

Parasitic Learning and Other Observations of the Zeitgeist

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“The avant-garde are people who don’t exactly know where they want to go, but are the first to get there.” -- Romain Gary

Today we are living in a new reality: the reality of *digital media* as catalyzed by new forms of *social media*. Digitalization can be characterized as the avant-garde of our society today, as digital services push the known boundaries of media and relationships within. The shift in ways of doing and relating requires new participative architectures to understand the move from the age of *speed* (industrialization and mass-production) to the age of *real-time* (digitalization and mass-customization as affected by new forms of social processes, i.e. Web 2.0). (Arina & Inkinen 2007)

For an industrial worker *speed* and *repetition* was key. For a knowledge worker new modes of working are activated when the culture of speed is replaced with real-time processes and repetition is complemented with non-linearity and contextual adaptive applications. *Knowledge work* (Drucker) becomes *network work* when the nodes become less important than the network formation activities themselves. Looking at learning differently from the point of view of networks, a holistic approach perceiving learning as the formation of networks inside, between and outside of individuals is required. *Connectivism*, a learning theory by **George Siemens** (2005) aims to describe what it means to learn today in an environment where individuals recurrently exceed their mental capabilities through intense communication within digital networks.

The spirit of the age (*Zeitgeist*) can be described as a move from traditional mass media (the broadcast paradigm) to digital, interactive new media (the social media paradigm). Various kinds of experiences, spectacles and effects of digital culture will dominate how we interpret reality and engage ourselves in various activities. It should be noticed that in addition to being tools for communication and expression, media are also *identity devices* that affect the persona, world view and subjectivity of an individual. Different kinds of *extended experiences* will irrevocably lead to the expansion of the sphere of media publicity and identity to touch areas that have been previously considered private. This can already be seen in the development of the social web as people start to record each others’ experiences, put them online and utilize the web as a platform to connect those experiences. *Big Brother*, in this instance, is, well, us. (Arina & Inkinen 2007)

In a shifting environment like this we have to consider what it means to be an educational institution or a learner today.

Our educational system has successfully utilized the military- and outcome-based *ADDIE* (Analysis, Design, Development, Implementation, Evaluation) or *SDI* (Systematic Design of Instruction) models for decades, but it no longer matches the needs of the network society nor

knowledge workers who work in complex and constantly shifting environments. In fields where knowledge is ever-changing and the future is highly unpredictable, providing vessels with descriptions of the past is the wrong tool for the times. The new era requires jedi-like skills for process-based network formation.

Serendipic learning can be seen as learning that is not based on outcome, but rather on process. There are no learning goals or curriculum to follow, no classrooms other than *third places* (Oldenburg 1999) the individual engages in, no sages on stage other than who the individual chooses to be the sages on the stage and no walls other than the blending boundaries of virtual communities. *Serendipity* is about the accidental – or guided – encounters of individuals in complex systems, where the dance of interaction among the nodes is defining the outcome.

There is no central body orchestrating the interaction on the decentralized *social web*, but there are many of such in the realms of education. Serendipic learning is not even in a direct relationship with education, which derives from the Latin verb *educere* meaning "to lead forth", characterized by the presence of a more knowledgeable entity leading the learners. This is far from such symbiotic organisms that need each other – and thus I must reflect – we need to recognize the learners are the hidden untapped potential within educational institutions for innovation and creativity.

Our schools have failed to change quickly enough from *top-down* knowledge broadcasts to *bottom-up learning support facilities* opening doors to new perceptions. An important transformation is to move away from *just-in-case learning* to *just-in-time learning*, knowing how to seek different points of view rather than just knowing a specific answer, learning to build on the work of others rather than next to it and building *social capital* in addition to *human capital*.

Parasitic learners operates in a multi-dimensional polychronic (many things at once) learning ecosystem, instead of a sequentially linear monochronic (one thing at a time) learning environment.

Monochronic Learning	Polychronic Learning
One thing at a time	Multiple things at once
Adhere to plans	Adapt to environment
Linearity	Non-linearity
Commitment to task	Commitment to relationships
Repetition and memorization	Problem solving and creativity
Seeking one right way to do things	Acknowledging multiple paths
Often out of context	Highly contextual
Designed approach	Emergent approach
Synchronous communication	Asynchronous communication
VLE/LMS	Social Software/PLE
Information technology	Interaction technology
Selecting tools based on design	Selecting tools based on process
Focus on outcome	Focus on process

Table 1: Polychronic and Monochronic Learning

The skills that are highly valued today are not even distantly related to the skills that are developed in our educational prison facilities year after year, week after week, class after class, when students are put into classrooms, disconnected from each other to fill tests, amputated from their prosthesis of thinking like mobile phones and their intellectual capabilities being hammered into the dirt by requiring certain outcomes rather than creativity and imagination.

It should be brought up in this context, that there are increasingly more opportunities for curious individuals to circumvent intermediaries like teachers and educational institutions to learn effectively. In the heart of this change are social *interaction technologies*. These wide-spread decentralized tools are not controlled by formal institutions, but rather by learners themselves.

To provide an observation, we don't necessarily need the formal agreement between a certain learner and a certain teacher to enter in a teaching and learning relationship on every field. Increasingly learners will take an advantage of teachers, just like parasites who supply themselves without the knowledge of their host. I call this *parasitic learning* as learners utilize teachers through the web without the knowledge or consensus of the host. This trend of learner-teacher relationship reversing from the *teacher-push* to *learner-pull* is largely driven by digital social media and interaction technologies, enabling people to find each other, connect, rendezvous, interact and leave without any formal contracts.

