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## From Digital Humanities to a Renewed Approach to Digital Learning and Teaching

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*In a world in which digital interfaces, dematerialization, automation, so-called tools of artificial intelligence aim to drive away the human or eliminate the relationship with humans! The way other beings see us is important. What would happen if we took the full measure of this idea? How would this affect our understanding of society, culture, and the world we inhabit? How would this affect our understanding of the human, since in this world beyond the human, we sometimes find things that we prefer to attribute only to ourselves? What impacts on education, learning, teaching?*

*After having explored the field opened by these questions, we will bring an answer with a reinvention of the learning platform named KOALA (KnOwledge Aware Learning Assistant). KOALA is a new online learning platform that comes back to internet sources. Symmetrical and acentric, KOALA combines analyzes from the digital humanities and answers to the challenges of education in the 21<sup>st</sup> century.*

*Keywords: computer environments, LMS, human values, digital support, teaching and learning.*

*Research area: psychology; pedagogy.*

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### Introduction

*“It’s our dreams that turn us from machines into full-fledged human beings.”*

K. Dick

Why this quote? It is from one of Philip K. Dick’s last lectures, you know K. Dick, you have certainly seen Minority report, Blade Runner (obviously the 1982 version),

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Total Recall, ... In his end-of-life lectures, K. Dick poses the question of the place of man and technology, of what makes us human beings. In this world of technology, this question is central today — not to ask it, it is to take the risk of entrusting to the machines our capacity to decide, to think, ... our humanity ... and without possible turning back (Dick, 2015)!

First, a little digression! With a book entitled “*How do forests think?*”

*“As we settled down to sleep under the thatch of our hunting camp on the foothills of the Sumaco volcano, Juanicu warned me, ‘Sleep on your back!’ If a jaguar comes, he will see that you can look back and he will not bother you. If you sleep on your stomach, he’ll think you’re aicha, a prey or literally meat in Quichua and he’ll attack you”* (Kohn, 2017). “He said that if a jaguar sees you as a being able to look at him in return — a self like him, a you — he will leave you alone. But if he came to see you as a prey — one of them — you could end up dead meat. The way other beings see us is important. [...] and more especially and more strongly in a world in which digital interfaces, dematerialization, automation, so-called tools of artificial intelligence aim to distance the human or eliminate the relationship with humans!

The way other beings see us is important. What would happen if we took the full measure of this idea? How would this affect our understanding of society, culture, and the world we inhabit? How does this affect our understanding of the human, since in this world beyond the human, we sometimes find things that we prefer to attribute only to ourselves?

Why tell you this? Because the question that animates me and must animate us today is what we are going to do with all the tools, more and more powerful, that we are developing. Recall with Plato or Bernard Stiegler, that any tool is a pharmakos, both remedy and poison, emancipator and destroyer, and our powerful tools from the digital do not escape! Destroyers, these tools are, I want for proof their ecological impact. To take a concrete example, each consultation of a web page results in the emission of 2 g of greenhouse gases in the atmosphere and the consumption of 3 centilitres of water. Globally, the internet is a 6th continent that “weighs” annually 1037 TWh of energy, 608 million tons of greenhouse gases and 8.7 billion cubic meters of fresh water. About 2 times the footprint of France!

In addition to being colossal, the environmental impacts of digital are multiple: depletion of non-renewable natural resources, pollution of the air, water and soil inducing health impacts contributing to the destruction of ecosystems and biodiversity, emissions of greenhouse gases that contribute to climate change, etc. And they reinforce

each other. It is therefore essential to adopt a multi-criteria approach when studying these impacts and not to limit oneself to a single environmental indicator.

These environmental impacts occur at each stage of the life cycle. But they are concentrated especially in the manufacture of equipment and their end of life. It is therefore essential to extend the active life of equipment by promoting their reuse and by pushing the inevitable stage of recycling as much as possible.

It is therefore essential to put the human in the center! Not to subordinate the intelligence to the tools, and not to forget it in the implementation of our tools.

