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„Careful with that axe, Eugene"[1]

Vlad Wielbut

With venture capital and entrepreneurs setting their sights on higher education as the next industry ripe for „disruption", the revolutionary zeal being unleashed may have profound unintended consequences. In this article we argue for a more deliberate, evolutionary approach that seeks to involve higher education institutions as important participants in designing their own future.

Every revolution is ultimately betrayed, stolen, or derailed. This is especially true of revolutions in the political realm, where examples abound[2]: the French Revolution, the Bolshevik Revolution, the Iranian Revolution, and most recently, the Arab Spring. Revolutions release powerful, unpredictable forces that the original, idealistic instigators find impossible to control, or simply, being idealists, do not want to control. In the end, instead of liberating the people in whose name they were fought, they end up introducing new forms of oppression, more pernicious and difficult to overcome than the fallen regime, since the new puppet masters take every measure to prevent a new uprising from challenging them.

One could argue – and, indeed, we will – that a similar dynamic is present in technological revolutions as well. Here, too, there are plenty of examples of new inventions unveiling an image of a shining, straight road to a better world, but taking us instead through twisted, narrow paths with many dark corners where sinister creatures wait to make meals of us. Computer technology and the „information revolution" it spawned are merely the latest examples of great expectations that are being twisted into forms not envisioned by their early pioneers. John Perry Barlow, author of the 1996 *Declaration of Independence of Cyberspace* might have foreseen the growing footprint of governments on the Internet when he pleaded, Governments „of the Industrial World, you weary giants of flesh and steel […] On behalf of the future, I ask you of the past to leave us alone[3] But did he also foresee his idealized World Wide Web, „the new home of Mind and an act of nature [that] grows itself through our collective actions"[4], being transformed into a gigantic shopping mall and a freak show?

Stating all this does not mean denying that such breakthrough technologies do not change society – they do, and in profound ways. The current, much overused word for that change is *disruption*. New ways of doing things displace the old ways, uprooting some people while creating opportunities for others. Aside from the sheer number of „disruptions", what is different in this particular period of technology-driven change is that this kind of upheaval is seen by many as inevitable and positive, while very few dare to question it. It appears that „change for change's sake" has become our times' defining credo. The seemingly unstoppable march of ever cheaper and more powerful technology encourages searching for „problems" – often imaginary – that could be „solved" by the application of technology. The fruits of that quest, which Evgeny Morozov calls „solutionism"[5] – sometimes bring improvement, albeit often at a cost of disrupting many lives, but sometimes make matters worse, or even create a new set of problems.

Like the „efficiency experts" of yesteryear, with their clipboards and stopwatches, today's „solutionists" peer into every human activity and try to disrupt it with the use of technology: music and book publishing, media consumption, taxi service, hotel service, journalism, news dissemination, health monitoring, human connectivity. Inevitably, higher education has become one of the fast growing dots on their radar screen. A new branch of the tech industry had sprung up and grew rapidly – Educational Technology, or „ed tech". Of

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[1] Pink Floyd, British rock band, 1968.

[2] The American Revolution might be an exception but was it really a revolution or a war of independence? And, were not its ideals betrayed by slavery?

[3] J.P. Barlow, *A Declaration of the Independence of Cyberspace*, 1996, Electronic Frontier Foundation, https://projects.eff.org/~barlow/Declaration-Final.html, [13.08.2014].

[4] Ibidem.

[5] E. Morozov, *To Save Everything, Click Here: the Folly of Technological Solutionism*, PublicAffairs, 2013.

course, it has been present for a number of years, but as a relative backwater to the other hot areas occupying the energy of Silicon Valley entrepreneurs. Now many millions of dollars flow from venture capitalists into new companies trying to change (and cash in on it) how higher education is delivered and consumed[6].

The growing pile of arguments that higher education is ripe for an overhaul is difficult to ignore, and should not be ignored. The biggest of those arguments is the overwhelming increase in the cost of attending a university over the past few decades – especially a private university, but with the public ones not far behind. What used to be significant perhaps, but manageable burden to most families, has become almost a luxury few can afford without going into crippling debt. What is often overlooked in making this argument is that the tuition increases, which are largely blamed for the high cost, are a response to a dwindling financial support from the state; the responsibility of paying for educated citizenry is thus shifted from the society to the individual. Trying to counterbalance this shift, which would put university education out of reach for many low income families, higher education institutions have sought to increase the amount of financial aid, putting additional upward pressure on tuition – an almost classic vicious circle.

