudemonistic conception of virtues-identification.[[30]](#endnote-30) It is also and more obviously in tension with the fact that our *phronomic* or neo-Aristotelian responsiblists are usually first to deny sharp differences between intellectual and moral virtue, and first to affirm that ‘full virtue’ as the ultimate developmental goal entails *unity* of the virtues.[[31]](#endnote-31)

On the other hand, the penchant of philosophers to posit new and improved virtues to address modern conditions of life seems like an inherently more liberal application of virtue theory. But since I see this work functioning in a way akin to offering revisionary genealogies of key philosophical concepts, I would describe it as primarily a contribution to social or political philosophy, and as such too contentious and constantly changing to be the focus of public education. These are some general, initial reasons why I find myself agreeing with Siegel when he suggests we should be reticent to overthrow the well – established place of CT as a mainstay of liberal education in favor of teaching for intellectual virtue.

Let me be clear that my position is far from any claim that teaching for virtues isn’t important or that there isn’t a lot of good and valuable work going on in improving the assessment of efforts at character education. That fostering a wide range of intellectual virtues would include but go well beyond the two components Siegel identifies with CT is not in dispute. What is more in dispute is the kind of claim Paul Thagard makes when he insists that our conception of CT needs to be able to articulate “a role for the intellectual virtues without reducing them to dispositions to employ cogent arguments.”[[32]](#endnote-32) I believe this is true, and will speak further to it later. But the point here is that the wisdom of supplementing existing curricula and the wisdom of changing the focus or replacing substantial aspects of it are two different things. If nothing is lost, as ‘supplementation’ suggests, then I am all in, and indeed will suggest another sort of supplementation that I think CT courses should include in order to keep pace with psychological studies. But the debate over aims and the front seat/backseat metaphors suggest some sort of replacement.

So for example the exchange between Siegel and Baehr to which I referred focuses around Siegel’s thesis that: "Establishing the fostering of the intellectual virtues as a fundamental educational ideal is more ambitious and philosophically daunting then establishing the ideal of CT."[[33]](#endnote-33) What I found frustrating in reading the exchange between Siegel and Baehr is how discussion of the ‘appropriateness’ or inappropriateness of distinguishing sharply between reason assessment skills and critical spirit components– RA and CS — as Siegel wants, and of the ‘suitability’ of affirming the one goal and the ‘ambitiousness’ of the other, slides ambiguously back and forth on the part of *both* these authors between a) demands on a *philosophical* account of agency, and b) *practical* demands on an educational institution to establish goals and outcomes, student progress towards which is readily *assessable.*

With regard to purely philosophical questions I suspect there is little grounds for the sharp distinction between RA and CS, in the sense at least that most of the problems Siegel alleges with the opaqueness of the motivational and affective aspects of intellectual virtues are something of an illusion, because most of these same problems would arise with his own Critical Spirit component to CT, were one to open the hood and look closely within.[[34]](#endnote-34) But on *practical* grounds –grounds especially of establishing a set of outcomes with matching methods of measurement — we always want and need to separate those factors that careful psychological research shows us *can* be separated.[[35]](#endnote-35) So it seems true that as Baehr claims, "the possession of certain skills/abilities/competences is *part of what it is* to possess an intellectual virtue."[[36]](#endnote-36) But each of the three ‘dimensions’ of virtue on Baehr’s model – skills, proper motivations, and proper judgment – he notes would have to be separated for purposes of assessment, with progress towards full virtue apparently inferred indirectly from some kind of on-balanced scoring of these.

The point is that assessment is vital if intellectual virtues are to make their way more centrally into formal educational aims, and starting top-down from a theory-driven philosophical model like Baehr’s of what virtues are may be less practicable than he seems to think. At least, if one were to get on board of the lobbying effort, they should be convinced of the assessability of intellectual virtue in advance. I am out of my depth on these subjects but certainly glad to see epistemologists and psychologists increasingly working on it in tandem. Ben Kotzee and others are doing strong work in this area, but he notes that teaching for intellectual virtue and assessment standing in “a certain tension,” and that the field of measuring virtue seems to be in its infancy; in the context of education this testing is beset with imposing obstacles not least of which are that it’s hard to go beyond self-assessment for much of it, and that more objective measures may requires longitudinal rather than latitudinal testing, and perhaps over a longer period than a student attends school.

So again, the debate that I'm dealing with in this paper on aims of education is the one about whether virtues or CT, to use metaphors found in the literature, should take the front seat in terms of actual, formal *advocacy* for public schools, and related to this, whether such advocacy is aided or hindered by presenting one’s view as an answer to a philosopher’s question about an ultimate aim of education. For practical reasons of assessment, etc., I am not convinced the character education movement is ready for that lobbying effort. But this remains consistent with saying that teachers can be as ‘ambitious’ in their own teaching for intellectual virtues as they care to be, so long as they do not lose sight of institutionally-accepted goals.[[37]](#endnote-37) To give a more specific example, Heather Battaly identifies the concerns of critical thinking teachers to impart an understanding of how to evaluate deductive and inductive modes of reasoning, as essentially reliabilist concerns. I think I agree with her when she suggests that instructors can and should augment their pedagogy by “teaching for responsibilist virtues in reliabilist classrooms”.

In terms of that other question about ambitiousness of certain philosophers of education believing their business is to determine by theory-driven argumentation an ultimate or final aim of education, my conclusion is that the front-seat / back-seat metaphor is inapt. Remembering the intermediate or regulative rather than principal role Dewey thought philosophers of education should limit themselves to, if we must speak of cars it should be revisioned as one where a person would *prefer* to sit in the back –a limo or, to better fit Dewey’s egalitarian leanings, a bus perhaps.[[38]](#endnote-38)

1. **Critique of Siegel**

Harvey Siegel has done as much as any philosopher of education living today to help establish critical thinking as a backbone of liberal education. As a credit theorist, let me be first to say this is much to his credit. In addition to saying early on in this paper that I would try to establish skepticism about a final aim of education as a well-principled option, I briefly indicated that my criticisms of Jason Baehr would be mostly of a practical order, while my differences with Harvey mostly philosophical. So having reviewed the exchange between Siegel and Baehr, and them and responded to Baehr’s proposals on practical and secularist grounds, let me now move to a critique of Harvey’s philosophical account of autonomy and rationality, as they inform his general conception of epistemic normativity, and his specific *conception* of CT. While I defend ~~have defended~~ CT as an important educational aim, the body of philosophy that Siegel uses to defend it I want to argue is ~~unpersuasive, and~~ needs substantial reworking. I will organize this critique into three sub-sections.

1. **Individual autonomy and epistemic dependence**

Siegel emphasizes that “[T]he educational ideal of rationality…[is aligned] with the complementary ideal of *autonomy*, since a rational person will also be an autonomous one, capable of judging for herself the justifiedness of candidate beliefs and the legitimacy of candidate values.”[[39]](#endnote-39) Let’s start with some concerns about the ideal of individual autonomy itself. Emily Robertson’s paper on the epistemic aims of education provides criticisms of Siegel’s assimilation of rationality with autonomy. Drawing on work on epistemic dependence among social, feminist, and virtue epistemologists, she holds that “Epistemic educational aims should acknowledge each individual's dependence on the knowledge of others” [[40]](#endnote-40); the independent thinker even ideally is not someone who works everything out for herself, and philosophers should not be committed to methodological individualism or to holding a view of rationality so abstract as to “assume that there are no epistemologicallyrelevant differences among knowers.”[[41]](#endnote-41)

