

The members in this section of the Institute represent the fields of law, economics and philosophy.

Parts colored in BLUE were written down but not read aloud.

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## What counts as Evidence?

### Inherited choices and present dilemmas

Introducing me, the President (André Elvinger) read aloud the distinction between *Evidenz* and evidence (cited in the first Note at the end).

Then I chatted for a few minutes about my interest in the current debates over and within evolutionary biology, economic policy and education; about my inability to contribute directly to any of these; about philosophy as posing the question of the bases of such debates (so that, while others pick up the ball and run, philosophers ask where the ball comes from); and about the recognition that we have two inherited ways of engaging in the question.

Two inheritances, I say. The one I will illustrate in reference to Plato, the other in reference to Galileo. Both imbue our educational systems and our political institutions — in a word our culture. Yet they conflict with one another on the question of what counts as evidence. And I would like to engage you in some reflections on this conflict with an eye to some of the pressing questions of our own time.

Before illustrating each inheritance, I draw your attention to two different, even if related meanings of the word “evidence.” The word sometimes refers to facts that serve to support or refute a judgement, either in a court of law or in the formation of theories in the modern investigation of nature; in this sense, evidence is only a means to an end. However, in much philosophical work the word means the special event in which a matter clearly shows itself as itself, apart from any further interest; in this sense, evidence is an achievement in itself.

The 20<sup>th</sup> century saw much excellent and important reflection on how “evidence” as factual determination relates to truth as theoretical formation: I think of the family of thinkers from Karl Popper (the principle of falsification) through Thomas S. Kuhn (paradigm shifts), Paul Feyerabend (the limitation of methodology) and Ian Hacking. However, I ask you to bear in mind that my own reflections do not intend to cast any direct light on this relation. Rather, I wish to raise the question of how we today may understand at least two different sources for evidence in the other sense of the word: evidence as an achievement in itself — an end and not only a means.

Evidence in the philosophical sense Emmanuel Kant defines as *anschauende Gewißheit*, where the operative word is *anschauende*, direct looking. We can only enjoy *Gewißheit*, the certainty, once we have learned to look, each individually. I rather like Edmund Husserl's formulation not long before his death: when genuinely reading the great scientific works of our predecessors we must "reactivate the evidence," *die Evidenz reaktivieren*. He then concludes: *Es scheidet sich also das passive Verstehen des Ausdrucks und sein reaktivierendes Evidentmachen*.

Before addressing the question of what it might mean to "reactivate the evidence," I'd like to illustrate its importance in a context we have all experienced: classroom education. Already as students, and then especially as teachers, we all sense that there is a momentous distinction between clarity in explanation and clarity about the matter explained. Neither clarity corresponds necessarily with the other. Two examples ...

A year or so ago I received an unexpected phone call. A former student of mine, now a professor of philosophy at a far-away university and poised for retirement, was still bothered by the fact that decades ago I had given her a first-class mark on some work she had done. While she could still recognize the clarity of her explanations, she knew that the matter being explained had not at all been clear to her. She knew the difference between the two forms of evidence.

The discrepancy occurs in reverse as well: a professor of music has assured me that he and his colleagues often judge a somewhat sloppy performance to be richer and indicative of more promise than a performance in which the student has mastered all the notes and techniques in perfect clarity. While it is easy for the teachers to pinpoint and explain errors in performance, the judges can only say they detect immediately the richness and promise.

While clarity in explanation appears necessary as proof of accomplishment, it's clarity of the matter itself that engenders significant development, both personally and culturally. And, as in my examples, the two do not necessarily go hand in hand.

It is distinctive of the philosophical temperament to dwell on this question of the difference between immediate (or intuitive) and mediated (or discursive) insight. Starting with Plato thinkers have discerned in this difference our distinctively human destiny, the crucial element for understanding the dilemmas we all face, and especially those of us occupying responsible positions within prevailing institutions. We today are the heirs to their answers: that is, our institutions of justice, of education, of commerce, of natural and social science have grown out of the reflections of the most powerful thinkers of our western tradition.

