

**Plato and the Laptop:
Prescribing Educational Technology for
Society's Ills**

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Our world can be described by the complex and perplexing forces which direct and compose it. Theorists are constantly attempting to order and organize these forces, by studying their divisions and the dynamics governing their relations. These forces act in perpetual exchange, sometimes originating and sometimes impacting the physical, psychological, and social dimensions of human existence.

Social, cultural, and critical theorists examine the human condition through a nexus of concepts. Media and communication studies seek to understand the variety of human experiences by taking into account the primary forces which society is subjected to. Forces such as technology, law, and politics shape the media which, in turn, operate directly on the substrate of human experience. The nature of personal identity, society, and the human condition are tightly bound to these issues, and an understanding of their nature is central to the art of crafting and analyzing historical progress.

The One Laptop Per Child project (also known as the \$100 Laptop) is attempting to alter and transform worldwide education through the development and introduction of a specific technology. The success of this project is contingent upon a combination of factors which educators, funders, and policy makers must consider in order to understand what is at stake. Throughout human history we have looked to technology expectantly, almost as a savior, necessarily bringing with it freedom, democracy, and equality. What actions can we take to help insure that our faith is not a blind faith? That our optimism is well placed, and not naive and giddy? This essay frames some of the issues and assumptions which underlie any project with such a grand ambitions, and advocates the importance of a critical study of the history of communication to help contextualize and guide the effort.

Medicine, Teaching, and Architecture

Before attempting any inquiry, Plato advises us in the *Phaedrus* to judge first whether the subject is simple or multi-form, distinguishing between the debatable and the undisputed. Knowledge of the complex is a difficult but necessary undertaking, as a variety of purposeful actions require an understanding of something's true nature. This requirement is one of the factors which elevate activities such as practicing medicine or teaching to a form of art.

Plato argues that for medicine to successfully impart health and strength, a doctor must understand the nature of the body. Likewise, for rhetoric to impart conviction, a teacher must understand the nature of the soul. Extrapolating from this analogy, we can postulate that for humanity to purposefully progress, society's architects must understand the nature of society. Deep insight into historical progress to date relies on this same understanding, and by the same token, a study of this progress can reveal society's nature.

This analogy exposes a few important differences. First, unlike the instance of the traditional doctor or teacher, the actors playing the role of society's architects are

not always clearly defined. Precluding a radically deterministic view of history, it is reasonable to believe that individuals play active roles in steering the direction of human history. Politicians, scientists, artists, and others have all functioned in this capacity over the course of time. Second, “progress” is a value laden term (although, perhaps no more so than “health”) whose application to society is suspect. Still, this critique has not dampened the resources directed towards progress and development, which means that the mainstream consensus continues to believe in the possibility of progress. At least in its weakened sense, progress can simply signify change over time, without denoting a normative judgment.

Change is our Maker

In either sense, the notion of historical progress presumes the possibility for change— change in material conditions and circumstances, change in individual consciousness and sensibilities, and change in social constructs and cultural norms. The study of culture and history is premised on this possibility. There are numerous examples of these kinds of transitions throughout history, the most notable being the transition that occurred in antiquity upon the invention of the alphabet. While the details of this trajectory are debatable, evolution and the Mean Value Theorem demand that the transition from conch shells to modern humans (and their societies) occurred via one route or another.

The complexity of these interactions and their non-corporeal forms will, at best, cast shadows in the form of historical evidence. From this data we hope to infer the events and circumstances which generated them, and if we are lucky, the concepts and principals which rule these relationships. Complex dynamics cannot typically be characterized by simple causal relationships. This is the realm of chaotic dependencies, feedback loops, and probabilities. Combinations of forces may suggest preferred outcomes, catalyzing, facilitating, or favoring certain interactions over others, and pushing the limits of conventional determinism.

Coming to terms with a complex domain is a daunting task, for which Plato suggests a concrete methodology: “First, the comprehension of scattered particulars in one idea... Secondly, there is the faculty of division according to the natural idea or members.” James Carey articulates a strategy which closely mirrors Plato’s in preparation for his analysis of the effects of the telegraph. “Concentrate on the effect of the telegraph on ordinary ideas: the coordinates of thought, the natural attitude, practical consciousness... not through frontal assault but, rather, through the detailed investigation of a couple of sites where those effects can be most clearly observed.” This style of inquiry provides us with a basis for approaching the analysis of complexity which otherwise appear irreducible or intractable.

Plato also understood that complex relationships can produce a range of outcomes. Accordingly, the introduction of specific technologies will not

necessarily dictate their impact, as their usage and will vary with the practitioners. When considering the introduction of writing in the *Phaedrus*, Plato entertains both the possibility that writing will make people “wiser and give them better memories” as well as the possibility that it will “create forgetfulness in the learners’ souls because they will not use their memories; they will trust to the external written characters and not remember of themselves.” The arguments in the dialogue present many of the negative characteristics of writing compared to a live exchange. However, Plato still finds room to imagine an intelligent writing “of which the written word is properly no more than an image” allowing “memorials against the forgetfulness of old age”. Whatever the specifics, the notion that the introduction of letters will have a neutral impact is inconceivable. Plato recognized that this technology would have a significant causal impact on the individual psyche, impacting the practice and the potential of memory and learning.