Stefan Popenici in his book[7] and numerous articles and blog posts argues that the solution is to bring back state support. After all, if having more highly educated people benefits all of society, should not society have a vested interest in contributing toward that goal? However, given the fiscal reality of many countries struggling under mountains of sovereign debt, and a significant distrust of governments (especially, but not exclusively, in the United States), waiting for a reversal in the decline of fiscal support from the state would be a waste of time – notwithstanding the philosophical and even economic[8] merits of that argument.

It appears then, that the only way forward is to try and change the unsustainable system. Judging by the many voices advocating change, we appear to be near consensus on that score. However, the recipes for change vary greatly, from highly disruptive and revolutionary, to reformist and pragmatic, with MOOCs being an example of the former, while the „rationalization" efforts (read: cost cutting) currently sweeping many universities clearly belonging to the latter category. Many models are being presented and tried, and that by itself should be welcome in an industry that some call „sclerotic". What is somewhat disconcerting is that some of these models not only change how education is delivered, but also profoundly change the

essence of higher education; they look at education as an *investment* – a view that appears quite sensible on the surface, given the enormous cost to the students and their families – with an expectation of commensurate *return* in the form of significantly higher earning power. Critics of the status quo point out that colleges and universities fail their „customers" by graduating them with not enough marketable skills to find jobs that would allow them to pay off the huge debts they amassed to pay for their education.

That criticism has enough validity not to be easily dismissed, despite mitigating factors, such as the fact that a significant percentage of students do not pay the „sticker price", due to various forms of scholarship and financial aid, and that in most cases the additional earning power of college-educated persons still exceeds the cost of that „investment". It is, however, troubling that under the banner of „accountability" and measuring the value of college by the starting pay of its graduates, we run the risk of reducing higher education to vocational training. The fundamental question that we have to answer: is this what we want college education to become, or are we aiming for something more, for example creating not only well-trained employees, but educated citizenry, able to function in and contribute to increasingly complex world? If the latter, is it fair to shift the cost of such education entirely to students and their families?

The MOOC „movement" is a very good example of what can go wrong when revolutionary assumptions meet reality. The MOOCs themselves are not very revolutionary or even innovative – they rely to a large extent on a very old, and frequently criticized, model of education, that is delivery of content via faculty lectures („sage on the stage"). What is remarkable and attention grabbing is that they scale it up to a massive online audience, offering that content for free. While the MOOC creators themselves deny that their goal is to „destroy universities"[9], a vast army of cheerleaders immediately picked it up as the desired outcome, making bold pronouncements about a „paradigm shift" that will change higher education beyond recognition. Now, finally, we gained a platform and a method for bringing masses to the Ivory Tower, especially those underserved because of distance or lack of financial means. When a few star professors can teach tens or hundreds of thousands of students anywhere in the world, that clearly negates the need for so many expensive brick-and-mortar colleges.

What soon became apparent was that MOOCs are not a boon for the underserved, being embraced prima-

[6] C. Straumsheim, *Place Your Bets*, CNET, 2014, https://www.insidehighered.com/news/2014/08/22/unsettled-ed-tech-market-investments-are-easily-found, [22.04.2014].

[7] S. Popenici, S. Kerr, *What Undermines Higher Education*, Kindle Edition, February 2013.

[8] J.D. La Rock, *Higher Education: a Good Long Term Investment?*, OECD, 2012, http://oecdeducationtoday.blogspot.com.au/2012/06/higher-education-good-long-term.html, [26.08.2014].