Many such criticisms bear upon Enlightenment reason itself, as unbalanced by Counter-Enlightenment thought, but she tries to show they have a substantial degree of bearing on Siegel’s self-described Kantian defence of autonomy, and his subsequent account of what CT pedagogy should essentially cover. Now there would be much more to say on these issues, and if one were critical enough of Cartesian assumptions of Enlightenment thought overall, one could I suppose favour dumping the language of autonomy as an education ideal in favour of some weaker terminology like self-reliance, personal resourcefulness, etc. But Robertson does not seem to indicate that we need go so far. I note that recent papers on virtue epistemology and education by Duncan Pritchard and co-authors also invoke the ideal of autonomy even while talking *explicitly* about epistemic dependence.[[42]](#endnote-42) I take it they are all using that the individual autonomy ideal should be restricted to ~~in~~ the simpler sense of Kant’s famous “***Sapere aude”* challenge: think for yourself! Critical thinking teachers should want to** distinguish, as Kant did, between telling our students what to think, and teaching them how to think for themselves. If the individual autonomy ideal is presented primarily with this limited connotation, there is nothing objectionable, of course. But to preface my second and third concerns, the fact of dependence to which contemporary epistemology is increasingly paying attention clearly carries with it a direct concern with actual epistemic communities, and actual epistemic *practices.* I don’t see how this can be denied. You can’t recognize the epistemological importance of dependence without taking the field of epistemology as intimately concerned with collective epistemic *practices*.[[43]](#endnote-43)

1. **Individual autonomy and the supposed autonomy of philosophy**

These initial comments lead to a second concern, that the conception of individual autonomy which Siegel employs appears to be reliant upon *philosophy’s* autonomy in determining the content of norms for evaluating competence and performance. The Kantian approach to normativity has tended to take “philosophy as the sole judge in normative matters and as the methodological authority that assigns the various domains of inquiry to their proper questions.”[[44]](#endnote-44) Philosophy’s self-image has too often been that of an autonomous field, separate from practice and dictating the correction of practice uni-directionally, from objective standards to flawed practices and thinkers in need of correction.[[45]](#endnote-45) While Siegel makes a strong explicit commitment to a form of philosophical naturalism, a treatment of reasons and rationality that reflect such assumptions about the autonomy and methodological authority of philosophy, I’d suggest, potentially complicate or bely that commitment. More specifically this is caught up in how he affirms metaphysical while distaining epistemological naturalism, treating the latter uncharitably as making a very basic mistakes of reducing ought to is, and holding as true to being true.[[46]](#endnote-46)

This also gets us closer to key differences between rationalism and pragmatism. The history of Siegel’s truck with pragmatists includes some charges against him that he presupposes ‘dangerous dualisms,’ and his equally sharp riposte that they espouse ‘murky monisms.’[[47]](#endnote-47) I must leave this for others to judge. But the one dichotomous distinction in Siegel’s work that I want to argue *is* invidious, and indicative of an inadequately naturalistic epistemology, is his endorsement of a dichotomy between the context of discovery and the context of justification in science. In a paper reflecting assumptions I suspect continue to inform his understanding of epistemic normativity, he argues that Hans Reichenbach was correct in holding that for purposes of epistemic assessment, epistemologists should work with a ‘logical substitute’ rather than with real processes.[[48]](#endnote-48) In this paper Siegel goes on to argue, “that psychology cannot contribute to the evaluation of knowledge claims.” None of the critics of the distinction of the contexts of discovery and justification have succeeded in showing “that psychological investigation can contribute to the evaluation of knowledge claims.”[[49]](#endnote-49)

Assumption of a fundamental cleavage between the rational and the social has often been grounds for accusing less rationalistic philosophers of ‘psychologism.’ These charges were regularly leveled against pragmatists during the logical positivist era, while the reverse charge were that these dichotomies were just the ‘dogmas’ of logical positivism. Pragmatists on my view never confused the concern with actual practice with any ‘decisionistic’ claim that *actual* practices *determine* standards. Fallibilism is arguably the birth child of pragmatists like C.S. Peirce, and I think it would have befuddled them to hear that the ability to identify errors of reasoning presupposed a dichotomy between logic and psychology.

Of course today we find naturalistically-inclined epistemologists increasingly concerned with bridging the ‘gap’ that this dichotomy imposed, between philosophy and the empirical psychological sciences. This coincides with rejecting narrow conceptions of philosophy as concerned only with justification, and of critical thinking as concerned only with teaching “correct” reasoning in the sense of formal modes of deductive and inductive inference. Work on bounded rationality, extending from the seminal work of Herbert Simon, asks and studies how real people make decisions with limited time, information, and computation. Work on ecological rationality goes together with studies of heuristic reasoning. We are all energy economizers and want to think fast and frugally, fitting strategies to mundane tasks the simplest way we can, rather than always doing the ‘expensive’ reasoning of ideal *qua* unbounded reasoners.

~~Philosophers, however, have too often presupposed the latter in their conceptions of autonomy and rationality~~. So Gerd Gigerenzer compellingly presents the facts of ecological rationality as challenging what he terms the “classical conception of rationality,” a conception with “appealing but often unrealistic goals” that he thinks is anti-naturalistic in its tenor, yet remains still deeply-rooted in philosophy, economics, and decision theory. This account Gigerenzer blames for the institutionalized division of labor between principles based upon the "is" and "ought" division. "Until recently, the study of cognitive heuristics has been seen as a solely descriptive enterprise, explaining how people actually make decisions. The study of logic and probability, by contrast, has been seen as answering the normative question of how one should make decisions."[[50]](#endnote-50) The result is "contrasting the pure and rational way people *should* reason with the dirty and irrational way people in fact *do* reason."[[51]](#endnote-51)

The long-standing ‘two cultures’ problem that prevents the closer integration of CT with empirical studies of moral and cognitive judgment is indeed based upon a ‘dangerous dualism,’ and as Peirce would say, a roadblock to inquiry. On a pragmatist account the implications of the normative/descriptive distinction is adequately captured by everyday run-of-the-mill fallibilism, that is, recognition that norms are, well, normative, and that individuals can fail to meet them. It does not entail a doctrine of no traffic to and fro between descriptive and normative projects. I think of virtue theory and pragmatism as closely aligned on this crucial matter, and in agreement with Kwame Anthony Appiah when he writes, “The questions we put to the social scientists and physiologists are not normative questions. But their answers are not therefore irrelevant to normative questions."

Gigerenzer is explicit that norms of epistemic assessment, while still truth connected, are not ‘free-floating’ impositions as he thinks the classical conception has wrongly conceptualized them. [[52]](#endnote-52) [[53]](#endnote-53)/ [[54]](#endnote-54) /[[55]](#endnote-55) Of course, this may hit us as applying easily to economic theories that define rationality in terms of making decisions that maximize our interests as consumers, but much odder when applied to what we’ve traditionally called ‘natural deduction.’ It’s easy to see that a value-charged conception of humans as natural producers and consumers — the persuasive model of *homo economicus* — informs normative standards in the first case, but how do values figure into logic? I would recommend Adam Morton’s book *Bounded Thinking,* whichexplains why we should recognize what he calls N-theories as normative systems designed for specific purposes, rather than as self-standing or simply discovered. In this way Morton’s approach can be compared with Dewey’s social or cultural naturalism, where he writes, ‘‘The naturalistic conception of logic, which underlies the position here taken, is thus cultural naturalism. Neither inquiry nor the most abstractly formal set of symbols can escape from the cultural matrix in which they live, move and have their being.’’[[56]](#endnote-56)

Siegel has long-promoted a ‘generalist’ pedagogy for CT, a pedagogy that focuses on learning inductive and deductive reasoning, on assumption that these argument evaluation skills will be portable outside of the classroom. Aside from the debate over whether that is in fact the case, the idea that fast and frugal heuristics reasoning can be ‘ecologically rational’ when well-suited to a problem situation challenges expectations that human reasoners are rational or justified only when they meet normative standards derived independently of empirical and social psychology. That psychologists are showing human cognition to be so heavily ecological and ‘satisficing’ is one way to get at the point that norms of doxastic rationality bump up against pragmatic constraints and inborn limitations in ways that challenge ideal observer and optimizing/maximizing conceptions of rationality associated with a generalist pedagogy.