### **Humanity and digital**

Human beings obviously have genius to design, manufacture and use tools. Our innate talent for technological invention is one of the main qualities that distinguish our species from others and one of the main reasons why we have taken such a hold on the planet and its destiny. But if our ability to see the world as a raw material, something we can alter and manipulate as we please, gives us tremendous power, it also carries great risks. The first risk is that we ourselves become a technical instrument, optimized and programmed, a technology among the others. The anxiety of seeing machines attack our humanity is as old as the machines themselves. Max Weber and Martin Heidegger have described how a narrow and instrumentalist vision of existence influences our understanding of ourselves and shapes the kind of societies we create.

With our smartphones and other digital devices ubiquitous, most of us are permanently connected to the computer network (Internet Live Stats, 2019). The companies that control the network seek to know as much as possible about the users to control their senses until their thoughts through the applications, sites and services that they “propose”. At the same time, the proliferation of connected objects, networked machines and devices, from home to workplaces always immerses us in computer environments designed to anticipate our needs (Une Rentree Pour Tout Changer, 2019).

There are of course many advantages to an existence more and more mediatized. Many activities, once difficult or lengthy, have become easier, requiring less effort and reflection, and the risk of losing, if we are not careful, our ability to act on our own in the world.

However, by transferring the initiative to computers and software, we give control of our desires and decisions to programmers and the companies that employ them. Already, many people rely on computer programs to choose which movie to watch, which meal to cook, which news to follow, even which person to meet!

*Why think when you can click?*

By giving such choices to strangers, we inevitably open ourselves to manipulation. Since the design and operation of algorithms is almost always hidden from us, it can be difficult, if not impossible, to know whether the choice made on our behalf reflects our own interests or those of corporations, governments or other third parties. We want to believe that technology strengthens our control over our lives and circumstances, but if it is used without consideration, technology is just as likely to turn us into puppets of those who master and deploy these technologies (Zamiatine, 1971).

Thomas Hughes' "technological impetus" is a powerful force, and opposing this force becomes possible when we have a keen awareness of how technologies are designed and used. If we do not accept this responsibility, we risk going from creator to creature status. What will become of us when we install the externalization of the calculus in "rational" machines in a will to get rid of the uncertainties of the human "reason" which is fallible, unpredictable, submissive, subject to the feelings. This reduction of human contingencies to sequential protocols makes it possible to associate economic rationality with algorithmic rationality. Philip K. Dick expresses it very well: "To become [...], for want of a more appropriate term, [...] an android, [which] means, [...] to be transformed into an instrument, to let oneself be crushed, manipulate, become an instrument without his knowledge or consent — it's the same thing. But you cannot turn a human into an Android if that human tends to break the law whenever he has the opportunity. Androidization requires obedience. And, above all, predictability. It is precisely when the reaction of a given person to a given situation can be predicted with scientific precision that the doors to the Trojan horse are opened wide. For what purpose would a flashlight be if, when the button is pressed, the bulb only comes on once in a while? Every machine must walk without firing to be reliable. The Android, like any other machine, must walk on the finger and the eye (Dick, 2015)." It would then be "like Ray Bradbury's story in which a Los Angeles man discovers in horror that the police car chasing him has no driver — and that he pursues it of his own accord! What is frankly horrible is not that the car has its own tropism in pursuing the protagonist, but it is the fact that inside the car there is a void. An empty place. The absence of something vital — that is what is horrible! "The person, once gone, cannot be replaced in any way. Whatever our feelings about her, we cannot do without them. And once gone, nothing can make her come back. What's more, if this person is turned into an android, she will never come back to the human state either (Dick, 2015)."

What is the human in a world increasingly machinized? What crossroads where to decide alone the path to take at the expense of the dream promise of the other way? Remember that there is never “*too much human*” in a world of dehumanized multitudes. So how to find a way out?