The \$100 Education

With this apparatus before us, we turn to a ripening story which lies at the crossroads of these themes -- The story of the One Laptop Per Child project (<http://laptop.org>). The OLPC is a non-profit association dedicated to the research and development of a technology which is intended to revolutionize education. Their goal is “to provide children around the world with new opportunities to explore, experiment, and express themselves.” They plan to accomplish this goal through the introduction of a device, which governments will purchase and provide to each and every schoolchild.

The device is a computing and communications platform, which, by design, is incredibly malleable, and meant to accommodate many activities and purposes. Still, there are structural features of the project which provide substance, and lend the project a flavor and a form. The project is set up as a non-profit organization, which informs the character and personalities of its participants, and helps define its organizing motivations. Their processes are also strongly modeled on the collaborative practices of free-culture, and are meant to encourage broad participation and involvement. They are committed to the use of free software, which denies certain types of controlling interests, and promotes a degree of transparency and accessibility. The devices themselves also present specific affordances, such as pervasive presence which will allow all the laptops in a particular region to communicate with each other, even if they are not connected to the Internet. Overall, the laptop project is committed to empowerment, autonomy, and independence, and it is opposed to domination, oppression, and colonization.

In this project we witness an explicit attempt to manipulate and control the flow of history through the introduction of a specific technology. If the OLPC succeeds in its ambitions, it is safe to predict that this technology will have a significant impact. However, like the introduction of writing, it is difficult to predict the form that this impact will take.

Will the introduction of the laptop result in positive outcomes, as the project hopes? Or, will the laptop capture and export the worst features of our society? Will children's innate curiosity motivate them to crack open the hood of the laptop and master its inner workings? Or, will it simply degenerate into the instrument which delivers spam and pornography to the third world? Will teachers embrace the platform and craft their curriculum to take maximum advantage of this device? Or, will they ask students to store the laptop in a cubby for the duration of the school day? Will this technology improve the ways children interact with each other, and the way they relate to information and knowledge? Or, will it promote consumerism, competition, obesity, and depression? If we don't understand these dynamics in our own society, how can we pretend to understand them as we unleash them upon rest of the world?

The media has not yet reacted strongly to this initiative, partially since the project is still in a period of incubation, although some sectors are following the story closely. It has received national coverage, as when OLPC's founder Nicholas Negroponte demonstrated a prototype of the device to the Secretary-General of the United Nations, Kofi Annan. It was also covered recently when Libya became the first country to participate in this program with an order for 1.2 million laptops— enough to provide every school-age child with a device. As the Laptop transitions from a prototype to a product, it is poised to become a dominant story in the media. Many seasoned and experienced technologists describe OLPC as one the most important and transformative projects happening right now, although many educators and politicians are more skeptical, and sometimes downright cynical. The media might play a roll in encouraging the scope of imaginings around this device, and whether it is received with optimism or cynicism.

Reflexive and Holistic Change

Following the lesson of the *Phaedrus*, the strongest hope for achieving a positive impact with any initiative of this sort is an understanding of the nature of society. There is a prevailing mood in popular discourse that access to information will necessarily translate into greater social justice and good in the world. This line of reasoning echoes the enlightenment era hubris that the advancement of science, technology, and rationality will necessarily lead to a better world. Unquestionably, the expansions of these domains have changed the world, along the dimensions that we articulated at the start of this essay. However, the net impact on society is a question that troubles the foundations of our programs and initiatives.

Jeffery Sachs, the director of the Earth Institute at Columbia University, relates an anecdote about its origins that is relevant. When he was first establishing the priorities of the Earth Institute he created multiple task forces devoted to each of the major issues around the U.N. Millennium Development Goals— nutrition, water, AIDS, malaria, energy, extreme poverty, education, etc. Without

exception, each task force reported that their issue was the cornerstone of the Millennium Goal objectives, and that it needed to be the primary focus of the Institute for its work to be effective. However, Sachs understood that even if a villager had a little extra money to spare, and understood the importance of disease prevention, they would still choose to buy food instead of bed nets if they were starving. Complex problems demand holistic solutions. And, the application of these holistic solutions requires a deep understanding of the nature of the problems.

The OLPC represents a conscious and deliberate effort to treat society's ills by introducing a technology which is intended to change the equations which balance knowledge and power wherever it is deployed. It is a bold and risky proposition, which will alter many existing structures of production and communication in the societies which participate. Like many of the revolutionary technologies which preceded it, it has the potential to drastically alter the physical, psychological, and spiritual landscape, but like these precedents we have a difficult task specifying and controlling its impact.

The enormous complexity of our world and its problems require that all attempts to improve it involve a leap of faith. Sincere and authentic hard work, paved with good intentions, is an important part of the solution, but we can improve our chances for success by exerting the effort to study the history and theory of culture and society with the goal of understanding its nature. Only by understanding this nature will we be able to effectively treat the patient and help cure society's ills.