When I claim that Siegel’s accounts of autonomy and rationality need a reworking, I mean that I find them somewhat out of step with present naturalizing trends in the field of epistemology, and that if I am asked to accept his philosophical rationale for the CT platform, and his specific conception of the purview of critical thinking, I need to be more empirical and less rationalistic, more attentive to ecological rationality and less dependent upon any view that would limit epistemic rationality to justification understood as a synchronic relation between a proposition and one’s evidence that bears upon it. To reiterate Thagard’s point, our CT curriculum, and our understanding of intellectual virtues within that curriculum, needs to address a whole lot more than a logical understanding of the structure of argument, which while of course not exclusively so, has been Siegel’s central focus.[[57]](#endnote-57)//[[58]](#endnote-58) A solid CT education he thinks requires a psychological understanding of motivated inference as much as a logical understanding of the structure of argument.[[59]](#endnote-59)

1. **Between autonomy and automaticity**

To take these last points a bit further, my final comments on autonomy – I promise! –can be put under the title ‘between autonomy an automaticity.’ Dewey was very interested not just in formal reasoning, but in how we *think.* His account of habit is highly attentive to the philosophical importance of entrenched aspects of our cognitive architecture, as well as situational factors within our environment. Habit is the fixed routine of activity which normally predominates, often manifesting in behavior in which consciousness may play only a token role. He states that people often know more "with their habits, not with their ‘consciousness’ …." "Action may take place with or without an end-in-view,” and in the latter case, there is simply settled habit, something close to what psychologists call automaticity, and which dual-process theory (DPT) associates with fast and frugal T1 processing.

Although he doesn’t have this language, Dewey says that in routine cases, “ends are determined by fixed habit and the force of circumstance." “It is only if a problematic situation arises that habit is disrupted and impulse proves inadequate.”[[60]](#endnote-60) At this point, if we have the needed flexibility and metacognitive wherewithal, more effortful thinking intervenes to help resolve the problematic situation, or it does not, and the result is likely to be unsatisfactory. The adjustments are only successful as we have the flexibility of mind to apply a strategy of inquiry well-adapted to the particular situation. Dewey bade us “attend more fully to the concrete elements entering into the situations in which [we] have to act”[[61]](#endnote-61) because “It is impossible to reach this sort of adjustment save as constant regard is had to the individual’s own powers, tastes, and interests—say, that is, as education is continually converted into psychological [or experiential] terms.”[[62]](#endnote-62)

Let me connect this to virtue theory for you by returning to our earlier mention of the relevance of epistemic dependence. Virtue epistemology in the direction that Pritchard, Carter, and Kallestrup are taking it recognizes a “continuum from mere cognitive success, via weak cognitive achievement, cognitive achievement proper, through to strong cognitive achievement.”[[63]](#endnote-63) In articulating this continuum, Pritchard asserts that ‘we are clearly describing an important axis on which epistemic goodness can be measured that is relevant to the epistemology of education.”[[64]](#endnote-64)

One key point with which I agree is that recognition of this continuum “goes hand-in-hand with a focus on the advancement not just of knowledge but, more importantly, *understanding*.”[[65]](#endnote-65) But to stay with our concerns with cognitive psychology, the points I want to pick up on are Pritchard’s two further claims that strong cognitive achievements are a) associated with overcoming a significant obstacle to success, and b) “not just resistant to epistemically hostile conditions, but also *flexible* in their application.”[[66]](#endnote-66) These points suggest the clearest connection with the work of cognitive psychologists like Keith Stanovich and Jonathan Evans. According to Evans, "We actually know quite a lot, from the experiments conducted by psychologists, about when the reflective mind will intervene in decision-making. From a normative perspective, optimizing coordination of T1 and T2 within our natural limits is of crucial philosophical and pedagogical concern, especially since the *parallel* nature of T1 and T2 means they not only cooperate, but also routinely operate at the same time and quite often compete in determining an agent's cognitive or ethical judgment.”[[67]](#endnote-67) The importance of these T2 dispositions for reliable decision-making is evident from the way they monitor T1 responses and correct for the biases that fast, intuitive processes are most vulnerable to. This is the manifestation of dispositions for “sustained de-coupling,” or more simply, successful T2 “over-ride” of T1 processing. So although it is a bit a digression, it seems that successful “sustained de-coupling” or more simply, successful T2 “over-ride” of T1 processing qualifies as another form of strong cognitive achievement, [and a concern that I hope a younger generation of virtue epistemologists and teachers of CT more generally will want to examine closely]. something I have argued elsewhere is should be part of the virtue epistemologists’ response to the situationist challenge to credit theories of knowing.[[68]](#endnote-68)

To bring this discussion around to the aims of education, most critics of Siegel’s two-component account of CT seem to want us to *collapse* this distinction.[[69]](#endnote-69) I would like to end by going the other direction, suggesting that the better approach may be to *add* a third ‘component’ of what we need to teach for: a component addressed to individual differences in what Stanovich calls the thinking dispositions of *fluid rationality*. Those who do poorly on cognitive tasks it turns out tend to be ‘cognitive misers’ in the way that they process, while those who do better than average exhibit a more desirable collaboration ~~between their T1 and T2 thinking, and as Stanovich has it,~~ between aspects of what Stanovich calls our *crystalized* and *fluid* rationality.[[70]](#endnote-70)

*Thinking**dispositions*, in Stanovich uses the term, refer not what *abilities* and *skills* people have but how *disposed* they are to use those abilities when need arises—and how sensitive they are to that need. So this further separation arguably helps to integrate an account of educational aims with the growing empirical literatures on metacognition. These traits might seem at first glance to fall into Siegel’s CS, but I don’t think they fit easily there because what they refer to it are not just to one’s standing dispositions like a robust love of truth, nor even on Baehr’s expanded list of time-honoured, broadly-typed responsibilist intellectual virtues. They are virtues of course, but being mostly as Adam Morton calls them, virtues of ‘limitation management,’ they do not fit easily on lists of responsibilist virtues. My suggestion is intended, then, to add specificity to something mentioned in Kotzee’s (2016) paper on assessment of virtues, that some empirical researchers have claimed there are really at least three “empirically separable” elements in play: specific ability (RA), inclination (CS) and “sensitivity to reason in a certain way”.[[71]](#endnote-71) The manner in which I take this “sensitivity to reason in a certain way” is in light of Daniel Kahneman’s point that effective agency, both on heuristic tasks and ‘in the wild,’ must deal with “the quirks of System 1 and the laziness of System 2.”[[72]](#endnote-72) Again, for assessment purposes we should separate what we can separate, and my general standing love of truth, etc., doesn’t indicate that I will demonstrate sustained decoupling when that is needed. Neither does my knowing how to identify and evaluate argument-types.

This proposal I think is a useful supplement to our thinking about CT, and what we should hope students get from a CT curriculum. Research shows that there are demonstrable differences in fluid rationality among individuals, differences that to a significant degree are attributable to education, as they are not merely a matter of innate IQ. So when this third separable component is added into the purview of critical thinking teaching and assessment, we arguably achieve a substantially better balance of concern for the inner and the outer, the person and the situation, and of course, logic and psychology.

**CONCLUSION**

In conclusion, I have argued what I think is a fairly common-sense line. CT has been a backstay of liberal education for several decades and should continue to be such. But the underlying conception of rationality attending an account of the educational value of CT will also affect its pedagogy. Where this underlying conception of rationality leans upon a version of the old positivist dualism between epistemology and psychology, where it resists dealing with the ‘messiness’ of things like biases and heuristics, ecological rationality, motivated inference, etc., it needs to be revised to better accord with the emerging scientific image, and with the broadening concern of philosophers for work in the special sciences.

Pragmatism and virtue theory are two strongly overlapping approaches in philosophy, each with excellent resources for overcoming what we have called the two cultures problem, resources that help them avoid ‘dangerous dualisms’ without sinking into ‘murky monisms.’ Pragmatism with its focus on habits, and virtue theory on normatively evaluable robust traits and dispositions, both focus epistemology around *agency* rather than only around propositions and propositional attitudes. While for the most part highly complementary both to each other and to ideals of education for intellectual growth and independence, each in a different way helps to correct for conceptions of individual agency that neglect epistemic dependence, and with it, epistemic *practice.*

**Works Cited** [incomplete]

Baehr, J. (2016, forthcoming). “Intellectual Virtues, Critical Thinking, and the Aims of Education,” p. 103. Forthcoming 2017 in the *Routledge Handbook of Social Epistemology,* eds. Peter Graham et. al.

Baehr, J. (ed.) *Intellectual Virtues and Education: Essays in Applied Virtue Epistemology.* Routledge (Taylor & Francis).