### **Find a way out**

Let’s take these words from Etienne Klein. “It’s not because there are frogs after the rain that we have the right to say that it’s raining frogs”. But why? Because today, big data is erected as a means to access the ultimate knowledge! Indeed, learning analytics in prediction, profiling in artificial intelligence, to profile, to induce from behavioral regularities, to model consumer behaviors, to identify regularities, we infer laws that we consider as general or even universal then even that they are only the digest of what has already been given! Whereas only human thought alone can predict the existence of new dimensions of reality!

Let’s take a few examples! It is not thanks to big data but thanks to the equations of particle physics that we have been able to predict the existence of the Higgs boson and allow its detection in 2012!

It is not thanks to big data but thanks to the equations of gravitation that we have been able to predict the gravitational waves that were detected in 2016, a century after their prediction by the general relativity formulated in 1916 by Einstein.

Thus, THE THOUGHT IT alone makes it possible to go beyond the limits of the observable world, the empirical world, the world as it is given to us. Thought cannot be dissociated from our nature of being situated and experimenting. The most demonstrative example is that of Einstein who proceeded by “*thought experiment*”, that is to say by experiments capable of keeping the empirical world at a distance and prolonging, in a sort of elsewhere, the implications of a theory: what would happen in this or that situation that I can imagine, if this physical law was really accurate? What would the equations say if they could talk?

Big Data is obviously a fantastic opportunity but may lead us to look only at correlations between the data that are available, or a correlation is not the same as a cause-and-effect relationship.

The moral of this beautiful story is that a theory allows to emerge new data but the reciprocal is not true. Data does not always make it possible to bring out a theory leading to understanding. So, to all the data gurus, to all who think to read our future in the marc of the algorithms, remember that without the thought in action, nothing

that you set up as new gods would exist! That mechanical intelligence, programmed, calculated, is in no way comparable to human intelligence. Collecting and processing masses of data, to act intelligences cannot replace this ability of human thought to go beyond frames, to look beyond the hill blocking the horizon.

### **A question of education — towards a reinvention?**

The understanding of all this necessarily involves learning, listening to nature and others (“*we always learn alone but never without others*” Philippe Carré). As science is the most effective method we have found to understand the world and the democratic modes that are the best way we have found to organize the collective decision-making process, education must be based on tolerance, debate, rationality, the search for common ideas, learning, listening to the opposite point of view, awareness of the relativity of its place in the world. In order to be aware that we can be wrong, to retain the possibility of changing our mind when we are convinced by an argument, and to recognize that views opposed to ours could prevail.

Every step forward in the scientific understanding of the world is also a transgression from what was happening before. So scientific thought always has something subversive, volutionary (a term that I borrow from Alain Damasio because a revolution always returns to the point of departure). Whenever we redraw the world, we change the very grammar of our thoughts, the frame of our representation of reality.

To be open to knowledge is to be open to the subversive. Unfortunately, in school, on the contrary, science is often taught as a list of “established facts” and “laws” or as a problem-solving training. This way of teaching betrays the very nature of scientific thought (Le Guin, 1974).

We must teach critical thinking, not the respect of textbooks. We must invite students to question preconceptions and teachers, not blindly believe them. Science and thought must lead us to recognize our ignorance, and that in “others” there is more to learn than to dread. That the truth is to be sought in a process of exchange, and not in the certainties or the common conviction that “*we are the best*”. Teaching must therefore be the teaching of doubt and wonder and we must be careful to put our tools at its service.

## **Reinventing education? Towards openness, the participative, the agile, the connected and the human**

Martin Luther King said in his sermon pronounced in New York on April 4, 1967: *“When machines, computers and the quest for profit are more important than people, the fatal triptych of materialism, militarism and racism is invincible.”*

What is more premonitory than such information? Half a century away from a world in which the machine and materialism have never been so overwhelming! So, me too, in this present, in France today, I have a dream!