The answers that ensconce us today are those of the Enlightenment, starting most clearly with Galileo, Bacon and Descartes in the 17<sup>th</sup> century and ever-more extended and nuanced throughout the 20<sup>th</sup> century. We are still the children of the Enlightenment, only now grown old and perhaps a bit jaded. In our cultural youth, we (i.e. our ancestors) raised the question of evidence, of what counts as evidence, whereas in old age we think we basically know the answer. Very roughly stated, evidence is what we discern when we extract ourselves from direct involvements and examine matters freshly. The opposite of this backing off and looking for ourselves is to accept blindly the manners already established in the field in which we are responsible for making judgements. Galileo illustrates such blind acceptance by recounting the story of a learned gentleman who had attended an anatomy lesson in which the nerves of a corpse were clearly traced to the brain, and he afterwards expressed gratitude that he had read Aristotle clearly stating that the nerves

are traceable back to the heart: otherwise he might have believed his eyes.

Four hundred years later, however, our own established manners are precisely those of the Enlightenment. Just as Galileo's contemporaries accepted the principles of ancient Greek science, thinkers now generally accept unquestioningly the principles advanced by Galileo. I am convinced that this uncritical acceptance severely constricts our present ability to respond adequately to our own Brave New World.

The alternative to accepting blindly the answers of the Enlightenment is to question them, to seek to understand the Enlightenment ambition as a whole. It is our most obvious inheritance, and rejecting it leaves us with nothing at all, and therefore helpless in the face of current exigencies. But how can we question the answers, seek to understand the aspiration as a whole? It is extremely difficult, even painful, to question the medium in which we solely live. In the words of the ancient astronomer Archimedes, I need a *πov στῶ*, a "place I might stand" — outside, yet close enough to keep our subject in view.

One such place to stand is the inheritance received and rejected by Enlightenment thinkers themselves and ever since increasingly silted over in our educational system. The advantage of resorting to the classical tradition rejected by our modern tradition is that we can make both the kinship and the difference evident — something much more difficult, perhaps impossible, if we resorted to the literature of a totally alien culture such as the ancient Chinese.

In an effort to excavate a tiny but crucial corner of our classical inheritance, allow me to plunge you directly into the famous debate between Socrates and Thrasymachus at the outset of Plato's *Politeia*, the familiar work on what it means to dwell in a

community, and usually translated into English as "The Republic." The opening question of the work is: What is the basis of our decisions about what's right and what's wrong? (Very curtly formulated: What is justice?) As it turns out, this question is inextricable from three other questions: What is courage? What is moderation? and What is *sophia*? — "wisdom," the love of which Greek thinkers introduced as a vocation in itself. (The four together were later called the Cardinal Virtues, in contrast to the three Christian Virtues: faith, hope and charity.)

In this dialogue Thrasymachus soon barges in to advance his own answer to the question: decisions about right and wrong flow from whomever has the power to arrange things to his own advantage. The obvious corollary of this principle is that we do our best to achieve a position of power, bending ourselves to the power of others only to achieve and stabilize our own position: however compliant we may seem, our aim is really to arrange affairs to our own private satisfaction. What's right and what's wrong is then dictated by the interest of the stronger, most preferably our own (rather than another's) self-interest.

Thrasymachus obviously and unequivocally represents what we call the cynical view of private life and public policy. This view we may readily recognize in any epoch of recorded history — and, of course, in our present epoch. Yet Socrates refutes it, or at least seems to: Thrasymachus himself must admit his own defeat — at least in the verbal exchange, even if he still believes that the cynical view correctly describes life and politics as he knows it.

Although some readers may endorse the outcome of the debate, the refutation itself seems spurious: Socrates' objections to Thrasymachus seem to many readers to rest merely on words. Indeed, as you may remember, two youthful figures in the dialogue restate the cynical view more fully and defend it more

arduously: the one imagining a magical ring allowing you to make yourself invisible and thereby enabling you to escape all punishment, the other describing the ever-current exhortations to virtue as praising not justice but the benefits of a good reputation. — of pasting a “counterfeit decorum” (κίβδηλος εὐσχημοσύνη) onto your self-serving actions. These youths then challenge Socrates to show how the cynic enjoying immunity from punishment and even the highest praises of others would still live a miserable life.

However, Socrates’ objections to Thrasymachus rest on evidence, not on words — on evidence that even Thrasymachus admits. For us today, though, it is very easy to miss the point of the argument. The reason is, I suggest, that we fail to notice the difference between what today counts as evidence and what counted as evidence among the elite at the time of Plato and all the way to the time of Galileo. We today can only “get the point” of the argument, and thereby assess the refutation, if we first resuscitate the earlier understanding of what counts as evidence. Such resuscitation is no easy matter, since we must *make evident* what now lies buried under our most recently inherited presumptions. Indeed, as I hope to make clear, our inherited view asks us to suppress what we may in fact subliminally acknowledge. And this suppression, beginning already with the achievements of Galileo, Bacon and Descartes, accounts for a certain cognitive dissonance in our efforts to deal with contemporary dilemmas.