Carter, J. Adam & Kotzee, B. Epistemology of Education, [Forthcoming, *Oxford Bibliographies Online*].

Chambliss, J. John Dewey's 1937 Lectures in Philosophy and Education,

Education and Culture Spring. 2004 Vol. XX No. I.

Curren, R. (2009). Pragmatist Philosophy of Education. In H. Siegel, ed. *The Oxford Handbook of Philosophy of Education*, \_\_\_\_\_\_\_\_ Oxford Handbooks Online DOI: 10.1093/oxfordhb/9780195312881.003.0027

Cuypers, S. E. (2004). Critical thinking, autonomy, and practical reason. Journal of Philosophy of Education, 38, 75–90.

Dewey, John. (2012). *Unmodern Philosophy and Modern Philosophy,* edited by Phillip Deen, with a foreword by Larry A Hickman. Southern Illinois University Press.

Frege, Gottlob (1997), “*Begriffsschrift*: a Formula Language of Pure Thought Modelled on that of Arithmetic”, in Beaney 1997, pp. 47–78.

Garrison, J. (1999). Dangerous Dualisms in Siegel’s Theory of Critical Thinking: A Deweyan Pragmatist Responds. *Journal of Philosphy of Education,* 33(9):

Haji, I. and Cuypers, S. (2011). Ultimate Educational Aims, Overridingness, and Personal Well-being, Stud Philos Educ (2011) 30:543–556.

Hanks C. (2008). Indoctrination and the space of reasons. *Educational Theory* 58(2): 193–212.

Hardarson, A. (2016, forthcoming). Aims of Education: How to Resist the Temptation of Technocratic Models, *Journal of Philosophy of Education, Vol. 0, No. 0, .*

Hardarson, A. (2012). Why the Aims of Education Can’t be Settled, *Journal of Philosophy of Education,* Vol. 46, No. 2, 2012.

Hildreth, R. W. What Good Is Growth? Reconsidering Dewey on the Ends of Education. *Education & Culture* 27 (2) (2011): 28-47.

Kidd, I.J. Educating for Intellectual Humility, in J. Baehr (ed.) 2016:54-70.

Kotzee, B. (2016). Problems of Assessment in Educating for Intellectual Virtues, in J. Baehr (ed.) 2016: 142-160.

McDowell J. (1994). *Mind and World*. Cambridge, MA: Harvard University Press.

Peckhaus, V. ( ). Psychologism and the distinction between discovery and justification. In *J. Schickore and F. Steinle (eds.), Revisiting Discovery and Justification,* 99–116. 2006 *Springer. Printed in the Netherlands.*

*Pritchard, D.* (2013).Epistemic Virtue and the Epistemology of Education, *Journal of Philosophy of Education, Vol. 47, No. 2, 2013.*

Robertson E. (2009). The epistemic aims of education. In: H Siegel (ed.) *The Oxford Handbook of Philosophy of Education*, pp. 11–34. New York: Oxford University Press.

Sellars W. (1997). *Empiricism and the Philosophy of Mind*. Cambridge, MA: Harvard University Press. Originally published 1956, in H Feigl and M Scriven (eds) *Minnesota Studies in the Philosophy of Science*, vol. 1, pp. 253–329. Minneapolis, MN: University of Minnesota Press.

Sellars W. (2007) Philosophy and the scientific image of man. In: K Scharp and RB Brandom (eds) *In the Space of Reasons: Selected Essays of Wilfred Sellars*, pp. 369–408. Cambridge, MA: Harvard University Press. Originally published 1962, in RG Colodny (ed.) *Frontiers of Science and Philosophy*, pp. 35–78. Pittsburgh, PA: University of Pittsburgh Press.

Siegel, H. (2016). Critical Thinking and the Intellectual Virtues, in Baehr (ed.) 2016: 95-112.

Siegel, H. (2001). Dangerous dualisms or Murky monism? A reply to Jim Garrison. Journal of Philosophy of Education, 35(4), 577-595.

Siegel, H. (1988). Educating reason. Rationality, critical thinking, and education. New York: Routledge.

Siegel, H. (1997). Rationality redeemed? further dialogues on an educational ideal. New York: Routledge.

White, J. (1999). In defence of liberal aims in education. In R. Marples (Ed.), The aims of education (pp. 185–200). London: Routledge.

