

CHAPTER 16

THE COMPETENT LAYPERSON: RE-ENVISIONING THE IDEAL OF THE EDUCATED PERSON

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1. INTRODUCTION: AN EDUCATIONAL SUCCESS STORY

The doctor has told you that you have lung cancer and because you have a number of different sites in your lung, the cancer has clearly metastasized. An operation would be useless, chemotherapy a painful and futile palliative. You probably have only a few months to live. *Do you accept the doctor's opinion and go home and die? Or do you take an intelligent interest in your problem? Did your education give you the confidence and skills to take such an interest?*

This is a very real question. Such a diagnosis was given to my sister-in-law in 1995. Fortunately she did not just go home and give up. My sister-in-law, a good friend of hers, my wife and myself set about learning about lung cancer and about the problems of diagnosis.

For years, I have used Stephen Jay Gould's wonderful *Discover* article (Gould 1985) on medical prognosis in my critical thinking classes and I immediately gave her a copy. Gould makes the point that whatever the "average" life expectancy of a given diagnosis, there are always outliers — individuals who dramatically exceed the average — lying practically off the curve. Youth, general health, availability of excellent care,

a positive attitude, and even misdiagnosis may all contribute to the possibility that one is among the “outliers”. Reasonable skepticism can be a source of hope.

My sister-in-law quickly transferred to a government cancer clinic, leaving the hospital where the initial diagnosis was done and where two different doctors had given her a death sentence. In the local cancer clinic, doctors work together in teams and, to some extent, encourage patient involvement. We immediately went to the clinic’s library and received considerable help from the librarian. The team of doctors raised some questions about the initial pathologists’ report. What type of cancer cell was involved? Were the sites independent or linked to one another? Further testing was required. But at the end of these inquiries it remained the opinion of the team and particularly the clinic’s pathologist that the cancer sites involved identical (metastasized) cells.

Through this diagnostic process we learned that the judgement of whether the cancer had metastasized was based on judgements of visual similarity. There appeared to be no “gold standard”—no clear means to check the reliability of the pathologist’s judgements. In addition, we learned that lung cancer with multiple sites in the lung was quite exceptional. No one was sure that such a diagnostic appearance meant that the cancer had metastasized.

Using cancer textbooks, *Medline*, and an article in the *Scientific American*, we came to the conclusion that the initial diagnosis was not well validated. We noted that the pathologists disagreed about the cell type, though the new pathologist assured me he was “90% certain” that the cells were identical and hence had the same source. But knowing there was no “gold standard,” I was aware that this “90%” figure was just a subjective assessment of confidence and not a real measure of reliability. Based on my wife’s reading about DNA testing in a colon and brain cancer study in the *Scientific American*, we asked why DNA testing wasn’t being done in this case.

For reasons still unclear, the doctors at the cancer agency had not used such procedures in lung cancer cases. They now do. When they used DNA testing on my sister-in-law's lungs, it became clear (to the amazement of the pathologist) that the separate sites were not from the same source, but independent. The cancer had not metastasized and the risk of an operation to remove the cancer was justified — it is many years since her operation and my sister-in-law remains cancer free.

I believe that the above story is (among others things) an educational success story. Our actions and reflections embodied the ideal of a liberal education: intellectual autonomy. By dealing thoughtfully and carefully with expert advice, by bringing in disparate sources of knowledge, by understanding the structure of evidence and claims, and by having the confidence to raise questions, we were able to intervene in empowered, freeing and life preserving ways. None of us had training in biology, medicine or any science, though all of us had considerable formal education and confidence in our ability to research and think about any issue. My own knowledge of critical thinking and general issues around statistical reasoning was certainly valuable but, as it turned out, what was most crucial was my wife's awareness of DNA testing to track cancers — an awareness which was a result of her interest and pleasure in reading about science.

The confidence and intellectual abilities we used are ones that any graduate of a university should possess. I believe that the goal of producing graduates who have these abilities and attitudes is a way of making meaningful the traditional liberal ideal of education as intellectual liberation and empowerment. Never has the need and opportunity for people to become empowered by knowledge been greater. Thanks to the Internet, everyone can have access to an incredible amount of information. But making good use of this access requires its own expertise. Because we are dependent on experts for most of what we know, intellectual liberation

comes crucially from knowing how to make (thoughtful and critical) use of expert knowledge. I characterize a person who is good at dealing with experts and expertise outside his or her own field as a “competent layperson.”