I propose, then, to pace you through the supposed refutation of cynicism — but solely with a view to eliciting the principle of evidence that serves as a premiss accepted by all parties in the dispute.

Thrasymachus claims that we all want to lord it over others to get what we happen to desire. The strong set the standard of

conformity: the weak take this standard as their own out of fear or ignorance, perhaps hoping for an eventual increase in their own power. Any talk of morality in the usual sense, i.e. of proper behavior as contravening self-interest, is weaklings’ talk — much encouraged by the strong as securing their own power.

Well, says Socrates, let’s look at what it means to have power over circumstance. Who has power in such contexts as seafaring? That is, who can run a ship to get done what needs to be done: attend to its construction to make it sea-worthy, attend to members of the crew to get them to do their work, and attend to the vicissitudes of the voyage to get the ship and crew, cargo and passengers to port? The captain, of course. And how does the captain achieve his power? By learning what makes a ship sea-worthy, how to command effectively his crew, when to do what under trying conditions at sea, all the while positioning the ship to pass from one port to another. The captain must know what’s good for the ship and respond to circumstances accordingly. Not only must he know these things. The captain serves the interests of them: of the crew, the passengers, those on land who have invested in the cargo — even, in a slightly different sense, the ship itself, keeping it sea-worthy to the best of his ability.

In this one example, having power means serving the interest of others, often to one’s own discomfort: looking out for the weaker, not serving one’s own interest — the polar opposite of the cynical view.

Thrasymachus continues to object, of course, citing examples of his own. But Socrates counters each objection by looking at the examples more closely. Yes, the shepherd will most likely sell the sheep he has raised, or slaughter them for his own consumption; yes, like the captain, he insists on being recompensed for his labors — precisely because he has not had time to concentrate on the satisfaction of his own desires. Both the shepherd and the captain

may take time out to serve themselves, but during these intervals they are not exercising their power, and we ourselves are addressing the question of “what it’s like” to be *actually* powerful, not to be enjoying the rewards later received from exercising one’s power, as when dining long into the night or fooling around in bed.

And this question of power directs both Socrates and Thrasymachus, and us as well, to the evidence. Not to data and not to deductive reasoning: rather, to the workings of those who actually engage with circumstances effectively. Effective engagement steers the development, the becoming of things animal, vegetable or mineral, each toward a fulfillment of its own, a fulfillment that then, at another time, may serve the interests of those who have the power — or rather *had* it, since they are, as consumers, no longer exercising their art, the source of power.

Their art, I just said: their τέχνη. Not only Socrates, Plato and Aristotle, but also Thrasymachus: they all accept the authority of what happens in the exercise of “know-how” — know-how in the knowing, in the handling of circumstances directly. The evidence for an argument about what’s most advisable in life’s policy-making — evidence now as the source of data — is the know-how in which something is being produced, whether animal, vegetable or mineral, and in which everything depends on doing it well, prior to any eventual benefit that may accrue to the artisan. In the one argument I have sketched for you, the most startling conclusion from the evidence is that the truly powerful devote themselves to the well-being of what or whom has less power — the shepherd’s sheep, the captain’s passengers.

But I wish rather to draw your attention first of all to the premiss of such argumentation, and only secondarily to some of the conclusions. Essential for us today may be to understand this answer to the question, What counts as evidence? And to contrast

it with our own answer, or rather the answer that we have inherited from Galileo along with his colleagues, and that now defines a large swath of our present-day policy-making.

First, you may rightly ask why these people accept the workings of τέχνη as the source of evidence. In answer, I remind you that their own literature (I think of Homer, Aeschylus, Sophocles, and Pindar) not only praises the work of artisans but ascribes divine origins to their various arts, from the art of the smithy through the arts of pottery and horse-training, to the arts of leadership. The ancient Greeks already understood the glory of Greece to rest on the achievements of those “in the know” and thereby, until recent times, on the benevolence of the gods. In this choice of what deserves glory they contrasted themselves with their “Asian” neighbors.

