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Turkle's Fellowship of the Microchip: A Failure of Teaching, Not of Technology
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Sherry Turkle's short article "Fellowship of the Microchip" cites 17 references of which she has written six and is the topic of a seventh. This incestuous self-reverence in referencing diminishes the authority and impartiality of her argument because she is obviously standing rather alone in the assumptions she makes about technology and its effect on learning. This paper will be a section-by-section flaying of her anecdotal arguments. Turkel is stuck in the Otherworld ether of the 1980's – neither understanding nor accepting technology or its origins but pursuing its contretemps.

INTRODUCTION
Turkel begins her argument with a quote from Winston Churchill concerning how buildings shape the people in them. One might argue Turkel would be better served by quoting the great American playwright Eugene O'Neill who said in 1923 "the greatest challenge of the 20th century is the failure of science and technology to replace the death of the old God" because what Turkle is really trying to argue is the loss of Blind Faith in learning through hands and touching and tinkering. Turkle fails to note the world now consists of imagination via the eye and wondering beyond the body and taking as fact that things exist simply because they affect people.

COMPUTATIONAL TECHNOLOGY…
In this section Turkel argues the warmth of togetherness cannot be replaced by online interaction: "The computer is a medium through which one can be a loner yet never be alone." (98) She then goes on to romantically reflect on early computers and how people used to fiddle with them to see how they worked and then directly improve computer functionality with hands on modification. It is curious that Turkle makes this argument because she proves two pages into her argument she really has no clue or understanding of software or hardware technology.

Turkle must have zero experience with adults and children who continually modify and re-program the innards of their Tivo recorders and Xbox machines and personal computers in order to improve gameplay and functionality by installing new hardware and writing and inventing snippets of code. She also must not be aware of Java, Flash, JavaScript, Shockwave, PhP, XML or RSS as forms of programming and information distribution that many adults and students use every day to create websites and to add technological functionality to their daily lives. If her point is that a majority of the people do not participate in these new forms of programming language acquisition, one can make the same claim back that her example, in its historical timeframe, is as well tremendously limited in scope and the transparency of opportunity.

FROM POWERFUL IDEAS…
In the next section Turkle claims a direct relationship between computers in schools in the 1980's and the threat to epistemology because computers no longer come with "their programming languages 'in a box'." (100) She mourns the loss of direct structured learning but does not then find value in the self-structuring epistemological application of a child's web search or online gaming.

For Turkle and her ilk one must be able to observationally evaluate the learning by watching the learner act, but there are times when learning and reflection are internal processes – like a private online experience or visual recognition of something seen from afar but not felt locally by the hand – but Turkle dismisses the possibility that virtual growth and imaginative learning can take place inside a mind instead of outside the body. In the page and a half this section covers she self-references twice.

PRESENTATION AS ITS OWN…

Turkle is at her most truculent in this section by claiming "PowerPoint encourages presentation, not conversation. It does not encourage students to make an argument. It encourages them to make a point." (101) If that is truly the case – and once must sincerely doubt the authority of such a claim because, if true, the cause is bad teaching and not bad software. Humanity is in a nether area in the exponential growth of industry and microchip. Twenty years ago people wanted to understand the how and why of computers while today people question the how and why of the greater world beyond the computer because computing makes that leap possible.

This change in perception is the natural outgrowth of visioning and human ingenuity and it is not a sign of the decline of an intelligent argument. There are some people, like Turkle, who are caught between wanting to understand how Microsoft Windows is programmed but who only have an Apple][mentality. Once in the world everyone knew that to make fire one struck a flint to tinder to build a spark. Today one strikes a match to create the same effect but how many people understand how to create matches? The answer is simple: It doesn't matter how to make a match because technology and science have removed the burden of the mythology of having to know how every little thing works including the reason for striking flints. Because of microchip thinking minds are freer to create the next version of instant fire to propel spaceships further into distant universes.

To claim, as Turkle does, that PowerPoint creates points and not arguments, she falsely suggests PowerPoint is only a tool for making points and not a tool for cutting into deep thinking and conversation. An awl is a tool for making holes but if one tries to drive a screw with an awl one's effort will result in frustration. A tool is only as good as its purpose and the person manipulating it and if PowerPoint users are only using that tool to make dead claims identified by bullets instead of inventing lively leaping points for discussion, the problem is in the teaching of the tool and not in the rendered bytes. Don't blame the software when the operator is ill-trained.

PowerPoint, used in the appropriate way, can be an incredible and powerful teaching tool that suggests avenues for thought, declarations of unknowing and stew pots of thought. To foment a reaction that PowerPoint only points merely stabs at a misunderstanding of the narrow use of a tool that frees the mind instead of defining it down to dots on a screen.

SIMULATION IS ITS OWN…

Next Turkle begins to define her argument of opacity and using the Macintosh computer as a source of her explanation is only titillating instead of instructive because the Macintosh crowd have been pursued and annihilated by the Windows platform and her argument that "transparency means epistemic opacity" (103) is dulled because she uses a niche market to make a universal point about knowledge and learning.

One might argue against Turkle that one doesn't need to understand everything in order to live and work in the world. There are some things that can and should be learned on a base one level but as technology advances so must our reliance upon it – if one follows Turkle's argument one might claim a highway should never be built because the cars that ride on it break down and if one cannot fix a car one is not a fully knowledgeable human being.

