Unschoolers of the world, unwork! Grassroots lessons and strategies against 21st century capitalism

Petar Jandrić

University of Applied Sciences, Zagreb, Croatia Astra Taylor film maker and political activist, USA

Abstract

This conversation explores unschooling through theory and personal experience of Astra Taylor, who examines deschooling alongside the continua of Freedom / Oppression, Personal Control / Personal Autonomy, Solitude / Boredom, Privilege / Social Reproduction, Socialisation / Democracy. Taylor reveals complex relationships between the main strands of her work: filmmaking and activism. She analyses the dual nature of the contemporary university, and defines it as a place of oppression and freedom. Taylor explains own preference for activism over academic work, talks about her involvement in Occupy Wall Street Movement, and describes her experience as one of the founders of the Rolling Jubilee campaign. Taylor moves on to argue that there is a need to augment traditional trade unions in the US, and introduces an alternative organization called the Debt Collective. In her analyses Taylor pays particular attention to digital media, which serve as important vehicles for her activism. It is here that she develops a sophisticated theory of cultural work in the digital context, the rising tensions between amateurs and professionals, market-oriented platforms for social networking, and political economy of digital work including but not limited to personal branding. Finally, Taylor shows that contemporary social movements have a lot to learn from their historical counterparts, links the past and the present of activism, and asserts that the contemporary left is going to have to refight some old battles on the new networked terrain.

Keywords: unschooling, digital activism, Occupy Wall Street, Debt Collective, Rolling Jubilee, digital branding, social networking

About this conversation

Petar Jandrić: This article is a part of the larger project where Petar Jandrić converses with people working in various fields about contemporary issues in education. In 2017, the project will result in a book provisionally entitled *Learning in the age of the digital media* (Jandrić, forthcoming, 2017), which will consist of 15 conversations with people working in 5 different fields: philosophers, media theorists, educators,

practitioners and activists, artists. Based on Astra Taylor's prominent work in activism and film-making, as well as her unique experience of unschooling, this conversation brings about an important contribution to the theme.

In September 2015 I emailed Astra Taylor and requested this conversation. In November 2015 we met at the Platform Cooperativism conference in New York, where Astra was one of the key speakers. We briefly discussed the project and recorded her conference talks. Finally, we met online on 30 December 2015, and talked for over 3 hours. After transcribing the whole conversation, as well as Astra's talks from Platform Cooperativism, I produced the first draft and sent it back to Astra. Through several iterations, we completed this article between February and May 2016.

The experience of unschooling

PJ: Dear Astra, thank you so much for this conversation! Unlike most people in the Western hemisphere, you spent formative years outside educational institutions: instead of going to school, your parents unschooled you and your siblings at home. And yet, you all thrive, personally and professionally, thus busting the myth that the best preparation for adult life takes place in dedicated educational institutions. Could you please explain the main theoretical underpinnings of unschooling?

Astra Taylor: Unschooling is based on a very simple view of human nature: that human beings are born to learn, that we are learning animals, and that adults should facilitate that tendency. Babies learn to speak without going to baby speaking school, babies learn to walk without going to baby walking school. Of course, people pick up skills from their environments, it is not as if they live in a vacuum, but just by being in the world, by being human, we have a natural drive towards those actions. The vision of unschooling is an attempt to let that innate learning instinct flourish.

Homeschooling is a more well-known tradition, one practiced by various religious fundamentalists (at least here in the United States). Fundamentalist Christians, for instance, take children out of school because they see it as dangerous degenerate, because children might get exposed to lessons about evolution or something else they deem unfit. Yet, at the same time, home schoolers replicate the basic structure of school in the home. They have got lesson plans, they do homework, they take standardized tests, and a parent – often a Mother – acts as a teacher.

Unschooling arrives from the tradition of the likes of Ivan Illich, who wrote *Deschooling Society* (Illich, 1971), and John Holt, who wrote *How Children Learn* (Holt, 1967) and other important books on unschooling philosophy. It also goes back to the Modern School Movement (Avrich, 2005), to Emma Goldman and the anarchists (Goldman, 1969), and to the Freedom Schools from the Civil Rights

Movement (McAdam, 1990), which is a sort of hidden history of alternative education in the US. These are attempts to empower children to learn, rather than replicate the pedagogical hierarchies of regular school. So unschooling is not homeschooling – you could call it learner-directed education.

My Mother in fact attended some of these alternative schools during the 1970s, so this was the tradition that she was familiar with. And when she had kids, she drew on this experience. She basically let us do what we wanted all the time. Most importantly, this freedom was underpinned by a profound sense of trust. I see this trust as the most remarkable part of my unschooling experience.