2. THE IDEAL OF THE COMPETENT LAYPERSON

It is not only in scientific areas that we need a layperson’s competency. When we attend movies and plays, when we read for pleasure, we do so as laypeople, and we do so with varying degrees of competence. Non-professional members of an audience should be competent laypeople. More generally, competent laypeople are people who:

- Have a broad understanding of the intellectual landscape
- Have strong generic intellectual abilities
- Know how to evaluate information and claims outside their area of expertise
- Can delve more deeply into an area of specialization with efficiency and appropriate confidence
- Are an informed and appreciative audience for works of arts and science.
- Have an informed appreciation and understanding of nature and society

Competent laypeople know their intellectual limits, but also have the confidence and competence to expand them. Most of our lives are spent working and dealing with issues that are outside of our specific training: dealing with everything from car problems to personal problems, from doctors to computer technicians, from troubled children to financial problems, from an appreciation of film to the understanding of political affairs. The sheer breadth of such involvements can seem daunting, but that is what is involved in the kind of personally, professionally, and publicly rich lives we hope for

graduates. In developing a liberal undergraduate program, we need to consider how we can best prepare students for such a full life.

The usefulness of the notion of a competent layperson is not limited to applied fields such as medicine. It can also help guide the development of aesthetic responsiveness in students, so that they truly “appreciate art,” and take an informed and sophisticated enjoyment in human creativity. Courses in art and music appreciation are explicitly developed with such instructional ends in mind, but all disciplines are expressions of human creativity. All introductions to disciplines should also have *appreciation* as a fundamental goal. One should emerge from introductory courses with an interest and understanding not only of the theories that constitute the disciplines (emerge with what a colleague calls “high conceptual understanding, low facility”), but also an appreciation of the intellectual enterprise, an understanding of the excitement involved in the reflection and inquiry. This is what the “inspiring teacher” often achieves. But, of course, disciplines are about something. We do the most service to students if we encourage and facilitate their interest in the world studied by the discipline. An informed appreciation of nature, the past, and social phenomena should provide the basis for an ongoing intelligent interest in the world.

Not only is the concept of a competent layperson tied to the liberal arts tradition of intellectual empowerment, it is also well suited to give practical meaning to another key goal: *citizenship*. It is widely acknowledged that a liberal education should prepare one to be an active and thoughtful citizen (the etymology of liberal education appears to come from the education for a “liber” — a “freeman”). Citizenship is the paradigmatic layperson activity. In principle, the citizen is called on to make decisions about a wide range of matters, e.g., public health, allocation of resources, environmental issues, criminal justice, social housing, town planning, economic strate-

gies, community morality, international relations. In a representative democracy, the extent to which citizens are actually involved in such decisions is limited. However, citizens must provide a critical audience for the debates, and more and more citizens are involved in direct action through advocacy groups. In either role, the citizen is called on to make judgements, to express opinions, and to vote on issues involving complex considerations and the input of a wide variety of experts.

3. THE EPISTEMOLOGICAL FOUNDATION

The traditional ideal of liberal arts as education for *liberation* — for freedom from the thrall of tradition and ignorance — continues to be a worthy one. Unfortunately, associated with this ideal is often the idea that appeals to authority should be rejected. The great philosophical traditions of the modern age, empiricism and rationalism, are both grounded in the notion that individuals can and should decide what the facts of a matter are solely on the basis of their own reasoning or experiences.

However such an epistemology won't do. Most of what we know, we know and have rational confidence in because it has appropriate authoritative support. Laypeople must make decisions informed by these expert claims. The epistemological basis of the educational ideal of a competent layperson rests on this very important point: since most knowledge claims are rightly grounded in authoritative support, knowing how to evaluate such support and to question it when appropriate should be a central educational goal. Instruction should strive to develop students who have the requisite knowledge, confidence and ability to use and question authoritative knowledge. The ideal of the competent layperson is the Enlightenment ideal of the reasonable and autonomous person augmented by recognition of the intellectual dependency that we have on expert developed and credited knowledge.