I dream of a society in which industry, economy, democracy, education will be conceived in symbiosis. I dream to see people living in green cities, planted with bamboo oases that will purify the waters and produce biomass for a local industry and adapted to the needs. Participatory workshops or FabLabs will allow everyone to upgrade their skills, learn, learn to learn and accompany, to repair objects rather than replace them, to produce what is needed without passing by massive industrialization.

I dream of a society in which we will have fewer objects. I dream of a measured and intelligent use of the internet, an internet whose resources will be relocated, adapted to the needs, an internet which will allow to share vehicles, various tools and any device with intermittent uses. I dream of a digital resource that will be local, *“populated by artificial intelligences”* accompanying, adaptable and benevolent. I dream of a sustainable internet, responsible and respectful of humans, life and the Earth.

I dream of a company where to rent phones and computers rather than buy them, will encourage builders not to promote planned obsolescence. A society in which the bulk of the goods would be made from recyclable materials, all within a circular economy.

I dream of a society that can reduce, reuse, recycle, repair, rent, share in a logic of interconnectivity and preservation of diversity, diversity fostered by the education of a conscious citizen, enlightened, responsible and able to reject the clutches of Silicon Valley engineers, advertisers, media directors who seek to make them more vulnerable, impressionable and receptors of standardized thinking.

So, I dream of a school where, from their early years, children are taught co-operation, in addition to mathematics, the digital humanities in addition to grammar and history, the art of communicating better with others express their needs and resolve conflicts instead of competition and coercion.

I dream of an education that accompanies throughout life the citizen in his understanding of digital and its issues. I dream of a school that supports the construction of a digital culture accessible to all by facing the difficulty of the uses that have become

part of our professional and personal lives. I dream of a school that, beyond familiarity, recall the foundations of the digital sciences and human sciences.

So, at a time when we agree on the importance for every citizen to have a critical spirit to escape all forms of obscurantism, I dream of a school that gives the keys to understanding issues related to digital, to avoid falling into a too angelic or too demonizing vision of the contributions of digital.

I dream answers, tracks, alternative ways. I dream with Ivan Illich of a convivial society “*which gives to man the possibility of exercising the most autonomous and creative action, using tools less controllable by others. Productivity is conjugated in terms of having, usability in terms of being*” (Illich, 1973).

I dream of a *universe-city*, imagining a friendly university society open to all and without distinction of sexes, ages and origins. I dream of a world in which one considers with Deleuze, that “[...] *to make your questions, [it must be] with elements coming from everywhere, from anywhere*”. I dream of thinking of the actions that will create the conditions for the inclusion of the university in the city, a connected university, which makes it possible to “think, in things, among things, [that makes it possible] to make rhizome, and not root”. A university that “grows between and among other things (Deleuze, Parnet, 1996)”.

I dream of a *universe-city* that grows where you do not expect, interstices.

I dream of doing *universe-city*, of working “*from*” and not “*on the side*”, of working from society, of these issues, of the needs and expectations of students, and not “*beside*” stakes of the beginning of the 21<sup>st</sup> century. It is careful not to “substitute the awakening of education for the awakening of knowledge” so as not to “stifle in man the poet, [and] freeze his power to give meaning to the world”.

I dream of the university as an active part of the city to welcome, give a place, guide, accompany the student.

I dream the *universe-city* open on the city, which give a role to the student by adapting and accompanying the project of all to the city.

To *universe-city* is to consider that the learning and the construction of the personal and professional project does not take place only in formal teachings but, in a university involved in the city, in which a true university citizenship apply.

To *universe-city* is to be free, not to live in a flock by thinking yourself free!

To *universe-city* is to give the conditions for the emancipation of the individual!

So my idea for France is to dare the Universe-city to remember that people more important than “machines, computers and the quest for profit”!

## Our answer in a digital learning platform

Our answer is called KOALA, for “Knowledge Aware Learning Assistant”. Based on the observations above, in the idea of giving meaning to the action of each, we make ours the statement of Van Jacobson in 1995, “How to kill internet?” It’s easy, just invent the web.