My Mother, to this day, is fully dedicated to the idea of child liberation. Some fight for economic justice, some fight for women's equality, some for gay rights, and I think that my Mother is a real visionary of child liberation. Child liberation consists of the belief that children are people, that they should be treated as such, and that they should have dignity and a say. This does not mean that children should wield as much power as their parents or be able to do anything they want, but it does mean that children are capable of a lot more than we typically expect from them in our society. For my Mother, unschooling was enacting a deep commitment to the idea of child liberation, to seeing young people as individuals worthy of trust and responsibility.

PJ: Educational theory is one thing, but personal experience is something completely else. What does it mean, and how does it feel, to be unschooled in the contemporary society? Which price did you pay for the experience, which advantages did you gain?

AT: I am very grateful to have been unschooled – to have been instilled with the sense of trust I described, at such a young age, and with the sense that I should follow my instincts. If I am interested in something, I tend to trust that feeling. If I am resistant to something, I allow the possibility that maybe I have a reason to be resistant to it. I can already imagine the counter arguments: You should force kids to do things they do not like. One cannot just do what they like all the time. And so on. Of course, as an adult, I know that. As an adult, right now, I wash my dishes and I pay my electric bill. I do not enjoy washing dishes or paying my electric bill, but I like clean plates and I do not want the lights to be turned off in my house.

As a kid, I wanted to be a physicist when I grew up, and I made sure to do some math so that the door to be a scientist would not shut on me. I think young people are more capable of this kind of reasoning than we often assume, and they need to be shown more respect and given some degree of self-determination. Unfortunately, instead we have this attitude that we have to force children do learn, because they do not know any better, and one day they will be grateful.

In practice, I enjoyed that sense of trust so much. Even at the time I knew it was a tremendous privilege. I chose to go to high school for three years, and had that trust

taken away from me. And I was just angry at the way I was treated: disrespectfully. Why do I have to stop reading this novel or analysing this text to go to gym class or whatever the next subject is? Why do I have to ask for permission when I need to go to the bathroom? Why do teachers and administrators exercise such arbitrary authority?

I enjoyed being at home and being allowed a basic dignity and freedom. However, I lacked a larger community, and that was a trade-off. What I wanted, I think, was some sort of rigorous school. My ideal would have been to go to school for maybe 3 hours a day, and really learn stuff in a rigorous fashion. But then, I also wanted to hang out with other kids. And I did not want all the kids to have to be exactly my age, as is the case in regular school. Why would I not be with some younger kids that I could mentor, and why would I not be with some older kids that I could learn other things from? Why would I just arbitrarily be with 10 year olds, or only with 13 year olds? That really irritated me... I have always valued having friends of various ages.

Nevertheless, I never had the sense that unschooling was the ideal thing to do – or that it is something everyone should do. Growing up, unschooling was just the best of bad options. Staying home was preferable to going to elementary and junior high public schools. But when I got a little older, in high school, I got curious. By then I had a bit more of a sociological attitude toward school—I wanted to understand the system.

The sense of self-determination unschooling allowed was a very positive experience and the one that has really stayed with me. At the same time, I am not naïve about it. My husband went to some of the worst public schools in the country, and he is fine. Most of my friends went to pretty mediocre public schools, and they are fine. Most people I meet, everyday, went to public school and they are fine, or better than fine. People are resilient, so I am not proscriptive.

Still, I think unschooling provokes interesting questions. It shows, for example, that people can actually do a lot less, in terms of hours spent behind a desk and homework assignments, and still be ok. Why is school eight hours a day? Because adults work eight or nine hours a day. It is basically arbitrary. So I think it is important to have this sort of idealistic, outlier example that says: You actually do not have to micromanage every hour of your kid's life. You actually do not need children in school for longer and longer hours, being assigned more homework, with more testing, and stricter discipline. You can do with a lot less and get basically the same results! But then you have to deal with the fact that your kid has a lot of unstructured time, and we do not trust kids. Just as we do not trust adults.

Unschooling in and for the network society

PJ: Talking about unschooling, people often ask very similar questions. Based on your articles (Taylor, 2012), interviews (Taylor & Heffner, 2014), talks (Taylor, 2009), discussions (Taylor& Goldstein, 2012; Taylor & Greer, 2014), and also own work (Jandrić, 2014& 2015), I identified several reoccurring themes. Can you please address these themes in relation to your experience and theory of unschooling?

AT: Sure.