Technology creates technocrats and redefines worlds of reliance and shape-shifting responsibilities to each other in order to maintain order. One may drive a car even though one may not understand how to fix a car because there are mechanics for hire that have the skill set to fix a car. A mechanic may not be able to program the computer used to fix a car but there are those who can fix a computer if it breaks down.

The necessary advance of epistemological technology allows specialization and curries faith in a communal limited mastering of technological advances in a way that universally slakes the need to know. Even the Old West had its technocrats of Medicine Men, Blacksmiths and Whores. One doesn't need to be a car mechanic in order to order the world of the highway. Turkle's "orgot" (103) argument with Tim proves this point. Tim doesn't need to know or to

even care about the "orgot" in order to use and enjoy the game but for those like Turkle who must understand something before accepting it as fact, there is the README file waiting for introspection while Tim and the rest of humanity carries on with greater thoughts.

SIMULATION AND ITS DISCONTENTS

In this section Turkle writes about the regret that virtual interaction can bring to the human soul. A simple answer to her claim is that these people should "get out more" and touch what touches them. If one forgets the landscape, go outside and look at it and roll down the hill! To blame a computer screen for the loss of pen against paper is yodeling down the wrong valley.

There are some people who will never touch a jellyfish. Why is it wrong for those to then celebrate a virtual jellyfish? "Look Mommy, a jellyfish! It looks so realistic!" (107). If a computer can simulate a jellyfish and its surroundings in a realistic and quantifiable way as a tool of teaching isn't that a deeper pedagogic approach than simply having a teacher show a photograph of a jellyfish in a textbook or drawing one in chalk upon a slab of slate? Don't damn the technology; accept the lack of jellyfish in the pond.

Turkle ends the section thusly: "Simulations enable us to abdicate authority to the programmer; they give us permission to accept the opacity of the model that plays itself out on our screens." One might argue a parallel pursuit to her claim is that watching a baseball game is a simulation of an event that one is not directly playing and one is abdicating the authority to throw to first base while allowing Derek Jeter to do it (or not!) on one's behalf.

Live interaction on the Web also produces an argument against Turkle in the same vein – does one abdicate the authority of a kiss on the cheek for the virtual one placed before an unbending eye via Webcam? Is a Webcam kiss any less real or less effective than one delivered in person? The technology does not change the intent of the event it only changes the epistemological warmth of delivery.

SIMULATION, RESISTANCE…

This section reveals Turkle at her most ridiculous. The claim that Marcia "seems to have no language for discriminating between this rule of the game and the rules that operate in a 'real' city" (109) is so incredibly misleading that one wants to laugh but instead one must vigorously shout down her spurious argument and illogical leap of condition. If one has played SimCity – which Turkle has obviously not mastered – one immediately understands the code Marcia is conveying when she says "Raising taxes always leads to riots" (109) is purely a joke if one receives the code in the context of the game. Marcia is making light of an effective stratagem that she has mastered but Turkle misses: If you want fast action in the game, raise taxes! Marcia never claimed to be an Urban Planner.

If Turkle were truly interested in discovery and learning and not just seeking shocking bits of conversation to quote, she should have asked Marcia "Are there any conditions one can change in the game where one can raise taxes but not cause riots?" There are several answers to that inquiry. Once can increase entertainment opportunities or provide more leisure time or build a park to cure the software's propensity for rioting when taxes rise. For Turkle to then go on to claim "Marcia is like someone who can pronounce the words in a book but doesn't understand what they mean. She does not know how to measure, criticize or judge what she is learning. What does Marcia need to know about her technology?" (108) Turkle answers her own question when she reports a few sentences earlier that Marcia "reels off her 'Top ten most useful rules of Sim.'" (109)

One wants to ask Turkle how she reconciles her argument with the reality of Marcia's experience because Marcia can't create that top ten list unless she can measure, quantify, relate, understand, comprehend, judge, investigate, know, measure, quantify and criticize her experience within the parameters of the game. Marcia knows more about her technology than Turkle but Turkle is too unenlightened and narrow-minded to notice because she is hammering home a vendetta against a technologically advancing world in which she does not fit. Turkle comes across like a bicycle rider stuck on the side of the road railing against the automobile –

"Oh, sure they ride in those contraptions but they don't know the chemical makeup of their gasoline!" SimCity, one must always remember, is a game first and is not a real city. Any learning that might come out of the experience is purely anecdotal and a frosting benefit that the game designers did not primarily set out to achieve.

CODA:
Turkle draws her article to a close with a sentimental story about children and the lack of fuel in India needed to purify water. Turkle tries to break the reader's heart but really only succeeds in creating wonderment as to why the next Digital Nations project doesn't concern a way to get fuel into Indian homes so the water can be purified. Turkle finds value in one invention but refuses to acknowledge the possibility that a future invention might solve the problem one invention creates.

She concludes this section with an obtuse and needlessly opaque reference to Tolkein's "Lord of the Rings" and Middle Earth, trying and failing, to antagonize the mysticism of our imagination against the unbending hard ether of bytes and bits.

(FINAL PERSONAL THOUGHTS)
Sherry Turkle is a dangerous writer because she knows just enough to be convincing to the uneducated but the incredible lack of depth and inquiry in her work for those in the know begs a shocking recognition that she is full of theory but lacks the substance of a universal technological reality. Turkle's concerns are teaching centered and she mourns the death of the old God but she is unaware of those arguments.

That lack of teaching does not, by default, translate into a Godless boogey man trend in technology that distances instead of tightening relationships. If one seeks to understand technology and the human condition of globalization one would be better off reading anything by Esther Dyson.