1. ENDNOTES [Incomplete/ignore]

   John Dewey, *MW* 9: 107;116. Apart from Unmodern Philosophy, citations of Dewey’s works refer to the multivolume sets *John Dewey:* *The Middle Works, 1899-1924*, or *The Later Works, 1925–1953*, edited by Jo Ann Boydston and published by Southern Illinois University Press. This set will be cited in the text as *MW* or *LW*, respectively; for instance, the citation (*MW* 3, 45) refers to Middle Works, volume 3, page 45. [↑](#endnote-ref-1)
2. *MW* 9: 105. The general but open-ended goal may reflect the early influence of Hegel, who wrote that that The final purpose of education [. . .] is liberation and the struggle for a higher liberation still (Hegel, 1978, p. 125). “Dewey was extremely critical of Hegel’s absolutism, however. Like the left-Hegelians, he used the notion of need to mean value. Gouinlock has remarked on the influence of Hegel’s denial of dualisms on Dewey (1989, p. 308)” (McDonald) [↑](#endnote-ref-2)
3. *LW* 5: 29. [↑](#endnote-ref-3)
4. Dewey, *Quest for Certainty*, 105. [↑](#endnote-ref-4)
5. Dewey, *Human Nature and Conduct*, Part 3, VI. [↑](#endnote-ref-5)
6. Dewey, “Three Independent Factors in Morals,” 133.So this insistence on a more holistic assessments of means-end relations has resources to criticizing each of the most prominent normative ethical theories. Gregory Pappas is right to ask the Deweyan question: “Why must moral theorists decide if becoming a good character or doing the right actions is the end of our moral life?” (Pappas 2008, 133). **E**ven though the landscape of moral conceptions—including desires, social demands, and approbation and disapprobation—are “constant” and “fundamental” parts of our moral lives, the particular emphases that theories or even cultures take on, in response to particular concerns and circumstances, are transient. [↑](#endnote-ref-6)
7. Interestingly, while it is acknowledged that Aristotle saw virtuous habits not just a means to living well, but partly constitutive of this ideal, he chides Aristotle in *Experience and Nature* for undermining this view and giving impetus instead to a ‘theory of the external and coerced relationship of means and ends where he (Aristotle) writes, “When there is one thing that is mean to another that is end, there is nothing common between them, except insofar as the one, the means, produces and the other, the end, receives the product.” However, the passage is uncited and I have not been able to trace it to Aristotle. In *Unmodern Philosophy and Modern Philosophy* Dewey returns to this theme, showing again how central it is to his thought. Although he does not seem to have located in the meanwhile the Aristotle references that most ired him, he insists again that “We owe to Aristotelian writings the first completely generalized statement of the idea that there is an inherent separation of means and ends. [↑](#endnote-ref-7)
8. Dewey, *Unmodern Philosophy and Modern Philosophy,* 299. [↑](#endnote-ref-8)
9. Ibid., 300. [↑](#endnote-ref-9)
10. In a somewhat neglected text, Dewey’s 1947 Lectures on Education, he claims that “there is no such thing as one completely isolated line or mode of development,” and that this is why he takes the general aim of growth in a broad and inclusive sense and not limit it to one isolate line of development…” (1937, L3.7) Hildreth comments, “Dewey became a life-long critic of any notion of telos or an absolute end for human affairs. In his educational thought, this required the ends of education be connected to students’ lived experiences, means (methods), content (subject matter), and concrete social conditions. The relationship between means and ends, for Dewey, should not be understood as a dualism, but as a flexible continuum. In Democracy and Education, ends are defined in terms of intentional results: “[It] implies an orderly and ordered activity, one in which the order consists in the progressive completing of a process. Given an activity having a time span and cumulative growth within the time succession, an aim end means foresight in advance of the end or possible termination” (Dewey *MW* 9: 108) Here, ends become a part of a process, one stage in a continuum.” (34) [↑](#endnote-ref-10)
11. Jennifer Welchman, 191: In a scientific approach, means and ends must be reciprocal. Ends once achieved are means to further ends. The decision to identify a particular act or event in a life as a means or as an end is like the decision to identify a particular event in a chain of events as a cause or an effect; this is appropriate only for certain purposes, but inappropriate in others.In reality, nothing is exclusively one or the other. Even the putative end of human action, the good life, can’t be conceived as a discrete thing. [↑](#endnote-ref-11)
12. “By attenuating the distinction of ends and means, Dewey argued convincingly for the instrumental role of ends. Ends, principles and past experiences are instrumental in the unique value situation. More, Dewey revalued means as worthy of greater consideration, an extension of value, since means are not considered subordinate in value or of inferior worth in his analysis.” (McDonald) [↑](#endnote-ref-12)
13. "Intrinsic Value in Dewey," *Phil. Res. Archives*, I, 1975, 36. [↑](#endnote-ref-13)
14. Dewey, ED1, 338-9. [↑](#endnote-ref-14)
15. ‘*Violence*, finally, as I have said, is distinguished by its instrumental character.’ ‘Violence can always destroy power. Out of the barrel of a gun grows the most effective command, resulting in the most instant and perfect obedience. What never can grow out of it [violence] is power.’ By Arendt’s definitions, *Power*corresponds to the human ability not just to act but to act in concert. It is never the property of an individual, but rather belongs to a group and remains in existence only so long as the group does. Source: <http://www.fsmitha.com/review/arendt.html> ‘, ‘[T]he danger of the practice of violence, even if it moves consciously within a non-extremist framework of short-term goals, will always be that the means overwhelm the end. If goals are not achieved rapidly, the result will not merely be defeat but the introduction of the practice of violence into the whole body politic. Action is irreversible, and a return to the status quo in case of defeat is always unlikely. The practice of violence, like all action, changes the world, but the most probable change is a more violent world.’ [↑](#endnote-ref-15)
16. Kidd, 2016, 67. [↑](#endnote-ref-16)
17. In my own state of Virginia, for example, educators have seen both of these models take increasing control in tandem. We are even asked to attend (still voluntarily, but perhaps not for long) an ‘Educational Efficiency Day.’ The state review of disciplines and majors seems increasingly subject to a trend that is analogous to what occurred to independent journalism with the rise of global media giants. It is axiomatic in democratic thought that an independent and rigorous journalism is a backbone of political accountability—a vital part of checks and balances. But this has arguably been largely usurped mainstream news divisions with the buying up and re-organization of media outlets by the handful of major media conglomerates, and the subsequent consolidation of these few. The ‘rigor,’ under this new paradigm seems to have shifted to holding their news divisions to a ‘rigorous accounting’ in terms of those divisions’ contribution to net income. Investigative journalism being costly and time consuming, its often gives way to info-tainment alternative, and to reporting that would not seriously challenge the interests of globalization. So this ‘rigorous accounting’ arguably undermines both journalism’s rigor and its independence. But now hasn’t a similar trend taken hold in educational reform, threatening liberal education, the traditional ‘backbone’ of education for the whole person? Any research, any curriculum, or for that matter any major that lacks ‘impact,’ as measurable in the form of funding it brings in, or starting salary of majors, is thereby judged to lack educational value. Here again the ‘rigor’ of a strong liberal education is undermined by the rigor of accounting. The only ‘check and balances’ they…well, you get it! [↑](#endnote-ref-17)
18. Hardarson, A. (2012). Why the Aims of Education Cannot Be Settled, *Journal of Philosophy of Education*, v46 n2 p223-235 2012 [↑](#endnote-ref-18)
19. “Dewey offers the general principle of growth as the primary criteria to assess the educational value of experiences. Simply put, growth represents learning experi-ences that open up (rather than foreclose) opportunities for further growth.” Hildreth, 34. [↑](#endnote-ref-19)
20. R. L. Hildreth, 36. Dewey points out a reason for openness about the social: “Since education is a social process, and there are many different kinds of societies, a criterion for educational criticism and construction implies a *particular* social ideal” (MW 9: 105). Education in progressive and conservative societies will thus differ in their aims. But Dewey is far from being culturally relativist or decisionist about the choice of aims, and Dewey consistently refuses to treat education for democratic citizenship as a distinct subject matter, or one choice of social ideal among others. Hildreth points out that though his identification of educational with democracy, ‘‘Dewey’s criteria point towards ideal social conditions for individual growth. Mutual interest eliminates the artificial barriers between persons and different forms of experiences. This opens up greater possibilities for interaction, learning, and growth... The aim of democracy and education is for people to develop mutual interests and gain a sense of the broader consequences of social interactions.’ 37 [↑](#endnote-ref-20)
21. Baehr concedes that since virtues on this “three dimension” model (skills, proper motivations, and proper judgment) is complex, assessment presents difficulties: “Given this “three-dimensional” model, when it comes to tracking a student’s progress relative to a given virtue (e.g. open-mindedness, intellectual courage, or curiosity), we will want to measure how well the student is doing along each of the dimensions in question: for example, whether she has the virtue-specific skill, whether she is motivated to use this skill (and whether this motivation is at least partly intrinsic), and whether she has proper judgment about when or how much the skill should be used. Unsurprisingly, we are unlikely to get this information from a single type of measurement. Instead, we will likely need to use different assessment tools to measure progress along these different dimensions….” <http://intellectualvirtues.org/guiding-principles/assessment/> [↑](#endnote-ref-21)
22. From *‘My Pedagogic Creed.’* Concerning virtue theories he also drew the implication that there isno good reason to take either character considerations (virtues, ideals, projects) or act considerations (rules, principles, consequences) as the defining paradigm of moral engagement. Character and conduct cannot be so divided. [↑](#endnote-ref-22)
23. Dewey thought there were a panoply of other such invidious dualisms in Modern philosophy that are a basic source for its many theoretic divides; the most influential systemic of his own day, the program of logical positivism, was in a sense built off the back of the Kantian-type distinction by the positivists of his own day. Once they rejected Kant’s a priori reason and refashioned his basic distinction into one between logic and psychology, fact and value, theoretical and practical reasoning, normativity could be treated in a way that almost stood Kant on his head. This allowed them to dichotomize between theoretical and moral statements, giving a puffed up, ‘normative’ (purely logical, purely evidential) construal of the former, and a deflated, merely ‘positive’ construal of the latter. While Kant’s dichotomy was meant to undergird a symmetrical treatment of the objectivity of theoretical and practical reason—the True and the Good—positivists who were emotivists used the fact/value dichotomy and the poverty of reason’s ability to mediate differences of value to replace it with a science-centric account contrasting the ‘logic of science’ with an emotivist or prescriptivist construal of ethical discourse. [↑](#endnote-ref-23)
24. When the sharp distinctions in value between means and ends, which justify such slogans are rejected, Dewey thought we should drop our depreciatory attitude towards practice, and come to see the problem of values as part of the problem of intelligent action. The study of knowledge (‘knowings/knowns’) cannot be merely cognitive because our agency is principally active and purposive. Dewey’s pragmatism led towards a reunion of theory and problems of practice, he also valued highly the import of a general “theory of inquiry.” Dewey explicitly supported the complementarity between domain-specific research techniques, and general theory of inquiry, which insisting that philosophical methodology is theory of inquiry rather than logic or epistemology is any narrow sense invoking a spectator theory of knowing. [↑](#endnote-ref-24)
25. “[E]pistemology should study our practice of epistemic evaluation by exploring how we are able to carry our inquiries and theoretical deliberations in a well-regulated manner” (Hookway, 104). [↑](#endnote-ref-25)