The typical Enlightenment attitude towards information supplied by authorities was expressed by John Locke (1690):

The floating of other men's opinions in our brains, makes us not one jot the more knowing, though they happen to be true. What in them was science, is in us but opiniatrety; whilst we give up our assent only to reverend names, and do not, as they did, employ our own reason to understand those truths which gave them reputation. Such borrowed wealth, like fairy money, though it were gold in the hand from which he received it, will be but leaves and dust when it comes to use.

Locke (like other Enlightenment philosophers) was concerned to liberate people from accepting hand-me-down claims that were untested and unquestioned by the recipient. Intellectual liberation meant the rejection of such claims and the move to establish independently and personally the truth of claims. He also believed that this was the model of science.

While such advice was especially salutary at the beginning of modern science, the situation today is much more complex. None of us is equipped to independently establish most of the claims that we depend on. In our own areas of expertise, we may be able to verify claims, but as Steven Pinker, a leader in cognitive science, points out: "Nowadays we specialists cannot be more than laypeople in most of our own disciplines, let alone neighboring ones" (Pinker 1991). In our own lives, we may be uniquely equipped to verify certain historical claims (I was in San Francisco on Sunday), but outside this narrow ambit, we are in a state of "epistemic dependency" (Hardwig 1988).

This dependency is not necessarily bad; it means that we can know many more things than we could if left to our own devices. It is part of the great power of society and language that such knowing can be passed on. The danger, of course, is that erroneous beliefs can be passed on using the same powerful vehicles. The Internet is rightly criticized for being a powerful source of "dis-information" since anyone can

publish claims. Like any great source of power, the Internet comes with its dangers and the key is knowing how to harness its power. Knowing how to evaluate and question sources is the key to sorting between knowledge and falsehood. In my sister-in-law's case, when we challenged our local medical authorities, we did so on the basis of research reported by other authorities, not by independently doing pathology assessments.

The competent layperson must understand the social processes that collective verification and disciplinary debate play in scientific and other disciplined investigation. The competent layperson, recognizing that there is considerable time lag between initial claims and their verification, knows to look for the debate and counter-evidence in assessing novel claims. (The front page of the May 23, 2001 *Globe and Mail* contained the headline: "Scientists prove boys will be boys." The article is more judicious than the headline, but a competent layperson would be immediately skeptical of such absurd claim of scientific proof.)

The competent layperson may well have to adjudicate between expert claims much as a judge does when faced with contending experts. The ability to make such judgements is a key critical thinking ability. It requires an understanding of how claims are verified and established within a discipline or profession, including an understanding of the importance and limits of consensus.

Despite the power of this concept, many involved in the liberal arts may have concerns about its implications. Below I will try to address some of these.

4. CONCERNS

4.1. The loss of the ideal of the "liberally educated person"

The competent layperson may seem a poor replacement for the rather grander notion of the "educated person." The

educated person is one who is appropriately steeped in the knowledge of the culture (which used to be limited to Western culture, but now requires even broader knowledge). This is usually taken to include familiarity with the classics of both fiction and non-fiction and a minimal familiarity with contemporary science and mathematics.

The lack of effective general education requirements in most institutions demonstrates that this ideal is seldom actually pursued. But its echoes are found in educational mission statements, and it influences the thinking and much of the talk about curriculum, especially for those who work in the humanities. This is an ideal of liberal education that is more timeless and less driven by the narrow economic immediacy that governs courses in areas such as business and engineering. The ideal of educating individuals in the knowledge of their culture serves to remind us that curriculum should have an historical dimension that reaches beyond the passing fads and demands of contemporary culture. It is crucial that higher education base its curricular goals (even in the applied fields) on concerns and times that extend beyond the immediate needs of the economy and work.