[9] […] *it wasn't our intent to destroy universities. That's not why we did it*. S. Downes, *Beyond Institutions: Personal Learning in a Networked World*. Presented on July 9, 2014, Network EDFE Seminar Series, London School of Economics, http://halfanhour.blogspot.com/2014/08/beyond-institutions-personal-learning.html, [26.08.2014].

rily by those already educated. The single-digit percentages of completion of MOOCs are another dark spot on the sparkly surface of this phenomenon. As is the high cost of producing these courses, which, being free, do not bring back any revenue. It turns out that MOOCs do not really change education, for example by making it more effective; they do not significantly expand its reach; and they do not solve the cost problem (at least for the universities producing them). Hence, the revolutionary rhetoric has largely died down, having been replaced by claims of recruiting and brand recognition, and of institutional learning by experimenting – both claims being undermined by the data.

On the other hand, they can be credited with waking academia up from its self-satisfied slumber, and spurring quite serious conversations about the future of teaching and learning. Never before have so many ideas been presented and tried, some even before the MOOC frenzy: competency-based testing; „flipped classroom"; Learning Modules and Objects; peer-teaching; individualized pathways; digital badges; greater use of analytics. Online learning is taken more seriously than before. A lot of creative, innovative minds are searching for a better model for higher education, resulting in interesting, promising experiments, such as the Minerva Project[10], which seeks to take what is best in liberal arts education (often ignored in calls for better alignment between education and jobs) and present it as an affordable package aimed at attracting the best and brightest students from all over the world.

However, despite all this creative energy being unleashed, we are far from certain that higher education will change, and if it does change, that it will be for the better. There are many unanticipated consequences of revolutionary zeal. While it is good that the great entrepreneurial spirit of America has been enlisted in the search for better models, it is nevertheless troubling that such vast amounts of venture capital started flowing into ed-tech, as it raises the question of who will own higher education. Clearly, the venture capitalists are not pouring their money because they were overtaken by a philanthropic fever, but because they want to drive their stakes in early in this perceived gold rush, and realize healthy returns later. Will it benefit the students and the society at large, if higher education ceases to be a public good and becomes a commercialized commodity? There may be more of it, and at lower prices, but will it be at a detriment to its quality and breadth?

Another risk is growing fragmentation and stratification of higher education. We may end up with many ways of achieving credentials, but with some of those ways (such as residential college experience) moving out of reach of most people. Those wealthy enough will enjoy ivy-covered universities and face-to-face interactions with brilliant professors. Those of more humble means will have to be satisfied being among many thousands on educational feedlots – MOOCs or something like them.

Yet the biggest risk of all is that higher education will not change, at least not significantly. The pace of change has always been glacial in that industry, which has long been protected by a deep moot of regulations, accreditation, rankings, prestige, faculty independence, etc. This protection has crumbled a bit of late – with the exception of regulation, which is always trending toward more and more onerous, but that is true in many other industries as well – but it is by no means gone. Some large universities are huge hubs of economic activity and main sources of prosperity in their town or regions – powers that many politicians are afraid to tamper with. That may explain, at least in part, why changes in higher education so far have amounted to a lot of smoke and not much fire. There have been a lot of experimentation, sometimes interesting, with the giants of American higher education (Harvard, MIT, Stanford) appearing eager to keep the torch of disruption aflame and generating a lot of sympathetic media buzz, most institutions have so far been able to delay deep changes by allowing a handful of their, faculty to inflate their egos by participating in MOOCs, and by introducing cost-saving measures by trying to centralize administrative and IT functions (often not resulting in any actual savings).

The danger here is that resisting meaningful reforms only feeds the fervor of „solutionists" and allows them to win the hearts and minds of the media, politicians, and the public. It is perhaps farfetched but not unthinkable that higher education will end up in the same spot as the newspaper industry, with only the behemoths surviving (barely), the smaller players disappearing, and the American public becoming less informed and less educated, despite huge increases in *nominal* access to information and education.