Second, you may ask why, then, so many Athenians objected so vehemently to the *way* Socrates, Plato and Aristotle recurred to τέχνη as the source of evidence. As admirers of their artisans, the Athenians, it seems, should have appreciated such attention to smithies and horse-trainers. However, their admiration was based on the *results* of art, along with the evident prowess of the artisans — much as we today might admire soccer players and natural scientists without participatively understanding their work. When Socrates and the others focus us on the performance of an art they *make evident* our own part (the human condition, we might say today) in the encounters with circumstance so ably handled by the artisans. Essential to this our own part (to the human condition, then) was (or is) the commitment to the good of what we handle: a kind of self-less-ness, we might today say. But this commitment is evident only to those who are fully prepared: prepared to slip into the perspective of the artisans who are fully effective in their work, and to take the evidence of this perspective as establishing the measure for themselves (for their own conditions as artisans).

Thirdly, you may ask what the “official opposition” had to say — what alternative sources of evidence were competing with Plato’s. There were the usual two popular views, of course: religious fundamentalism (as in Plato’s portrayal of Euthyphro in his dialogue of that name) and economic cynicism (as in Plato’s portrayals of Thrasymachus). It has always been, and will always be tempting to answer questions by referring either to rules supposedly handed down from a Higher Authority or to more or less cynical opinions about human nature supposedly shared by most people (even if individuals are not always prepared to acknowledge what they really believe). But such popular views do not themselves offer any source of evidence at all. Indeed, those who give defensive voice to them essentially avoid the question. By definition, a genuine thinker will confute them, just as Plato does — not because they are in every sense wrong, but because they obscure their origins and thereby misrepresent their own conclusions.

In one sense, there was no “official opposition” at the time of Plato. Well-wrought opposition on the question of what counts as evidence came later, and marks the birth of modernity. Yet there were intimations of such opposition, intimations that we today can detect only in the responses to them cited in the works of others. According to Plato and Aristotle, the thinkers of their own time attempted to account for circumstances without accounting for our own commitments to them. Such thinkers Aristotle called οἰ φυσικοί, “the physicists” and presented these thinkers as believing only in the materiality of things — to the exclusion of purposes intrinsically directing the generation of circumstances and therefore to the exclusion of any inherent human commitment to their development. Plato and Aristotle then dispute such accounts.

It would be unfair of us today to adjudicate the dispute for the simple reason that the opposition comes down to us filtered by the winning side. Besides, what interests me here is not the views of these “physicists” but what they took to be the source of their evidence, something we never learn in the fragments cited by the winners in the dispute.

But in fact we do have one fairly complete work dating from late Roman antiquity. During the Renaissance, Poggio Bracciolini discovered a moldering manuscript from Roman antiquity that does serve as a kind of “official opposition”: Lucretius’ *De rerum natura*. This work explicates in detail the materialism critiqued by Plato and Aristotle, and it explicitly denounces the central conclusion of those winners, most importantly the conclusion introduced in the dispute with Thrasymachus and elaborated throughout the entire Platonic-Aristotelian corpus — the conclusion, namely, that the power of human agency rests with conformity to the power over which the agent exercises power (in Aristotle’s formulation: a τέχνη both completes and follows φύσις, i.e. the directionality built into things, their own τέλος, their own “purpose”). And while there is no explication of the source of evidence for the “atomism” Lucretius propounds, we may detect an intimation of this source in what Lucretius finds praiseworthy in the doctrine: it relieves us from the pressures of our circumstances, pressures self-engendered and illusory, products of our imagining that things have any purposes in themselves and therefore some rightful claims on us — claims of the sort suggested by Socrates in his dispute with Thrasymachus.

The liberated stance that Lucretius advances as an end in itself is the stance that Galileo, Bacon and Descartes advance as the starting point of investigation, the source of evidence itself. Thus the difference between Lucretius and his much later admirers: while he advances a kind of passivism, moderns advance an

activism. This source of evidence is a stance of attentive and calculative non-involvement familiar to us today in the guise of *objectivity*.

To put it very briefly: What counts as evidence for us today, culturally if not always personally, are those determinations that issue from a carefully formed stance above (or to the side of) the events we wish to judge. Only determinations made from such a stance of non-involvement count as items of evidence in courts of law and investigations of nature. In either domain judges must be “impartial,” as we say, and such impartiality should, we generally agree, prevail in less formal domains such as an employer’s judgement of employees, a teacher’s judgement of students, and parents’ judgement of their children. The requirement of impartiality is, as we might say, *evident* — or, better, it’s what must *become* evident in the process of growing up, learning responsibility. Yet impartiality, or *objectivity*, cannot be justified by appealing to facts as evidence: it is the *source* of evidence, and therefore can only be *itself* evident — *self-evident*. We find ourselves either imbedded in this source or not: we might think ourselves into it (learn it), but we cannot argue ourselves into it (deduce it). In traditional philosophical language, this principle of evidence is intuitive rather than discursive: like the axioms of geometry, even like the principle of  $\tau\acute{\epsilon}\chi\upsilon\eta$  in the works of Plato and Aristotle.