As an example, on the social video sharing site YouTube, a web band called **ClipBandits** was formed by three individuals without any formal consensus. Two members just jammed over each other's video recordings and the final video included a third-party who jammed on top of the two others, showing the two other clips running on the background. Suddenly even I can participate in their band as a drummer, even though I don't know any of these people. All we have is a shared musical *social object* to connect, that is framed with interaction.

Given the available distribution mechanics provided by peer-to-peer networks and free web-services, this iteratively formed band doesn't even need a record label to get an audience for their creation. Metaphorically, parasitic learning can be contrasted to being a drummer in a band that doesn't necessarily know or agree that you are part of the band.

Seymour Papert (1980) simplifies that there are three stages in the relationship between the individual and the knowledge during ones lifetime:

Stage one happens when a baby is born and starts a process of individual learning driven by exploration. Soon the limitations of this exploration requires finding adults who will tell things the child is unable to experiment with. In stage two, the child enters school, where *experiential learning* is gradually replaced by learning by being told. The trauma is to stop learning and accept being taught. Those who survive this strangling intellectual torture enter stage three that involves deschooling, learning to learn, experiencing and learning to be creative, effectively returning to stage one. Going back to stage one is in the heart of life-long learning.

The stages are now changing along with the empowerment computers are capable of providing to children in the *zone of proximal development* (Vygotsky 1978). Social technologies allow people to reach out for information, knowledge and people formerly inaccessible in such an easy way offline,

surpassing any intermediaries like schools, postmans, travel agencies and media outlets to get there. Web is becoming the greatest converger of human beings.

In 1971 **Ivan Illich** released his landmark book, entitled *Deschooling Society*. Coincidentally a section in the book entitled “Learning Webs” reflects the spirit of the age:

A good educational system should have three purposes: it should provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally, furnish all who want to present an issue to the public with the opportunity to make their challenge known.

The web is becoming the medium that connects those who want to learn with those who want to share. This development is further fueled by social technologies like wikis and blogs, which enable lower entry costs for general population to learn and share ideas.

David Weinberger has said that for the first time in human history we can escape the physical limitations of human communication. On the other hand, *Metcalf's Law* states that the value of a communication system grows exponentially as it adds users. In 1937 British economist **Ronald Coase** outlined the theory of *transaction costs* to describe a theoretical framework for predicting when certain economic tasks would be performed by firms, and when they would be performed on the market. Similarly, transaction cost theory can be used to describe when education would be carried out by schools and when learning would emerge in open decentralized networks.

People learn better from fragmented pieces of information like the non-linear hyperlinked web, rather than linear narratives. Fragmentation and *information overload* leads to positive outcomes like lowered thresholds for *pattern recognition* (McLuhan), and as such we have to move from text-based mediums to *multimodal* and *multimedial* environments, even underlining synthetic experiences like *synesthesia*. This can already be seen in interactive services like Facebook, where human communication becomes increasingly visual. Not only are our exchange of symbols much richer, but also to cope with complexity we have stretched our attention to its limit – something Linda Stone calls *continuous partial attention* – as we struggle to pay attention to several things at once.

It must be emphasized that technology *per se* does not alter the world or social reality, but by being connected to different cultural forms and social processes it affects the forces that construct identities and mould personalities. The industrial production line technology existed long before it was merged with *scientific management* by **Frederick Taylor** and the *assembly line logic* by **Henry Ford**, ultimately connecting people with technology. The same can be said about Web 2.0, the Internet technology has to merge with new forms of social processes to become effective.

The significance of *interaction* (as a paradigm shift from the traditional broadcast paradigm to the interactive social media paradigm) has been underlined in the new media contexts and discussions. Interactivity points to creating information, meanings, experiences, identities or even new cultural expressions together. (Arina & Inkinen 2007)

Perhaps what is even more important, we are witnessing the emergence of a *real-time economy*, where real-time transactional processes meet social media. This is the continuation of the information age as described by **Marshall McLuhan** as an age of *all-at-onceness*. Space and time are overcome by television, jets, and computer networks. In such an all-at-once world, linear, cause-effect thinking processes give way to a discontinuous integral consciousness and non-linearity, so that points of view, specialist goals, linear schedules, turn-taking and broadcast models are overcome by an overall awareness of the mosaic world of a *retribalized society*. Processes will have the characteristics of a blink of an eye, rather than the speed of light. To put it differently, real-time economy is about escaping the age of speed by connecting context with time like it was before the industrial era, providing time for reflection, peer production and collective decision making.

As we move to the age of real-time, we see that real-time systems also enable new paradigms characterized by emerging non-real-time processes. A good example of this is the shift from broadcast radio to on-demand podcasting, where we move from real-time to *my-time*. Users of today are so busy with their non-linear lives that capturing their attention in real-time becomes increasingly difficult. Continuous partial attention rules in the real-time non-linear society. However, real-time processes enabled by the Internet support those living in the spirit of the age by freeing them from the tyranny of time. The web has become a hybrid of my-time and real-time, revealing new dimensions for human evolution, as I have described elsewhere, as *homo contextus* (man as a networked, contextually sensitive pattern recognizer).

To conclude, composer **Richard Wagner** (1813–83) defined the *Gesamtkunstwerk* approach as the idea of a massive work of art combining and shaking different senses. It can be seen that the interplay between digital media, social media and conceptual frameworks like Web 2.0 in the context of a significant paradigm shift like the real-time economy is, in a way, the *Gesamtkunstwerk* of our time (Arina & Inkinen 2007). The fabric of our learning canvas will not be the same after this semiotic transformation.

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