The educational platforms are not immune to this. We sought to introduce a new logic of definition of the authority, the states and the exchanges of roles between the actors of the educational act.

Our guiding principle is to work on the notion of commitment to all by proposing a space that facilitates commitment by enabling cognitive engagement, behavioral engagement, social engagement and emotional engagement. The goal is then to lead to emancipation, the re-enchantment of the educational act and the well-being in learning and teaching (Smolyaninova, Ovchinnikov, 2010). Based on these observations and on the experience of previous projects and the challenges of the early 21<sup>st</sup> century of a learning society, we have developed a new platform that allows us to return to the sources of the Internet. KOALA is a space for facilitating engagement by installing a new dynamic of the occupation of the learning and teaching space. KOALA will promote accessibility, continuity and porosity where the other platforms enclose. We thus have a vision that goes from centric to a-centered, from a-symmetrical to symmetrical. KOALA leaves a place on the periphery and puts another approach to the Authority. Access to educational resources, the realization of learning activities, the exercise of the educational relationship is built within the spaces that everyone

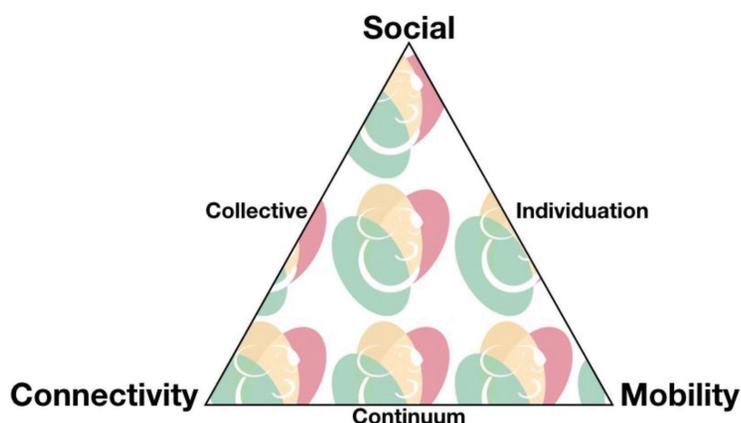


Fig. 1. KOALA-LMS (Learning Management System)  
is now at the following address: <https://www.koala-lms.org/fr/>

wants to invest, and that it will appropriate in its own way. KOALA is thus a living space that guarantees socially and physically situated actions. It promotes an action that fits in a lived and proxemic space and redefines the articulation between private / individual and the collective at the level of each user. Moreover, KOALA authorizes the indeterminacy of the conditions of realization of an action: invention, freedom, autonomy, capacitive environment and potential of situation. In order to provide an answer to our questions, KOALA thus opens up a renewed approach to digital support that allows us to integrate the recommendation of content adapted to the needs, contexts, objectives of learning and training of each according to its needs.

KOALA is then an ecology of the learning experience (Fig. 1).

### **Conclusion**

You know the story Dr. Frankenstein. Dr. Frankenstein “makes” a man, he “manufactures” it. An act so frightening that he himself abandons this creature who has no name. The monster as we call it, is monster because it is both similar to us and so different. The monster is therefore a creature who will make his education alone but will sink into violence when the abandonment of its creator will be combined with the stupidity of men.

But what a foolish enterprise to want to make a human! Yet this is what we strive for each time we want to “*build a subject by adding knowledge,*” or “*make a student stacking knowledge.*” We all want, more or less, to “*do something with someone*” after “doing something”. But like Dr. Frankenstein, we do not always quite understand what “something” and “someone” is, it’s not quite the same and we often do not know that this confusion condemns us, despite all the goodwill we can deploy, to failure, to conflict, to suffering, and sometimes even to misfortune. And in this world of connected machines, so-called “intelligent machines,” “the question of what it means to be human in the face of machines is no longer so trivial. We should not be so afraid of robots as we are afraid of becoming robots ourselves. We need to introduce human values into technology rather than technology introducing its values into our humanity. For this, one must be able to measure when a technology is dehumanizing or when humans do not think or behave in humans” (Meirieu, 2017).