26. If successful, this should give pauseto those who promote character education, as well as those who promote CT as an ultimate aim. Growth is an “inclusive” goal in that it can be thought of as harmonizing immediate, situational, and particular ends, but I suppose for Dewey can do so only if we don’t take the additional step, [↑](#endnote-ref-26)
27. Haji and Cuypers use John White (1999) as their example of a promoter of an Aristotelian-model virtue theory as ultimate aim of education. I use Jason Baehr instead because of his explicit focus on *intellectual* virtues and epistemic aims, and because his direct exchange with Siegel makes for an easy pairing that and deserves discussion among philosophers and other educators. I acknowledge, though, that while Beahr gives the style of argument the Haji and Cuyper’s identify, he is personally more guarded on the question of whether *what* he promotes is an ‘ultimate aim,’ than is either White, or, from the CT direction, Siegel. [↑](#endnote-ref-27)
28. The first quote is Siegel *Rationality Redeemed?* , 1997, 1–2). The second is Siegel, *Educating Reason,* 137; see Haji and Cuypers, 545 where they quote Siegel’s ‘transcendental’ argument for this claim: ‘Siegel offers the following (transcendental) argument for this claim: ‘Consider a case in which…[some ideal, such as critical thinking] conflicts with some legitimate other. In such a case, one might argue that the other should override critical thinking in this instance. And perhaps so it should. But it requires rational argument, and appeal to reason, in order to make the case for the preferability of the rival ideal to that of critical thinking. And such appeal is, of course, an appeal to, and an honoring of, the latter ideal itself. Consequently, an overriding of critical thinking by a rival educational ideal at one level requires acknowledgment of the reign of critical thinking at the next highest level. In this way critical thinking must preside over and authorize the force of its rivals. (p. 137)’. Again *in Rationality Redeemed?* Siegel still endorses the view ‘‘that the fostering of rationality and critical thinking is the central aim, and the overriding ideal, of education’’ (Siegel (1997), p. 2) while believing ‘‘that this ideal is by far the one most widely advocated in the history of philosophy of education, from Plato to Dewey and beyond’’ (p. 189, note 1). Obviously, I think the last claim misinterprets Dewey. [↑](#endnote-ref-28)
29. The authors’ conclusion seems somewhat at odds with itself, as they hold both that educational aims can ‘vary considerably’ with context (Dewey’s point), but also that ‘Failure of these two strategies does not, of course, sustain the skeptical conclusion that there are or can be no ultimate educational aims, but it imputes urgency to this question.’ This seems more to me to be a value judgment, like that the life without ultimate goals is not worth living, than the logical conclusion of their critique of the two strategies. Why they view the ‘skeptical’ conclusion as debilitating in any way is never made clear; So I should acknowledge that my use of the authors for my own purposes is limited to their critique, but I cannot claim them as compatriots of Dewey’s position against final aims. Hardarson and Hildreth are clearer defenders of the position I take. [↑](#endnote-ref-29)
30. This is to apply to this ‘only strictly epistemic virtues’ reply an analogue of the argument Cuypers (2004, 75) uses against Siegel, that he “can’t have it both ways: he cannot appeal both to means-end and to robust rationality.” Beahr’s online book \_\_\_\_\_\_\_ published for the Intellectual Virtues and Education project under John Templeton Foundation funding is quite dismissive of the concern that character education may be moralistic: “[T]his worry conflates intellectual virtues with moral virtues. (It also suggests a rather limited understanding of the purpose of education, including public education.) To be sure, educating for intellectual virtues requires a commitment to certain values. But these values are primarily “epistemic” or intellectual in nature: they include things like knowledge, understanding, thinking, reasoning, wondering, and learning. Intellectual virtues are simply the character traits one needs in order to engage in these activities well.” This book written under Templeton Foundation funding strikes me as considerably more a manifesto of character education than his own independent work, which arguably raises the question of the impact of funding by sources like the Templeton Foundation. [↑](#endnote-ref-30)
31. I do however think that public schools can teach basic aspects of ethical inquiry, at least at the college level, if done in a CT-focused manner. In this sense I agree not only with Dewey’s emphasis on education for citizenship in democratic society, but also with C. S. Pierce: “[W]e can perceive that good reasoning and good morals are closely allied; and I suspect that with the further development of ethics this relation will be found to be ever more intimate than we can, as yet, prove it to be” ("Minute Logic", *Collected Writings of C.S. Peirce,* 2.87). [↑](#endnote-ref-31)
32. Thagard, 338. [↑](#endnote-ref-32)
33. Siegel 2016, 109. [↑](#endnote-ref-33)
34. Similarly, that fostering intellectual virtues would include but go beyond the two components Siegel identifies with CT is, I think, not in dispute. This ‘ambitiousness’ is worrisome only on practical grounds. [↑](#endnote-ref-34)
35. Reference the Faciones’ chart here. [↑](#endnote-ref-35)
36. Jason Baehr, “Intellectual Virtues, Critical Thinking, and the Aims of Education,” p. 103. Forthcoming 2017 in the *Routledge Handbook of Social Epistemology,* eds. Peter Graham et. al. [↑](#endnote-ref-36)
37. In the Deweyan spirit, we need a community of educators and artists from around the world that can inspire the kind of teaching that transforms requirements into passion-driven, imaginative learning. Dewey provocatively claims that, “Imagination is the chief instrument of the good, more moral than moralities.” The pragmatist appears to agree with the romantic Percy Shelley: “A person to be greatly good must imagine intensely and comprehensively.” [↑](#endnote-ref-37)
38. Anyway, thinking of the Siegel-Baehr debate in light of Dewey’s provocative claim that ‘To make an end a final goal is but to arrest growth,‘ perhaps both of these drivers should be arrested. [↑](#endnote-ref-38)
39. Siegel, “Cultivating Reason” [↑](#endnote-ref-39)
40. Robertson quotes C.A.J. Coady’s social epistemological claim that, ‘[T]he independent thinker is not someone who works everything out for herself, even in principle, but one who exercises a controlling intelligence over the input she receives from the normal sources of information whether their basis be individual or communal.’ (—C. A. J. Coady, ‘Testimony, Observation, and ‘Autonomous Knowledge’). On such a view the achievements of epistemic aims are social achievements. ‘Goldman (1999) is not alone in claiming that “[t]raditional epistemology has long preserved the Cartesian image of inquiry as an activity of isolated thinkers, each pursuing truth in a spirit of individualism and pure self‐reliance” (p. vii).’ Robertson largely agrees with Coady, adding that, ‘Such a conception of epistemic independence does not require the impossible task of extricating oneself from social influences but, rather, that one become capable of evaluating and criticizing particular received views, assessing the credentials of experts, and examining the potential biases of social pathways to knowledge if there is reason to do so.’ [↑](#endnote-ref-40)
41. Culture, gender, race, and group subordination or oppression, for example, are embodied features of those who construct knowledge that cannot be neglected if an adequate and helpful theory of knowledge is to result…. The second issue concerns how epistemic educational aims should acknowledge each individual's dependence on the knowledge of others.’ She summarizes that ‘On the one hand, it seems plausible that educators should teach students to think for themselves. On the other hand, we live in a world in which reliance on the testimony and expert judgment of others is pervasive.’ () ‘Epistemic dependence results not only from dependence on the direct testimony of others (teachers, physicians, neighbors) but also from the social division of cognitive labor. We rely on social practices for creating and distributing knowledge, as social epistemologists have emphasized through a variety of perspectives and projects (Goldman 2002; Longino 1990; Nelson 1993; Schmitt 1994). We are all dependent on cognitive practices of others for producing knowledge—cognitive practices that individual scholars and experts help shape over time but that they also largely inherit. And we are dependent on social’ practices for the dissemination of knowledge. The media, the press, the textbook industry are collective and sometimes anonymous sources of our testimonial beliefs’ (22). Robertson embodies a responsibilist perspective insofar as she argues for the inclusion ofeducational projects justified in light of epistemic dependence: ‘(1) a critical stance toward our collective cognitive practices in order to consider ways in which they might embody biases that pervert the quest for knowledge and understanding; and (2) shared civic responsibility for supporting institutions that increase the likelihood of successful epistemic outcomes.**’** I disagree with Robertson in other ways, though. As an epistemic value pluralist, I do not see truth as the primary *epistemic* goal. I do not think that understanding, which seems to me more crucial than truth at least for *liberal* education as contrasted with disciplinary education, as reducible either to knowing that or knowing how. ‘Understanding requires a holistic grasp of an area that involves seeing the connections among the individual elements—how they fit together to generate an overall pattern or system. While some cases of understanding can be expressed in propositional form (e.g., understanding the meaning of a sentence), others arguably cannot (e.g., understanding a musical composition). Unlike propositional **(p. 20)** knowledge, understanding comes in degrees.’ [↑](#endnote-ref-41)
42. Pritchard supports ‘any epistemological proposal which puts the subject’s intellectual virtues and cognitive faculties—her *cognitive agency*—centre-stage.’ He holds that on these proposals, ‘education is to be distinguished from the mere transmission of information to passive minds and should be thought of instead as something which elicits and enhances the cognitive agency of the student.’ (2013, 237). [↑](#endnote-ref-42)
43. FIND AND DEVELOP THE NICE QUOTE I HAD IN A LONG VERSON OF TWICE, OF PRINZ SAYING WHERE METH INDIV PREVAILS, SYNCRONIC DOES, AND WE SHOULD ALL REASON AND BELIEVE THE SAME WAY. THAT’S A CONNECTION THAT REALLY DESERVES EXPANSION IF I DO FUTURE PAPERS ON DEPENDENCE AND HOW IT EXPANDS EPISTEMOLOGY. ~~The recent focus on epistemic dependence, incidentally, belies methodological individualism because individualism can treat epistemology as largely just a matter of logical inference, but the fact of dependence carries with it a direct concern with existing and ideal epistemic~~ *~~practices~~*~~, a point that will become more important in the next section.~~ [↑](#endnote-ref-43)
44. James Bohman and William Rehg, ‘Habermas,’ Standford Encyclopedia of Philosophy. Autonomy, the dignity of persons, and the supreme authority of moral law are mutually entailing for Kant. In rejection of these assumptions, self-described naturalists and post-modernists agree. Both cast a skeptical light on traditional views about the autonomy of philosophy. The Kantian notion of duty tries to make the normative force of ethical reasons a matter of rationality distinct from the ability to notice, and to identify with, pain and humiliation; but for sentimentalists, new and old, ethical normativity is not ultimately separable from matters of imaginative identiﬁcation with the details of others’ lives,” and hence from the motivational structures of actual human agents. Pragmatists by contrast locate the authority of moral norms in the intrinsic connection between such norms and the social roles and relationships. Pragmatism’s special focus is habits and their role in the conduct of inquiry. Norms are not different than habits aside from their becoming more formalized in various collective practices. Habits are traits, but traits are located in socially shaped and norm-governed activities. Norm-governed activity is typically expressed through established practices and social roles, such as teacher or parent. As a concrete way of thinking and feeling, a focus on habits provides a naturalistic, inquiry-focused alternative to intuitionist and principle-based ethical theories. But while Siegel’s talk of ‘autonomy’ is suspect to Robertson, his own account is explicit that ‘We can acknowledge that humans are rational animals and hold that reason can be exercised autonomously without placing this process outside of nature and setting up a dualism between mind and world’ (Siegel 2012, 195, quoting Hanks, 2008: 207). So autonomy as he uses the term he thinks is fully ‘compatible with the traditional view of the cultivation of reason as the fundamental aim of education and with my own development of the traditional view in terms of the fostering of rationality. The latter is completely in keeping with the conceiving of education as initiation into the space of reasons. Borrowing form his reading of Winfred Sellars account of the space of reasons, and of Robert McDowell’s earlier appropriation of it, Siegel goes on to argue that when we ‘acquire appropriate conceptual capacities’ and are thus able to engage in what Sellars called ‘conceptual thinking’, our thinking ‘is under a standing obligation to reflect about and criticize the standards by which, at any time, it takes itself to be governed’ (Siegel 195, quoting McDowell, 1994: 81). And this, of course, has implications both for the centrality of teaching for critical thinking skills and disposition, and for the debate over the aims of education. [↑](#endnote-ref-44)
