On the Future of Libraries

BY

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As I understand them, libraries have always played a role in the formation of minds and societies. It's a matter of great psychological interest to me that I expose how contact with writing alters the minds of human beings. For example, Gottfried Wilhelm Leibniz's father was a moral philosopher who gave his son access to his personal library, which undoubtedly molded the man's thinking; likewise, Turing may have been molded too by books read in early childhood (Natural Wonders Every Child Should Know), that likewise has moral implications. Yet our understanding of mathematics and computation is not often based in any kind of historically based psychoanalysis. In the school setting students are trained to pass tests, not know a wealth of historical facts and how they interrelate. The drama of mathematics may be felt sooner if we were told that Pythagoras was murdered. Fascination with down to Earth mysteries may energize the mind into making new discoveries... if only we knew where to look.

While growing up, I perceived the usefulness of libraries. They were quiet places of refuge, places to go and learn. One of the promises of the digital age was the notion that there would be no libraries in the future, that all libraries would be digitized. This hasn't happened so far. Universally free access to educational resources hasn't been given out, despite the fact that it would seem mankind now had the technological means to provide it, it seemed to me. Under the pretext of supporting the writer or the artist, publications and educational materials are kept beneath digital lock and key. What might have been called “information replication” was demonized as “piracy.” The government will, for military training purposes, commission the creation of effective educational courses, but it doesn't seem to extend the same interest in producing quality educational content globally. At first I was disappointed by this, since theoretically computers were machines that made the replication of and dissemination of educational content easier. I found myself questioning the value of invention itself if something as utopian as the computer could not produce an efficacious result in the realm of higher learning through the production of a future virtual educational institution. This is about as tragic a view as it can get, because it implies that even if human beings invented something like, say, the matter replicator, that humans would be no better off because they'd squabble over who owns the patterns.

Allow me to use the word “code” to refer to knowledge that both (A) contains information and (B) contains information that must be decoded to be understood. Turing's proof that any formal language adequate to express arithmetic contains undecidable formulas follows from this very well. If true, then code of any variety will not grant us all universal access to a theory of everything because space time constraints produce a narrow current of code-builders and code-readers. Instead, code is materialized in the world as physical objects, like computers. Here's how I shattered my hope in computers. I learned, or rather, I accepted, that computers are calculating machines, or coding machines. Coding machines are (B) machines that produce information that must be decoded to be understood, only they do so at a rate that's faster than humans can calculate. By design, computers function like puzzles, used to deny access and therefore equality in the never-ending battle for complete and total secrecy in the interest of national security. Russia, China, and the United States, are giants competing in the combinatorial art of mechanically coding and decoding information by means of quantum mechanical cryptography. This vector of approach towards understanding the universe will not go away, because it's the ability to decode the enemy's plans of attack rapidly that turns the tide of battle in wartime situations.(edited)
In light of this way of thinking it should be less surprising that libraries have not been digitized in the information age for the improvement of the masses, for reasons that may be structural (I will see if I can return to why I chose this phrase later). Instead, digital libraries have been used to consolidate a

massive variety of information of recorded user activity to track the probability of human activity on the world wide web, allowing them to plan for scenarios more effectively. Of course, this information must be kept as securely as possible, so libraries of this type are not publically available. Paradoxically in the information age the cost of higher education has only increased, because the governments in the United States have not deployed virtual educational institutions that train people as effectively and also efficiently as possible, because “effective training” would actually be detrimental to national security as too much of the public becomes keenly aware of the dark side of writing as an anti-social instrument of social control. And this point of view is not even new, as evidenced by early Platonic dialogues where the philosophers conclude that it would be socially harmful to teach children philosophy.

Well. Perhaps we can say that libraries are useful for the maintenance of human aggregates. Whatever the content of the library, physical or digital, a number of curators and organizers are needed, as are agents which attach themselves to the library. We may therefore draw an analogy between the physical or the digital library, and DNA as library. All living things have DNA within their cells. DNA may therefore be thought of as a library containing instructions for the maintenance of a spatial system or aggregate of cells, in a manner analogous to the ways humans agree to be aggregated to companies, or businesses that contain a core set of instructions to guide it's activity. Instead of finding this disturbing it may be better to find this curiously indicative of a real and exciting mystery. DNA has produced a variety of forms of life, so it may be very interesting to imagine the perfect library. I have noticed that while there exists a diversity in structure and form in living things, there may be a narrower number of distinctive kinds of pattern that, combined, may produce a huge variety of living things. This in fact is what Turing sought in his general analysis of patterns in plants in parallel with his pursuits in modelling his understanding of how human formations would change through the operating of the sign on paper. To read only one symbol in a square at a time, to say only one word at a time, is, without question, a narrow limit that has structural implications, not just for humans but for cellular life. By this way it should be possible to know the universe by adopting a vitalistic and teleological conception of living organism that makes complete use of all constraints and laws. DNA, I imagine, owes it's existence to environments of high density for the formation of it's supertwisted structure. A black hole, for instance, exhibits many of the qualities that can be analogous to life: eating (organization and incorporation) and organizing. If we're to take the notion of “string theory” seriously, quantum gravity may entail some kind of function-oriented intentionality, which may stimulate more investigation to prove or disprove the idea that gravity entails the space time distortions that generate an illusory sense of individual consciousness. In order to make sophisticated knots, future planning is needed. Where planning is needed, planners exist. Where planners exist, consciousness exists. Quantum gravity consciousness theory may produce a most general kind of consciousness as Turing sought. The production of calculating machines, however, entail no resolution to the active compensating forces in nature.

Currently there is nothing on the horizon of computer science that looks likely to pass the Turing test, however, if it's as I think: that gravity is at the center of the animal and man's sense of independence, it should be possible to produce a “computer” (a machine with human intelligence) that exhibits all of the qualities desired in artificial life (mechanical independence), in the truest sense of the idea. Turing's concept of a child machine rests on the basis that it's educator (molder) possess two keys, punishment and reward, used to impart pleasure and pain: by means of these keys, Turing thinks, the machine shall understand what actions are desirable. This makes a good deal of sense, if we are to imagine a human

being as a spatial system or island of aggregates attempting equilibrium with it's environment, and because without feedback, intelligence cannot exist. Humans children cannot be fully free, nor survive abandonment in the wild, else they'll become farel. At this stage computers perform calculations as programmed by the operator, so for a mechanically independent mechanical organism to exist, it must contain a core which is polarized to it's environment and, therefore, prone to making serious mistakes. On this theoretical kind of machine, I have nothing to say, besides the admission that the theory rests on a collection of hunches that can't be proven for want of better materials. At present no physical thing can pass the Turing test, however I think that's only because microgravity's impact on biology has been overlooked. If my hunch on Alan Turing's psychological drives is correct, I believe that Turing would would want to enhance his study of plant biology by studying how gravity effects the formation of plants in space (plant gravitropism), were he alive today. As of now I have found no evidence which indicates that Turing thought to include gravity in his mechanical models. At the same time, Turing would make an effort to include gravity in his conception of computers, computors, and living things. If bottlenecking happens by way of gravitational compression, the production of selection (and thinking) is an obvious result, if a single unit is produced. Selection, or rather the ability to arrange items in a sequence, would be an essential ability for a mechanically independent machine to have. Libraries of the future would function like the sign-deterministic core for the aggregates bonded to the code, but due to the polarized nature of the coder and decoder wargame, the result as the agents diffuse throughout the cosmos may not be universally utopian or predictable.