PJ: Freedom / Oppression

AT: Unschooling in the US has a mixed countercultural heritage. Some leftists like it, some libertarians like it, some anarchists like it. I would say the unschooling camp mostly consists of people who hold freedom as a paramount value. More than freedom, however, I associate unschooling with dignity and trust. I am not so fixated on freedom, in education or as a political category or virtue. But maybe that is because I take freedom for granted. The thing is, I do not think that you can run a society where everybody has absolute freedom. We have to balance freedom with other values such as equality, fairness, and care for the commons or public goods.

As for oppression, my Mother really insists on "non-coercion" as a principle. For her, child liberation is non-coercion. The other day, she told me that she just tried, as a young parent, to repress the instinct to say no and to say yes as much as possible. Why do people say no all the time to kids? She tried consciously to say yes, to go against the grain. I find that kind of remarkable.

Oppression in schools is real. My Mother's ethos deeply opposes the dominant attitude. For a new documentary I am working on I just interviewed some kids who attend inner city schools in one of Florida's poorest neighbourhoods, and what I heard from them was this heart-breaking litany of petty tyranny. These little kids are asking for simple things: that their lunch be served hot, that the vending machine not be taken away, that they get art classes or access to other electives. Yet their concerns are dismissed, and in some cases they are punished for even raising them. I also interviewed this guy who was incarcerated and worked in a factory prison, where he was paid 40 cents per day, making meat patties that they feed to school children. People get mad about metaphors that equate schools with prisons, but there are many parallels between these institutions and they are connected in very troubling ways.

I think that unschooling allows a distinction between oppression, or authoritarianism, and authority. When somebody is bossing you around and denies your dignity – it is an arbitrary use of power. The teachers and administrators at the Florida school were being authoritarian. But you can also come to someone and say: I respect your authority because you spent decades learning astrophysics so that you can know how the solar system works. Or, I can see that you studied engineering so you can to build

something that I want to learn to build. In these latter cases, you respect another individual's earned authority. There are always people who know more than you. This is not about -I am an unschooler, therefore nobody has anything to teach me. Authority is real, and should be respected. However, I do not want to be in an authoritarian relationship, I want to learn from people because I recognize and admire the authority they have worked for and thus deserve.

PJ: Personal Control / Personal Autonomy

AT: Autonomy is connected to time. Taylorism, the breaking down and management into discreet units of time to enhance productivity, is the basis of our society – of industrial and post-industrial capitalism. In this sense my unschooling experience was very political. We did not live by the clock. There was never a set time to go to bed or to wake up, or a schedule for math or for art or for fitness. That is the kind of approach to time that suits industrialisation, with its 8 hour work day and 40 hour work week. It is the attitude that time is money. Though, of course, as theorists have noted, digital capitalism only enhances the pressure. More and more people are now working two shifts, or are on notice 24 hours a day. We are constantly on call, we have gone from the nightly news to nanosecond tweets. As a consequence, people's attention is even more controlled than ever, or at least more exploited. The autonomy of unschooling is most evident in the fact that even as a child I got to manage my own time.

PJ: Solitude / Boredom

AT: In school, boredom is almost a weapon. As far as I can tell, many schools and teachers bore kids on purpose; they have it down to an art. I do not think that the kids should be entertained, as if school was a cinema or arcade. I am not looking for dazzlement, but for providing kids with the space to pass through boredom, to daydream, to figure out what they might want to do next, to give them a chance within the classroom setting for developing unique relationship to the material. As an unschooler, I was occasionally bored. But that gave us an opening to think about what we really wanted to do and figure out what really engaged us.

This is exactly where unschooling is different from the homeschooling. For many fundamentalist Christians the world is a scary place that might contaminate or defile you, and homeschooling is a shield from those risks or temptations. Unschooling, in contrast, is based on the idea that the world is your classroom, that you are already a human being who has some sort of dignity, and that you deserve to interact with that world in a meaningful way. The dominant model of getting good grades so that one day in the distant future – when you are done with the school and done with learning–you can be a real person in the world – is a model that puts people's humanity on hold. It is as if you are not human yet, but one day, when you do all these tasks and

jump through all these hoops, then you will become human. My Mother, however, really believes children are already people. Which means that, even as a kid, I was given permission to see myself as a member of society. I ended up doing child versions of what I do now: expressing a lot of opinions, interviewing people, volunteering. I was a very civic minded kid, because I felt that I was entitled to be involved in bigger issues and have a voice.