Paul Romer, an American economist, famously quipped in 2004, *A crisis is a terrible thing to waste*. This line has become an overused cliché, but it is still valid in many situations. A crisis gives us an impetus and an excuse to act in ways that would otherwise be difficult to „sell" to our constituents, and thus risky for the proponents. American higher education is not in a serious crisis yet, but the waters around it are certainly rising. Even if the „extinction" rhetoric is grossly overblown, now is a perfect time to start adjusting to the changing environment. We largely know what to do. In fact, MOOCs, with all their perceived novelty, have uncovered very little that's new about ways of teaching and learning effectively. We know about the need to keep students engaged; about teaching others as the most effective method of learning; about the importance of collaboration; about the optimal length of content delivery; about curricula being bloated by useless courses that students are forced to take to fulfill their „credit hours" requirements for graduation. We know that our

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[10] Minerva, http://www.minervaproject.com.

universities and colleges are overburdened by costly regulations and by their ill-conceived drive to upend their rivals by investing in things that have nothing to do with education: fancier dorms, athletic teams, climbing walls, gourmet chefs creating menus for the cafeterias, hiring Hollywood producers to teach their faculty how to give TED-style talks, creating positions of Directors of Media Relations, etc.

We can go on and on listing all the crazy things that go on in our higher education institutions, in part prompted by the fear of getting „disrupted", but in part by not taking this threat seriously. It is a very unhealthy state, amounting to an institutional personality split. The lack of a coherent strategy is damaging to the higher education's image in our society, but also detrimental to the morale of its faculty and staff. Our leaders too often behave like adolescents suffering from bipolar disorder: jumping for joy one moment upon seeing a new toy („Wow, a MOOC!", „Wow, digital badges!", „Wow, flipped classrooms!"), but preaching doom and gloom the next („We will be disrupted…"; „We will be replaced…").

For the sake of our own sanity and the good of higher education it is time to end this game and get serious with change. It will be extraordinarily difficult to reform higher education from within, as it is too ossified and too byzantine to adapt readily – although, in all fairness, there have been reasonable roadmaps and models offered by such highly regarded thinkers as Clayton Christensen[11] and Derek Bok[12]. On the other hand, waiting for an external entity to come with a completely different model and quickly become successful is too dangerous a proposition to contemplate, as it may result in long-term, hard-to-revert damage that will remain hidden at first. Our best hope is reforming higher education from within/without, by deliberately creating an entity that will have its roots in higher education, but will be independent enough to work on a new model without institutional red tape. It will create this new model by preserving and amplifying what is already valuable, but also by being free to reject anything that is worthless or irrelevant.

It is worth noting that this way of thinking appears to be taking root in higher education. The creation of Unizin (unizin.org), a consortium of several prestigious universities with the aim of „tipping the table in favor of the academy" is a first hopeful sign of that, although perhaps too limited in its scope, to „collectively owning […] the essential infrastructure that enables digital learning"[13]. The need for reform runs much deeper than more and better „digital education". To be truly serious we will have to take a very critical look at everything

that today constitutes higher education, from the notion of the „credit hour", to credentialing, to curriculum, to „content delivery", to classrooms, to grades, to bloated and top-heavy administration, to regulatory burdens, to athletic programs, to what it means to be educated. We have been experimenting in those areas for a long time now, paying lip service to change and pretending to be really scared of the coming disruption. It is now time to get serious about creating our future, not out of fear, but out of a sense of opportunity that fell into our collective lap courtesy of the looming crisis.

It is time for a consortium of genuinely reform-oriented colleges and universities to beget an entirely new university, independent of their respective bureaucracies and engrained processes, one that would let them put into place reforms that would be impractical or politically untenable at their home institutions, try them out, and if they work, transfer them home. This university would likely start as an online institution, although one could envision it tapping into the physical infrastructure of the members of the consortium, for example but having some courses on campus. From its very inception this university would place its students at the center of its attention, not by treating them as „consumers" in the traditional sense, catering to their wants and desires, often having nothing to do with education[14], but by making sure that they receive education they need, in the most effective way, at a price point that will not make them sink into debt for decades. These students would be assured „full faith and credit" of the institutions behind it, as they would provide the infrastructure, the curricula, and the faculty to teach them. Faculty would be given more freedom and support in trying out innovative teaching methods, while under oversight of experts, e.g. instructional designers and appropriately skilled IT specialists. For the institutions themselves, this project would provide a safe incubator for „accelerated evolution" rather than „disruption", where new models can be deliberately shaped and nurtured without putting into question the ownership of intellectual property or revenue streams – two of the concerns raised by the involvement of venture capital.