Still, I would like you to consider more carefully this source of evidence. Not at all to overthrow it. Rather, to make evident its challenges. The principle has so long been with us as an inheritance that we may miss both its originating power and its essential limitations. That is, we easily underestimate its power and overestimate its scope, and in either case fail to rise adequately to the challenges of circumstances themselves.

The first question you might raise is whether anyone took notice of the transition from the ancient to the modern endorsement of what counts as evidence. Around 1600, Galileo and Bacon were in fact endorsing it: their works show calculative observation at work and explicitly contrast this procedure with that of the Schools. So far as I know, however, only Descartes named the actual source, as distinct from naming Aristotle and the doctrines the Schoolmen had extracted from his work.

In Part Six of his *Discourse on Method* Descartes remarks on the difference between his own method and that of his predecessors: his method enables us to know “the force and the actions of fire, of water, of air, of the stars, of the heavens and of all the other bodies around us” — to know them just as discerningly as “we know the diverse skills of our artisans” (the “we” here being the Scholastic-Aristotelian *universitaires* of the time). [This recognition on the part of Descartes lies buried within a longer and oft-quoted defense of his method. I here cite the French version, starting immediately after he says he first hesitated to publish his new approach to intellectual work:](#)

*Mais, sitôt que j’ai eu acquis quelques notions générales touchant la physique, et que, commençant à les éprouver en diverses difficultés particulières, j’ai remarqué jusques où elles peuvent conduire, et combien elles différent des principes dont on s’est servi jusques à présent, j’ai cru que je ne pouvais les tenir cachées, sans pécher grandement contre la loi qui nous oblige à procurer, autant qu’il est en nous, le bien général de tous les hommes. Car elles m’ont fait voir qu’il est possible de parvenir à des connaissances qui soient fort utiles à la vie, et qu’au lieu de cette philosophie spéculative, qu’on enseigne dans les écoles, on en peut trouver une pratique, par laquelle connaissant la force et les actions du feu, de l’eau, de l’air, des astres, des cieux et de tous les autres corps qui nous*

*environnement, aussi distinctement que nous connaissons les divers métiers de nos artisans, nous les pourrions employer en même façon à tous les usages auxquels ils sont propre et ainsi nous rendre comme maîtres et possesseurs de la nature. Ce qui n'est pas seulement à désirer pour l'invention d'une infinité d'artifices, qui feraient qu'on jouirait, sans aucune peine, des fruits de la terre et de toutes les commodités qui s'y trouvent, mais principalement aussi pour la conservation de la santé, laquelle est sans doutes le premier bien et le fondement de tous les autres biens de cette vie;...*

The dramatic introduction of the new *connaissances* and the emphasis on their service to *le bien général de tous les hommes* in the unending invention of technological devices to advance the interests of our earthly life — all this may distract from the historical shift in what counts as evidence: from the wisdom evident in immediate involvements to a wisdom generated by an arduous methodological non-involvement, again called physics.

The second question you may raise is what this shift brings in its train. What are we destined to learn once we adopt the stance of impartial observation and mathematical calculation? Descartes' answer has been corroborated by the advances of knowledge from his time to ours: we can know the behavior of elements in space and time, along with ways of intervening in their behavior to change their direction according to our own wishes. The behavior of the elements follows what we will call "laws of nature," and these laws will take mechanistic form. Our own ways of intervening will be called techniques. The knowable elements will appear at multiple levels with a corresponding multiplicity of names: so-called atoms having themselves elements and then also forming compounds — from molecules to organisms to organs within organisms and societies of organisms. Excluded will be any essential knowledge of purposes: any

supposed purpose will either be that of those exercising the technique, i.e. a human volition, or a loose way of projecting the future within a behavioral pattern of elements mechanically in motion. There can be no evidence, no data, justifying knowledge of purpose (i.e., internal power, δύναμις, of fulfilment) of the sort glaringly evident to the likes of Socrates, even to the likes of Thrasymachus, in their appreciation of the art (τέχνη) of the artisans.