While more obviously practical in its orientation, the ideal of a competent layperson also embodies the more timeless goals of liberal education. By emphasizing abilities and knowledge that are not job or profession specific, the ideal of the competent layperson emphasizes the development of universally valuable skills and understanding. By stressing the intellectual empowerment necessary to deal with the complexity of our time, the ideal goes beyond the notion of the educated person. The competent layperson, like the “educated person” should have the requisite knowledge necessary to be a fully educated member of society. The difference is that the curriculum of the “educated person” was determined by tradition and what was socially expected of a member of an educated elite. What determines the curriculum of the com-

petent layperson is not what is *socially* required, but rather, what is needed to function fully and thoughtfully in one's personal, vocational, and public life. The educated person was one who had appropriate knowledge; the competent layperson has appropriate abilities and understanding.

It might be thought that the educational ideal of developing a competent layperson is only applicable to the first two years of an undergraduate education. Presumably it has always been an implicit goal of the general education requirement to develop "layperson expertise." But since many majors no longer prepare one to directly enter a career, they should be seen (and have been seen for some time) as part of the general preparation of an educated person. The traditional rationale for having a student who is not planning to go on in a discipline take a major is that it gives a student an understanding of what it is to delve deeply into a topic. For such students, the major is just an aspect of their liberal education. The idea that a BA is mainly about general education is exemplified by the widespread claim that a liberal arts education (not just the first two years) prepares you for life and work by "teaching you to think." Like the ideal of the educated person, the ideal of the competent layperson should be a concept that informs the entire undergraduate project.

4.2. Practicality

It may be objected that the seemingly practical approach to education captured by the idea of a competent layperson does a disservice to the higher aims of what is, after all, supposed to be *higher* education. But the difficulty is that most of the abstract celebrations of liberal education are too far removed from the actual lives of students and from the instructional objectives of faculty to be of real guidance to educational practice. As the great American philosopher, Charles Peirce, pointed out, the way we make our ideas clear is by indicating how we would test them (Peirce 1878). The kind of behavior

that we can expect a competent layperson to exhibit is just the kind of demonstration of intellectual autonomy we ought to look for in a liberal arts graduate. It may not be all we are looking for in a liberal education, but in the classic words of the University Chicago President and Great Books advocate, Robert Hutchins, education's job is to "strengthen minds." A competent layperson has a strong mind.

Adopting the ideal of the competent layperson should also help clarify the undergraduate project. Ironically, this project is often hijacked by the *vocational* demands of graduate and professional schools in the liberal arts and the interest that faculty have in preparing acolytes. If we were clear that it is competent laypeople that liberal programs are preparing, not pre-competent professionals, many courses would change. We would be preparing students to be readers not literary critics, playgoers not playwrights, biology watchers (see Thomas 1978) not biologists. Those who went on in these fields would still have a good general grounding in their field, while the vast majority who do not go on would have had an ongoing interest and general understanding.

4.3. Aesthetic and intrinsic value

One of the key virtues of the traditional ideal of the educated person was the emphasis (in theory) on enhancing students' appreciation of what is intrinsically valuable, including literature, art, and scientific inquiry.

While the ideal of the competent layperson includes the idea that education should prepare students for meaningful work, it should not be seen as limited to this instrumental function. Like the ideal of the educated person, the ideal of the competent layperson also emphasizes the importance of cultivating an appreciation of the richness of intrinsically valuable pursuits. The public and media preoccupation with work and consumption tends to create an extraordinarily limited view of human possibility. A key goal of liberal education is

to expand the students' ability to enjoy the intrinsic pleasures that derive from appreciation of such pursuits as science and the performing arts. Competent laypeople are the audience that any thoughtful creator would wish for. The competent layperson is competent to enjoy the ends of life and not just competent at pursuing its means.

4.4. Pedagogy

The goal of post-secondary education as development of a competent layperson raises questions not only about curriculum but also about pedagogy. Clearly if a student is to graduate with the intellectual power and confidence of a competent layperson, they must have practiced what Sharon Bailin and I call "critical inquiry" (Bailin and Battersby 2016). This involves delving into issues that engage students, but uses the power of scholarly research to support reasonable judgments. It involves the recognition of the need to consider legitimate arguments and counter-arguments on controversial issues but provides students with tools and concepts to wade through these arguments and come, where possible or necessary, to a reasoned judgment (which could be that "we just don't know enough to decide").