Higher education is too important for a society to have it experimented upon without adult supervision in the hope that something better will eventually emerge. Universities, quite understandably, are reluctant to perform vivisections on themselves, and yet how will they gain the necessary understanding and the courage to act, if not by a controlled, longitudinal experiment on a scale large enough to uncover systemic remedies? Anything less would be an abdication of responsibility.

[11] C. Christensen, M. Eyring, J. Henry, *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, Jossey-Bass, 2012.

[12] D. Bok, *Higher Education in America*, Princeton University Press, 2013.

[13] *Why Unizin?*, blog post from July 11, 2014, http://unizin.org/blog, [01.09.2014].

[14] Examples include: climbing walls, gourmet meals in cafeterias, private dorm rooms with washers and dryers, on-campus water parks.

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POLECAMY

Tymoteusz Doligalski, *Modele biznesu w Internecie. Teoria i studia przypadków polskich firm*, Wydawnictwo Naukowe PWN, Warszawa 2014

Prezentowana publikacja to pierwszy na polskim rynku szczegółowy opis modeli biznesowych w internecie oparty na przykładach konkretnych organizacji. Autor prezentuje opisy rozwiązań stosowanych w takich firmach, jak Allegro, Agora czy Rinigier Axel Springer Polska, uwzględniając także rozwiązania wykorzystywane przez start-upy. Analizuje zależności między modelami biznesu a przewagą konkurencyjną oraz wpływ uwarunkowań produkcji i kosztów transakcyjnych na strategię przedsiębiorstwa. Książka będzie interesującą pozycją dla menedżerów i specjalistów, którzy uwzględniają internet w swoich modelach biznesowych. Stanowi też niezbędny podręcznik dla wszystkich osób (studentów, doktorantów, kadr akademickich) zajmujących się tematyką e-biznesu i marketingu internetowego.
Publikację można nabyć w księgarni internetowej wydawnictwa: **http://ksiegarnia.pwn.pl**
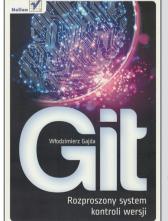
Anna Zatorska, Małgorzata Molęda-Zdziech, Bohdan Jung (red.), *Kreatywność i innowacyjność w erze cyfrowej*, Oficyna Wydawnicza SGH, Warszawa 2014

Prezentowana publikacja, stanowiąca kontynuację rozważań podjętych w pracy *Chaos czy twórcza destrukcja? Ku nowym modelom w gospodarce i polityce* (red. Anna Zatorska, Oficyna Wydawnicza SGH, Warszawa 2011), to szczegółowa analiza przełomowych i wielopłaszczyznowych przemian związanych z obecną rewolucją cyfrową, której badaniem w ostatnich latach zajmują się autorzy. Poruszane w niniejszej pracy zagadnienia, takie jak: kreatywność, innowacje i komercjalizacja wiedzy w naukach społecznych, „nowe nowe media", ewolucja przemysłu kreatywnego i postaw konsumenckich, przedstawiane są w ujęciu zmodernizowanej koncepcji twórczej destrukcji J.A. Schumpetera.
Ze względu na dużą interdyscyplinarność książka będzie interesująca nie tylko dla naukowców zajmujących się omawianą tematyką, ale także dla studentów i przedsiębiorców.
Publikację można nabyć w księgarni internetowej wydawnictwa: **http://wydawnictwo.sgh.waw.pl**

Włodzimierz Gajda, *Git. Rozproszony system kontroli wersji*, Helion, Warszawa 2013

GIT to system kontroli wersji – narzędzie odpowiedzialne za właściwą synchronizację danych, które stworzone zostało na potrzeby zarządzania kodem źródłowym jądra systemu Linux. Dzięki tej publikacji Czytelnik w łatwy sposób zapozna się z możliwościami systemu, a także jego praktycznym zastosowaniem: instalacją programu, tworzeniem repozytoriów, tworzeniem rewizji i przywracaniem stanu plików, modyfikowaniem historii projektu, łączeniem gałęzi, pracą grupową w serwisach Github.com i Bitbucket.org. Książka jest przeznaczona dla osób zarówno pracujących w tym systemie, jak i tych, które planują jego wdrożenie.
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