45. from the armchair, as it were. This perceived elitism of philosophy associating with the old ‘coping stone of the sciences’ model, has and continues to draw criticism upon the field to the present day. [↑](#endnote-ref-45)
46. Frege, a huge influence not just over positivist thought but over the form of analytic philosophy that survived its downfall, spoke as did onther mathematical-philosophers like Husserl of the “corrupting intrusion of psychology into logic” in the Preface of the first volume of his *Grundgesetze der Arithmetik* of 1893, and later in *Begriffsschrift* III–IV; transl. p. 48): distinguished psychological and natural laws from logic as “laws of truth.” “Whether what you take for true is false or true, your so taking it comes about in accordance with psychological laws. A derivation from these laws, an explanation of a mental process that ends in taking something to be true, can never take the place of proving what is taken to be true. [. . . ] In order to avoid any misunderstanding and prevent the blurring of the boundary between psychology and logic, I assign to logic the task of discovering the laws of truth, not the laws of taking things to be true or of thinking.” See VOLKER PECKHAUS, Psychologism and DISTINCTION BETWEEN DISCOVERY AND JUSTIFICATION, [↑](#endnote-ref-46)
47. The alternative view taken in Dewey’s social naturalism is that philosophers hypostatize logos by treating it as something subsisting apart from ordinary social practices. In Garrison’s review of Dewey’s lost book, he notes that the hypostatization may be “in a material (e.g., the atomists), transcendent (e.g., the Platonists), or transcendental (e.g., Kantian) realm. As in much of Dewey’s work, it is a central project of Unmodern Philosophy to resituate the history of ideas in the context of social structures and practices.” [↑](#endnote-ref-47)
48. There Siegel writes, ‘What is crucial for epistemology is not the actual train of thought which culminates in an epistemologically potent pronouncement. Rather, epistemology is concerned with evaluating, with establishing the potency of, that pronouncement. Since a claim is correct (true, probably true, warrantedly assertable, etc.) independently of its psychological origin; and since epistemology (as opposed to psychology) is concerned only with evaluating such claims as to correctness (truth, probably truth, or warranted assertability, etc.), it follows that psychological origin is irrelevant to epistemology.’ (299). While this particular passage is more just a description of Reichenbach’s stance, Siegel in his paper goes on to argue explicitly that epistemology has the specific limited purview of ‘evaluating knowledge claims.’ [↑](#endnote-ref-48)
49. (313) “Through decades in which analytic philosophy was precluded from social commentary by its epistemological focus and meta‐ethical noncognitivism—that is, the view that moral judgments are devoid of propositional content—pragmatism about values was understood to entail a kind of progressive cognitivism that preserved a role for philosophy in reasoned social criticism.” –Curren [↑](#endnote-ref-49)
50. Gigerenzer, *Ecological Rationality*, 496. [↑](#endnote-ref-50)
51. Epistemologists have not paid enough attention to what psychologists call the *normative-descriptive gap,* or tothe “bounded” or “ecological” nature of human cognition*.* Our human susceptibilities to motivational and cognitive biases may be well-recognized by today’s more naturalistically-inclined philosophers. But there remains aworry about normative theories in ethics and epistemology, shared by many in the social scientific community, which must be a concern for virtue theories as well: philosophers must be warned of repeating the errors of the past by permitting discussions of ethical and epistemic normativity to continue as a ‘separate culture’ from the social and cognitive sciences. Appiah, ***Experiments in Ethics.* (Cambridge, MA: Harvard University Press, 2008), p. 62.** [↑](#endnote-ref-51)
52. See Rysiew’s helpful conditions on psychology-sensitive philosophical norms of rationality. Patrick Rysiew, “Rationality Disputes – Psychology and Epistemology,” *Philosophy Compass* 3(6): 1153–1176. [↑](#endnote-ref-52)
53. Gigerenzer indeed thinks that expectations need to be feasible for agents, computationally speaking; [↑](#endnote-ref-53)
54. Gerd Gigerenzer, *Ecological Rationality: Intelligence in the World* (Oxford: Oxford University Press), 20. Gerd Gigerenzer writes that the science of heuristics “Asserts that ecologically valid decisions often do not require exhaustive analysis of all causal variables or an analysis of all possible actions – and – consequences. The best decisions do not always result from such effortful, reflective, calculations, but instead rely on ‘frugal,’ incomplete and truncated inquiry.” [↑](#endnote-ref-54)
55. Few extant versions of VE have tried explicitly to square themselves with bounded rationality, or with dual-process theory, as I argue that they should. Indeed, there has been more work on accommodating DPT among ethicists than among epistemologists. See my ‘Thinking Twice about Virtue and Vice.’ Daniel Lapsley and Patrick Hill, “On Dual Processing and Heuristic Approaches to Moral Cognition,” *Journal of Moral Education* 37(3) 2008: 313-332. Holly M. Smith, “Dual-Process Theory and Moral Responsibility,” in M. McKenna, A. Smith, and R. Clarke (eds.), *The Nature of Moral Responsibility: New Essays* (Oxford: OUP), 2015. Nancy Snow, *Virtue as Social Intelligence: An Empirically Grounded Theory* (London: Routledge), 2009. Snow, “[Habitual Virtuous Actions and Automaticity](http://philpapers.org/go.pl?id=SNOHVA&proxyId=&u=http%3A%2F%2Fwww.springerlink.com%2Fcontent%2Frm461573n8064157%2Ffulltext.pdf),” *Ethical Theory and Moral Practice* 9(5) 2006, 545-561. [↑](#endnote-ref-55)
56. Dewey, *LW* 12, 28. Dewey’s development of these ideas is closely tied to his desconstruction of the many ways philosophers ‘hypostatize’ culturally-conditions processes into pre-existing entities or facts. The notion that logical entailments are just ‘out there’ is thus of the same order of thought that moral reasons are just out there, and Siegel appeals heavily to both notions in his account of the space of reasons. But this I would hold is really part of the human and not the scientific image. The value of what Adam Morton calls N-theories, normative theories presupposing ideal or maximizing agents, remaining unchallenged but the force of reasons they prescribe are keyed to specific interests in explanation, and is not the complete or only measure of rationality. Moreover, recognizing the normative force of reasons as N-theories present them neither requires nor supports assumptions of philosophy’s ‘autonomy.’ [↑](#endnote-ref-56)
57. Thagard, 339. Paul Thagard argues, “If inference were the same as argument, it would have the same serial, linguistic structure. However, there’s ample evidence from cognitive psychology and neuroscience the human inference is actually parallel rather than serial, multimodal rather than just language-based, and as much emotional as cognitive” (154). [↑](#endnote-ref-57)
58. “Here ‘parallel’ means that the brain carries out many processes, simultaneously, ‘multimodal’ means that the representations used by the brain include nonlinguistic ones, such as visual images, and ‘emotional’ means neural processes that integrate evaluations with physiological perceptions” (154). This means also that it is “misleading to depict motivated inference as a sort of fallacious argument akin to wishful thinking…. Motivated inference is more complex than wishful thinking, because it involves selective recruitment and assessment of evidence based on unconscious processes that are driven by emotional considerations of goals rather than purely cognitive reasoning.” (156) See also the work of Gendler on aliefs. [↑](#endnote-ref-58)
59. “[C]ritical thinking requires a psychological understanding of motivated inference [as much asmore than a logical understanding of the structure of argument.” I think that Thagard’s replacement of the study of fallacies with the study of biases and heuristics is overstated, but still on the right track. The study of informal fallacies is useful especially for evaluating rhetoric, which is a quite important complement to his own focus of getting people to come to critically reflect on their own beliefs and come to grips with their own motivated reasoning. But insofar as we do want critical thinking to encompass these latter concerns, we do need a more empirically informed pedagogical approach, integrated with research on cognitive and ethical biases and heuristics. [↑](#endnote-ref-59)
60. Hugh McDonald, “Dewey’s Holism” Dewey quotes from\_\_\_. [↑](#endnote-ref-60)
61. Dewey, TIF, LW 5: 288; quoted in Fesmire, 56. “We only think when we are confronted with a problem.”—attributed to Dewey-find ref. [↑](#endnote-ref-61)
62. Dewey, EW 5: 66. As we have seen, Dewey rejects traditional conceptions that understand education as ‘preparation.’ The problem with this notion is that it imposes external ends on educational processes. In “My Pedagogic Creed,” Dewey points out that, “it is impossible to foretell definitely just what civilization will be twenty years from now. Hence it is impossible to prepare the child for any precise set of conditions. To prepare him for the future life means to give him command of himself; it means so to train him that he will have the full and ready use of all his capacities; that his eye and ear and hand may be tools ready to command, that his judgment may be capable of grasping the conditions under which it has to work, and the executive forces be trained to act economically and efficiently. [↑](#endnote-ref-62)
63. “Virtue Epistemology and the Epistemology of Education,” *Journal of Philosophy of Education,* 47(2), 2013, 236-247: 240. [↑](#endnote-ref-63)
64. Pritchard continues, ‘Education may begin with the imparting of truths, but if it is done well it will quickly move onto the development of cognitive abilities on the part of the pupil.’ To elaborate, he discusses the following case in order to make his point: ‘Imagine a child who has come across a piece of information on the Internet—that the square root of 9 is 3, say—and who believes what she has read merely because she believes anything she finds in this way. The child has a true belief, but she does not know what she believes, and the reason why is that her cognitive agency is not playing any significant role in the explanation of her cognitive success. Indeed, what explains her cognitive success is rather the happenstance that she believes whatever she reads on the Internet, and she has happened on a truth. Compare this case with a child who has the cognitive skills to critically assess the information presented to her on the Internet…Such a child can come to have knowledge of what she truly believes in this case, but this is because she isn’t merely truly believing; instead, her cognitive agency is playing a significant role in the explanation of why she is cognitively successful.’ [↑](#endnote-ref-64)
65. Pritchard continues, ‘As I have argued elsewhere, understanding and knowledge come apart. In particular, in epistemically friendly conditions one can exhibit a limited degree of cognitive agency which can suffice to enable one to gain knowledge, and yet the degree of one’s dependence on factors outwith one’s cognitive agency in gaining this cognitive success can nonetheless ensure that one does not count as having understanding.’ [↑](#endnote-ref-65)
66. Pritchard distinguishes between mere cognitive success and different grades of *cognitive achievement*. A mere cognitive success is not a cognitive achievement, since achievements by their nature imply a significant contribution from one’s agency, and this is *ex hypothesi* lacking in *mere* cognitive successes. But we could reasonably call those cognitive successes where a significant part of their explanation is the subject’s cognitive agency a kind of achievement, albeit of a very weak variety. Call these *weak cognitive achievements…strong cognitive achievements.* The latter category concerns