In addition, today, some voices are raised, relayed by the higher authorities of power to say that learning can be explained only through measurable and optimizable mechanisms, by a procedural decomposability optimizable and modelable, by an

approach to optimal control of learning and especially forgetting the child as a human becoming and evacuating the political dimension of choices in terms of education. Education is not just a process to be optimized. Education is a social milieu, education is a political project of elaboration of society.

What are we? A brain only, or a complex complex in perpetual construction who's learning. To educate is not to manufacture! To educate is not to equip, to educate it is perhaps there in a few words in this text of the *Comité Invisible*:

“Do not wait anymore,  
Do not hope anymore.  
Do not be distracted anymore, unseat.  
Breaking. Return the lie to the ropes.  
Believe in what we feel. Act in consequence.  
Force the door of the present.  
Try. Miss. To try again. To miss better.  
Be proactive. Attack. Build.  
Defeat, perhaps.  
In any case, overcome. Go his way.  
Live, then.  
Now.”  
Adopt KOALA, and join the experience!

### References

- Deleuze, G., Parnet, C. (1996). Dialogues. In *Flammarion*. 179 p.
- Dick, P.K. (2015). If this world displeases you ... and other tests [Si ce monde vous déplaît... et autres essais]. In *Eclat Eds De L'*.
- Illich, I. (1973). *Conviviality*. Chapter II.
- Internet live stats* (2019). Available at <https://www.internetlivestats.com/> (accessed 25 July 2019).
- KOALA-LMS* (2019). Available at: <https://www.koala-lms.org/fr/> (accessed 25 July 2019).
- Kohn, E. (2017). How Forests Think [Comment pensent les forêts]. In *Editions Zones sensibles*.
- Le Guin, U. (1974). The dispossessed [Les dépossédés]. In *Robert Laffont*. 301 p.
- Meirieu, P. (2017). Frankenstein pedagogue [Frankenstein pédagogue]. In *Editions Sociales Françaises*.

Smolyaninova, O., Ovchinnikov, V. (2010). University Electronic library for human resources development in Siberia: school content. In *9<sup>th</sup> European Conference on Elearning (ECEL 2010)*, 828–835.

*Une Rentree Pour Tout Changer [A Return to Change Everything]* (2019). Available at <http://multimedia.ademe.fr/infographies/infographie-travail-ademe-logo-qqf/> (accessed 25 July 2019).

Zamiatine, E. (1971). *We [Nous autres]*. Gallimard. 200 p.

## **От цифровых технологий к обновленному подходу в сфере цифрового обучения**

**Самуэль Новаковски и Гильом Бернард**  
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*Мы живем в мире, где цифровые интерфейсы, дематериализация, автоматизация и так называемые инструменты искусственного интеллекта стремятся свести к минимуму взаимоотношения между людьми.*

*Но ведь то, как нас видят другие существа, очень важно. Что будет, если мы в полной мере осознаем эту идею? Как она повлияет на наше понимание общества, культуры и мира, в котором мы живем? Как изменится восприятие нами человека, тем более что в этом мире за пределами человеческого мы иногда находим то, что предпочитаем приписывать только себе? Что влияет на образование, обучение, преподавание?*

*Изучив очерченную этими вопросами область, мы дадим ответ: KOALA (KnOwledge Aware Learning Assistant). Это новая образовательная онлайн-платформа, которая отсылает к интернет-источникам. Будучи симметричной и ацентрической, KOALA ведет анализ цифровых материалов в сфере гуманитарных наук и дает ответы на вызовы образованию в XXI веке.*

*Ключевые слова: компьютерная среда, СДО, человеческие ценности, цифровая поддержка, преподавание и обучение.*

*Научная специальность: 19.00.00 — психологические науки; 13.00.00 — педагогические науки.*

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