For an illustration of the shift, you may recall Galileo's anecdote about the anatomy lesson: apart from poking fun at the fellow grateful that he had read Aristotle, since otherwise he might have believed his eyes, Galileo is asking us to accept the view of the human body engendered not by one who knows the body as an athlete does, starting from his own involvements "in" or rather *as* a body, but rather by one who only has something stretched out before him — an *object* in every essential distinct from himself. Such an object can *only* appear as a mechanism, and we are well on our way to the modern conception of medicine with its possibilities of arbitrary surgical alteration and drug-induced enhancement of athletic performance.

Philosophers up through Kant and Hegel engaged fully in the conceptual battles for refining the understanding of these *a priori* commitments of objectivity, drawing attention to our own role in it — our own "subjectivity," as it came to be called. Better known are the achievements of Isaac Newton in physics, Adam Smith in politics, and Charles Darwin in biology — achievements that still today set the standards for mainstream intellectual work in our universities. For an initial confirmation that these achievements follow upon the *a priori* commitments of standing outside engagements to discern what is happening on the inside, you may read Lucretius' *De rerum natura* and note that this work

of late antiquity already anticipates modern discoveries — simply by virtue of the stance it proposes.

And a third question you might wish to raise is whether there was (and is) any “official opposition” to the once-new and now-prevalent understanding of what counts as evidence. I can easily name several oppositions, and you might name even more: (1) At the time, the official opposition was signaled by the name Aristotle and voiced by the *universitaires* of the time, mainstream churchmen who had appropriated the doctrines of The Philosopher to give structure to their theology. (2) There was even some internal opposition, most notably that of Leibniz (who aspired to retain both the ancient understanding of nature and the modern source of evidence) and that of Hegel (who detected cognitive dissonances in efforts merely to explain or observe things). (3) Perhaps the most obvious “official opposition” was that of the Romantics during the 19<sup>th</sup>-century: Coleridge, Herder, Thoreau, and Emerson drew on Kant’s exposition of the conditions of the possibility of objectivity to argue that the transcendental subject (namely, we ourselves as investigators forever above anything investigated) could develop non-objective understandings of nature, whether inanimate bodies in movement, our own social organization, or the transformation of plants and animals. And (4) still today there is an undercurrent of opposition in the form of on-going criticism of the pretensions of some scientists to know everything about human being (currently, those neuroscientists wishing to reduce the mind to the brain by drawing upon Isaac Newton, Adam Smith and Charles Darwin in a kind of *Gesamtwissenschaft*).

Yet, as in the case of the opposition to the Platonic-Aristotelian interpretation of artisanship earlier on, the opposition to the Baconian-Galilean-Cartesian standard of objectivity has served (and continues to serve) only as a kind of rearguard

reaction to the advancing armies of mainstream thought. It is hardly imaginable that courtrooms and parliaments, our research establishments and our school systems could ever forgo the principle of objectivity. Our political, scientific and educational institutions are what they are because they grew out of this understanding of what counts as evidence: deviation from the norm of objectivity would destroy the institutions defining our historically developed conditions.

Here you have my sketches of two contrasting inheritances on the question of what counts as evidence. Only sketches, of course: not only does each inheritance deserve more extensive consideration (partly to note the wide variety of internal questions driving their development), but together they invite us to wonder whether there is any connection between the two. While I have sketched them out to contrast starkly with one another, you yourself might notice a continuity as well: both our Ancient and our Enlightenment traditions appeal to *efficacy* as the measure of what counts as evidence — success in dealing with circumstances as they happen to come along. Socrates (with Thrasymachus’ consent), and then Plato and Aristotle, ask us to look at those already successfully engaged in a recognizable τέχνη; Bacon, Galileo, Descartes and the rest ask us to sharpen our own method of observation and calculation to develop our own techniques of successfully rearranging our environment. Following through on this one word (τέχνη: technique → technology), we could trace out the continuity of our two inheritances and likely detect a harmonious whole that we could rightly call Occidental as distinct from Oriental.

However, I would like rather to redirect your attention to our own condition as heirs, where I find an essential and often eery disharmony. Briefly formulated: our public understanding of

what counts as evidence is explicitly that of our Enlightenment tradition, while our private understanding of what counts as evidence is “naturally” that of our Platonic-Aristotelian tradition.

First some anecdotal illustrations of the disharmony to which I am referring: (1) An academic psychologist studies human behavior mechanistically during his working hours, and must (on his own admission) set his objective view aside when returning to his wife and children. (2) An academic exegete of the New Testament analyzes the sayings of Jesus to show how they reflect the secular concerns of the time, and must (on his own admission) abandon this objective view when attending mass on Sunday. (3) A typical office worker applies himself all day meticulously and skillfully processing data on his computer, perhaps even helping to redesign the program itself, and must then resort to a hobby (a craft or a sport) to regain his sanity.