    a cognitive achievement which involves either the overcoming of a significant obstacle to cognitive success or the manifestation of high levels of cognitive skill (i.e. higher than normal).*’* Weak cognitive successes are those where it is very easy to attain the relevant cognitive success. Generally speaking, in friendly environments “one will meet the rubric for cognitive achievements pretty easily,” whereas in hostile environments it will require more difficult. In our responses to situationism, Kallestrup and Pritchard and myself have each drawn attention to the point that epistemic credit associated with knowledge-attributions generally demands only weak cognitive achievements unless we are talking about specifically *reflective* knowledge. If this is correct then it can credit successes that might be easily had in untaxing ways in epistemically friendly environments. One would think that the turn in epistemology from states and standings to epistemic agency and inquiry would underline these points. [↑](#endnote-ref-66)
67. Compare Lisa Grover’s (2012) argument that “We should accept the psychological reality of narrow, localized character traits, while retaining the thick evaluative discourse required by virtue ethics….Thick global concepts are necessary for a theory of localized character traits and situation management to make sense. Without evaluative integration of different local traits under thick evaluative concepts we cannot identify which local traits to develop, and which situations to seek out, or avoid” (36-37). [↑](#endnote-ref-67)
68. See my ‘Thinking twice about virtue and vice” paper, forthcoming 2016. [↑](#endnote-ref-68)
69. Again, they usually do so on philosophical grounds of its naivete, but without adequately addressing potential costs in terms of assessability for the traits described as having thresholds for both ability and motivation. [↑](#endnote-ref-69)
70. Some of the imperfect but powerful aptitudes fluid rationality describes are “resistance to miserly information processing,” and “absence of irrelevant context effects in decision making.” [↑](#endnote-ref-70)
71. See Kotzee 2016, 154, discussing Perkins et. al. 2000. [↑](#endnote-ref-71)
72. Kahneman, [find (413)]. [↑](#endnote-ref-72)