

New Culture/New Reasoning

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We must as a prelude to any inquiry about learning and science ask ourselves whether the intellectual conventions we have become accustomed to, mostly driven by post-enlightenment notions of truth and rationality, apply with the same force and motivation to the generation of people born post 1980.

I will call him Anthony. He arrived in Vancouver in 2014 with a trunk full of DVD's, games and devices. Anthony is from Chile. He uses SMS, Twitter, and Facebook and in particular Instagram and a variety of other social networking tools to connect with friends and family. He is fond of "emoji" and uses them to communicate various feelings and emotions to his friends and family in Santiago. He is fascinated by Minecraft and constantly thinks about strategies to build new elements into the game. He is skilled at finding YouTube videos for nearly anything, including research on language acquisition. He has watched, as he put it, many hours of lectures on how to learn new languages. He streams everything that he watches from television shows to movies to the news.

Anthony does not read philosophy but is fascinated by words and discourses of all sorts. He loves the neurosciences as much as loves to make films. In his mind, there is no wall between the sciences and the arts. He is somewhat utilitarian and pragmatic. If the ideas he reads about or discusses with his friends don't have at least some applicability to his immediate concerns, he quickly abandons them and moves on.

He uses a small video camera to record his everyday life and edits the output on a laptop and then uploads the material onto the Web. He is adept at video games, though they are not an obsession. Cell phones are expensive, but he finds the money.

This sounds familiar; an entire generation working creatively with Facebook and Vimeo and Youtube and Flickr. He loves old movies, hence the DVD's. He knows more about films from the 1970's and 1980's than most film historians. He can quote dialogue from many films and reference specific shots with ease. He uses his expertise in editing to comment on the world and would prefer to show you a short video response to events than just talk about them.

Cultural analysts tend to examine Anthony's activities and use of technology as phenomena and as moving targets which change all the time, just as they saw pop music in the 1960's as a momentary phase or like their early comments on personal computers which did not generally anticipate their present ubiquity.

However, what Anthony is doing is building and creating a new language that combines many of the features of conventional languages but is more of a hybrid of

many different modes of expression. Just as we don't really talk about language as a passing phenomenon, (because it is inherent to everything that we do) we can't deal with this explosion of new languages as if they are simply a phase or a cultural anomaly.

What if this is the new form and shape of writing, reading and research? What if all of these fragments, experiential, discursive and artistic, which combine the verbal and non-verbal with images and sounds are inherent to an entire generation and is *their mode* of expression and a reflection of their modes of thought?

Language, verbal and written is at the core of what humans do everyday. But, language has always been very supple, capable of incorporating not only new words, but also new modalities of expression. Music for example became a formalized notational system through the adaptation and incorporation of some of the principles of language. Films use narrative, but then move beyond conventional language structure into a hybrid of voice, speech, sounds and images.

As long as Anthony's incorporation of technology and new forms of expression is viewed as a passing phenomenon it is unlikely that we will understand the degree to which he is changing the fundamental notions of communications to which we have become accustomed over the last century. It is also likely that Anthony is evolving new forms of reasoning based on radically different ideas of scientific thinking and with very different notions of outcomes.

At the same time, Anthony has many problems with writing. He is uncomfortable with words on a page. He wants to use graphics and other media to make his points. He is more comfortable with the fragment, with the poetic than he is with the whole sentence. He is prepared to communicate, but only on his own terms.

It is my own feeling that the ubiquity of computers and digital technologies means that all cultural phenomena are now available for use by Anthony and his generation and they are producing a new framework of reasoning within which writing is only a piece and not the whole.

Some may view this as a disaster. I see Anthony as a harbinger of the future. He will not take traditional composition classes to learn how to write. Instead, he will communicate with the tools that he is comfortable with and he will persist in making himself heard or read.

But, reading will not just be text-based. Text on a page is as much design as it is media. The elliptical nature of the verbal and the visual will have to be accommodated within the traditions of writing, but writing and even grammar will also have to change as will research methods and the subjects chosen for examination.

Without saying it directly, Anthony is unveiling **new world of writing and reasoning** that our culture is experimenting with, in which conventional notions of texts, literacy and coherence are being replaced with multiples, many media used as much for experience as expression. Within this world, a camera, or mobile phone becomes a vehicle for writing. It is not enough to say that this means the end of literacy, as we know it. It simply means that language is evolving to meet the needs of far more complex expectations around communications and rationality.

So, the use of a short form like Twitter hints at the importance of the poetic. And the poetic is more connected to Rap music than it is to conventional notions of discursive exchange. In other words, bursts of communications, fragments and sounds combined with images constitute more than just another phase of cultural activity. They are at the heart of something far richer, a phantasmagoria of intersecting modes of communications that in sum lead to connectivity and interaction and to learning but also to new forms and subjects of inquiry.

Anthony remains rational, thoughtful and deeply aware of what he does and does not know. He is trying to build new systems of expression and reasoning using contemporary tools and media. We are, in my opinion just at the cusp of understanding how Anthony's explorations will affect notions of scientific research. The impulse that many scientists have is to say research is research, and methods developed over the last century however contested display the rigor necessary to achieve the outcomes they seek. That certitude was one of the reasons pre-enlightenment thinking was so stultifying and fell away so quickly when challenged epistemologically. There is no ontological framework for present forms of scientific thinking and no need to assume that existing methods are the best ones. Anthony is the canary in the mine and we need to listen to what he is telling us.

I am fond of saying to my colleagues that when scientists think about art, it is usually as add on: objects that may express or visualize what scientists are researching. However, the real value of cross-disciplinary inquiry will only be found in the research methodologies that are used. And, those methods will not change without recognizing that different forms of reasoning are never just the consequence of one approach. Question: Could surrealist forms of reasoning help research in the neurosciences?