More subtly: (4) A medical doctor finds himself caught between the official creed that he must intervene as an engineer to prolong the life of a patient and his personal conviction that nature must also run her course, whether in healing or dying. And (5) an elected representative must constantly tell his constituents that he represents their wishes while knowing that he should exercise his own judgement about what is best.

The disharmony is very familiar, and often benign. And it is open to very different interpretations, especially in particular cases and by those directly involved in it. With only tenuous regard to the examples cited, I offer you a philosophical interpretation: at work (of the sort formed by the principles of the Enlightenment) we accommodate things to the system in which we work; at home (caring for our families, engaging in our hobbies, practicing a sport) we accommodate ourselves to things.

The key word here is “accommodation.” Two and a quarter centuries ago Emmanuel Kant detected the difference at the level

of metaphysics: hitherto, he says, thinkers have assumed that cognition (*Erkenntnis*) had to adjust itself to things (*Gegenstände*), whereas it’s now time, after the challenges of Bacon, Galileo and Descartes, to try out the reverse: whether things don’t have to adjust themselves to our own condition as knowers (to the conditions of possible knowing, whether artisanally or intellectually). [Let me repeat this turning point in Western thinking by quoting the full text, dated “Königsberg, im Aprilmonat, 1787”:](#)

*Bisher nahm man an, alle unsere Erkenntnis müsse sich nach den Gegenständen richten; aber alle Versuche über sie a priori etwas durch Begriffe auszumachen, wodurch unsere Erkenntnis erweitert würde, gingen unter dieser Voraussetzung zunichte. Man versuche es daher einmal, ob wir nicht in den Aufgaben der Metaphysik damit besser fortkommen, daß wir annehmen, die Gegenstände müssen nach unserem [sic] Erkenntnis richten, welches so schon besser mit der verlangten Möglichkeit einer Erkenntnis derselben a priori zusammenstimmt, die über Gegenstände, ehe sie uns gegeben werden, etwas festsetzen soll.*

The contrast between adjusting ourselves to the nature of things and adjusting things to our own condition neatly states the difference between the ancient understanding and the modern understanding of what counts as evidence.

As I said, all these questions deserve more careful consideration than is possible in a late-afternoon conference.

I will close with a consideration drawn from my own life-time involvement in education. What are the imperatives of excellent education today? As heirs to the precepts and ambitions of the Enlightenment, youths today are implicitly educated in the physics of Newton, the biology of Darwin, and the political economy of Adam Smith, each one of which asserts the principle of self-serving decision-making. Yet these same

youths must learn to participate in and contribute to what Descartes still called the common good of all (*le bien général de tous les hommes*). How is this possible — to be both self-serving in the manner of Thrasymachus and still committed to the well being of others?

The question has been acknowledged throughout the last centuries. The answer proposed at nearly every juncture is this: to serve one's own interest effectively, one must enter into a bargain with others (a kind of free-trade agreement). The name for this willingness to cooperate is "enlightened self-interest" (a phrase I have not yet been able to trace to its literary origin). Yet this answer lies exposed to the critique already offered by those two youths in Plato's *Republic*: it encourages the cleverest among our own youths to find ways of cheating without being detected, all the while enjoying a good reputation.

What alternative do I propose? Nothing practical, I assure you. Rather simply this: that our youths be encouraged to think through the human condition rather than simply accepting the answers of their forebears. That is, to learn to contemplate freshly where and how they are. And to do this with the help of those thinkers whose answers they already imbibe with their mother's milk. To let these thinkers — whether Galileo and the rest, or Plato and the rest — help them contemplate where those answers come from. Along the way, no doubt, they will have to learn the distinction Edmund Husserl drew: *Es scheidet sich also das passive Verstehen des Ausdrucks und sein reaktivierendes Evidentmachen*.

## Notes

My procedure (contrasting traditions to eke out pressing questions) you may find in two other essays: one on our traditions of logic (Aristotelian vs. mathematical understanding of rationality) and one on our traditions of physics (Aristotelian vs. Newtonian understanding of κίνεσις, movement). Both are available on-line ([www.mta.ca/~cwelch](http://www.mta.ca/~cwelch)).