A useful pedagogy is to have students work in small groups on a controversial issue of shared interest in the subject being studied. Assign students initially to pro or con sides of a question for their initial research. I have the students create a shared "wiki" or their "pro-con" research which they then all use as the basis for constructing the case for their individual, reasoned judgment. I also provide in-class time for them to discuss the question initially from their assigned point of view, and then from whatever point of view they have come to hold. Forcing students to initially defend positions with which they disagree is one of the most effective means of getting students to understand the complexity of controversy and

to avoid the fallacy of confirmation bias. If tests are needed for the course, the test created by the Collegiate Learning Assessment (CLA) provides a model of the kind of “prompts” that might be used to assess students’ ability to do a critical inquiry. While the test model – the prompt – is a good one, the current method of evaluating the commercially available test is unsatisfactory (see Possin 2013 for concerns about the commercially graded version). (The test prompt is illustrated at:

http://cae.org/images/uploads/pdf/CLA_Practice_Assessment.pdf.)

5. TWO RESOURCES

Although I wrote the first version of this article many years ago, it has not been published in full until now. Since writing that first version, I have written two books which are meant as textbooks for the competent layperson. A brief description of each follows because they illustrate the kind of curriculum that I believe is necessary for the development of competent laypeople.

The first, *Is that a Fact: A Field Guide to Scientific and Statistical Information* (2016), is a layperson’s guide to understanding, evaluating, and using statistically-based scientific information. It gives the reader a basic understanding of the epistemological basis for statistics but goes beyond statistics to describe how to evaluate the status of any scientific claim. One focus of the text is epidemiology because so much of popular health discussions are based on this research, but it includes chapters on reliability of polls, evaluation of graphs, and various social statistics such as the crime rate, GDP, etc. The goal is not to teach “statistical skepticism,” but rather how to make thoughtful use of such information.

The other text, written together with Sharon Bailin, *Reason in the Balance: An Inquiry Approach to Critical Thinking* (2016),

is a critical thinking text that aims not merely at “logical self-defense” but teaches students how to conduct a *critical inquiry*: how to find and assess information and use it to make “reasoned judgments.” This approach addresses the key abilities of a competent layperson as listed above:

- A broad understanding of the intellectual landscape
- Strong generic intellectual abilities
- Know-how to evaluate information and claims outside their area of expertise
- Ability to delve more deeply into an area of specialization with efficiency and appropriate confidence
- Ability to be an informed and appreciative audience for works of arts and science
- An informed appreciation and understanding of nature and society.

We address these abilities by having the last chapters of the text exhibit how to conduct a critical inquiry in the natural sciences, social sciences, art criticism, philosophy and conspiracy theories. For example the dialogues in the these chapters address questions such as:

- Does the theory of natural selection prove that people are not altruistic?
- Does playing violent computer games make people violent?
- How should we evaluate and appreciate art such as Picasso’s *Guernica*?
- Is ethical relativism defensible?
- Are conspiracy theories credible?

The idea is that by providing numerous examples of how

students might conduct an inquiry, they will be empowered to do so themselves. The relevant pedagogy is described in the pedagogy section above. While our book is designed for a critical thinking course, all courses could have, as part of their curriculum, exercises in applying the strategies of inquiry or applying the concepts being learned to issues of current public or personal interest.

6. CONCLUSION

The idea of the competent layperson is as timely as the Internet. With increasing access to education and information, society and educators should revisit the idea of what it is to be an educated person. The current emphasis on “practical” education in a world where knowledge is power and money risks missing the crucial power of a broad education. Vocationally specific competencies and knowledge are often crucial to initial employment success. In the longer term, however, the abilities and knowledge necessary for our general competency as laypeople not only contributes to vocational success, they enhance and empower the whole breadth of our intellectual, personal and social lives. Focusing explicitly on the development of the knowledge and abilities required for the competent layperson could significantly change undergraduate education, providing a more genuinely liberating education.

Changing educational habits will be no easy matter. While this process is challenging, it may be helped by the realization that many, if not most, people in higher education are competent laypeople — albeit not usually because of explicit efforts of their education to make them so. Their abilities as competent laypeople are what enable them to live rewarding and varied lives. As educators, we should be striving to enable all students to do the same.

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