About the two different meanings of "evidence": *Evidenz* (vom lateinischen *ex ,aus' und videre ,sehen' → ,das Herauscheinende'*) bezeichnet das dem Augenschein nach Unbezweifelbare, das durch unmittelbare Anschauung oder Einsicht Erkennbare. Evident ist ein Sachverhalt, der unmittelbar ohne besondere Aneignung klar auf der Hand liegt. Der Begriff darf nicht mit dem englischen evidence verwechselt werden, der mit „Beweis“ oder „Beleg“, im juristischen Bereich auch mit „Zeugenaussage“ übersetzt wird. (From an on-line German dictionary of philosophy.)

About the "family of thinkers from Karl Popper": the last mentioned, Ian Hacking (a Canadian), has published an easily accessible and very poignant account of "representing and intervening" in a book of that exact title (Cambridge University Press, 1983). Crucial is the thought that we may legitimately consider scientific representations to be "of real things" only as they permit us to intervene in what they describe.

Edmund Husserl's remarks about "reactivating the evidence" are found in his *Die Krisis der Europäischen Wissenschaften*, Beilage III (Martinus Nijhoff, 1962). An extensive account of his on the meaning of *Evidenz* you may find, for example, in his *Cartesianische Meditationen*, §24 (Martinus Nijhoff, 1963).

Galileo's representation of the scholastic appeal to Aristotelian authority (rather than to actual experience) is found

in his *Dialogo sopra i due massimi sistemi del mondo*, especially the Giornata Secondo.

The famous remark of Archimedes (δός μοί ποῦ στῶ καὶ κινῶ τὴν γῆν) is reported (many centuries later) by Pappus of Alexandria (*Synagoge*, Book VIII, Prop. 10, Section 11).

For more on how the Socratic perspective irritated people at the time, you may read the portrayal of Alcibiades at the end of Plato's *Symposium*. This young man and future tyrant of Athens says Socrates engaged his interlocutors in discourse that, on the outside, appears ridiculous while, on the inside proves to be the only discourse having sense (νοῦς: 222A): discourse about pack-asses and smithies, shoemakers and tanners. In Plato's *Gorgias*, another dialogue on the question of justice, you will find Calicles likewise complaining that Socrates keeps bringing the discussion back to farmers and cooks, cloth-makers and doctors (591A).

For critical responses to the most far-reaching claims of evolutionary biology, see for example:

“What Comes Naturally” by Louis Menand (*The New Yorker*, November 25, 2002; pp. 96 ff.): response to *The Blank Slate: The Modern Denial of Human Nature* by Steven Pinker.

“It Ain't Necessarily So” by Anthony Gottlieb (*The New Yorker*, September 17, 2012; pp. 84 ff.): response to *Homo Mysterious: Evolutionary Puzzles of Human Nature* by David Barsh.

“Kin and Kind” by Jonah Lehrer (*The New Yorker*, March 5, 2012; pp. 36 ff.): response to *The Social Conquest of the Earth* by E. O. Wilson.

“How Fit is E. O. Wilson's Evolution?” by Steven Mithen (*The New York Review of Books*, June 12, 2012; pp. 26 ff.): another response to *The Social Conquest of the Earth*.

“Homunculumism” by Colin McGinn (*The New York Review of Books*, March 21, 2013; pp. 4 ff.): response to *How to Create a Mind: the Secret of Human Thought Revealed*, by Ray Kurzweil. (See also the follow-up dispute in “Letters to the Editor” in the issue of May 23, pp. 51-52.)

“The Religion of Science and its High Priest” by Thomas Meany (*The New York Review of Books*, October 15, 2012; pp. 61 ff.): response to *Auguste Comte: An Intellectual Biography* by Mary Pickering.

On the effort to complement the principle of self-serving with a principle of empathy with others (starting, very tellingly, with Adam Smith's 1759 *The Theory of Moral Sentiments*), see “The Case Against Empathy” by Paul Bloom (*The New Yorker*, May 20, 2013; pp. 118 ff.). The author is a professor of psychology, and he addresses the question (of suffering along with others in their suffering) with a view to efficacy in personal and social decision-making. Prior to the Enlightenment the question was rather how one's actions lock immediately into the well being of others (well being understood more in acting than in suffering); Kant still knew this.

It may seem inappropriate that I keep listing Isaac Newton along with Adam Smith and Charles Darwin. That might be because we have generally lost sight of the original debate over whether force (βία: essentially inter-corporeal, i.e. external to any one body) could replace potentiality (δύναμις: essentially internal to any one body). This conflict over the proper way to understand inorganic reality set the stage for the later acceptance of greed as the driving force of production in human organizations and of survival as the driving force of organisms of any sort.