Boredom was present when I unschooled, but it was not the primary feeling. There was solitude, but it was often the solitude of deep immersion in a subject, the solitude of concentration. When I attended regular school I encountered the other kind of boredom, the kind when you are carving into your desk because your teacher is going on and on, or when you are punished by being put into a room and told to sit there and do nothing. This kind of boredom is something to be afraid of, because boredom is the punishment imposed by your teacher. In this context boredom is not something that you need to learn how to cope with, because it might actually help you to figure out who you are and what you care about – it is a form of retaliation or retribution. We are trained to fear this kind of boredom, instead of seeing boredom as something that can help us figure out who we are and what we care about.

PJ: Privilege / Social Reproduction

AT:I am very sympathetic to the argument that unschooling depends on and reproduces privilege, though it is a myth that everyone who unschools is white and wealthy. In the early 1970s the education critic Jonathan Kozolwrote that starting free schools for privileged white children is equivalent to building "a sandbox for the children of the S.S. guards at Auschwitz" (Kozol, 1972: 11). The same could be said for unschooling, at least for those who stay in their familial bubbles and lack a deeper political and economic analysis.

In the United States the issue goes deeper, though. The fundamental problem is in the way that public education is financed. The US is practically alone in having a system where property tax finances local schools, a system that produces radically uneven outcomes. Rich neighbourhoods with their expensive homes spend way more per kid than poor neighbourhoods. Unschoolers and homeschoolers get criticized for pulling their kids out of the public school system, and I think the criticism has some validity. But the fact is that the majority of liberal people send their kids to the best public schools that they can send them to – they purposefully move to areas where the schools are good. That is hardly more virtuous than taking your kids out of school because you have a more profound critique of dominant mode of pedagogy. In any case, what we need to do is to equalise educational funding in this country, or better yet give more resources to the poorer schools and students. Unschoolers need to care about public education and should not be too proud of their own position, because it is a problematic one.

PJ: (Un)schooling / Socialisation / Democracy

AT: Philosophically, on an abstract level, unschooling is rooted in a very democratic impulse. It depends on a specific, positive view of human nature. Humans want to learn. They want what is best for themselves. It is an idea that goes back to Rousseau (1762), who saw institutions as inherently corrupting. Rousseau challenged the idea that we are fallen creatures and basically argued that the Bible was wrong. We are actually intrinsically good, he insisted, but tainted by civilization. I do not agree with that assessment—it is far too simplistic—but I also think it is fair to say that the institution of school, in its modern authoritarian form, can be corrupting – because it entices students to learn for the wrong reasons. It makes learning about extrinsic reward, about grades, and also about wanting to avoid punishment. So the institution of school actually debases the desire to learn.

As was already clear with Rousseau, who was of course the favourite philosopher of the French Revolution, this vision is intimately linked to democracy. There is something really democratic about unschooling in that it says: People are good, and they have capacities for self-rule that we should nurture. Self-directed learning is about letting kids rule some aspect of their own lives, and trusting them to make decent choices. I have visited alternative schools that are founded principles similar to the ethos behind unschooling and you can see this trust at work. When the students have a problem, they do not just go to the teacher and complain. They call a meeting and sort the problem out through deliberative means, and they get to learn how to manage conflict. Often there are clear protocols, processes that the kids follow. It is not just one teacher or principal meting out justice, but the community deciding together. In this sense unschooling goes deeper than the idea that we need education so citizens can make good choices – education itself should be space where people exercise some sort of self-determination and shared decision making.

I also think there is something democratic in challenging the role of the teacher as an expert and an authority. Of course, challenging expertise is not always progressive. In the United States, there is a deep strain of reactionary, populist anti-intellectualism. Look at the way the expertise of climate scientists is called into doubt, for example. My question is: Where does this suspicion of intellectuals comes from? It is obviously about economics (criticism of climate science is well funded), but it is also related to schooling. The gulf between the average person and the expert, and the suspicion that festers in that divide, are symptoms of the authoritarian structure of education that makes people feel alienated from learning. As I said, unschooling or deschooling presents an alternative model, opening a space in which you can respect people's authority when it is earned, and not feel threatened from people who know more than you.

But there are counterarguments to the unschooling ideal. For democracy to function, we need common knowledge, common values, and a common culture. This is where freedom and autonomy come into conflict with democracy. Because if I just want to learn about butterflies, and somebody else wants to learn about literature, and someone else wants to learn about ballistics.... Where is the common foundation that democracy needs? Where is the common curriculum? Where is the common language? These are raging debates in higher education at the moment. Should we have the common core, and should everybody be compelled to learn the standards of Western civilisation? Or should that paradigm be subverted and broken apart?

My sense is that it may be possible to have it both ways, that autonomy and commonality are not really opposed. I also believe that kids have the capacity to understand both of those values at the same time. Right now the idea of common knowledge is tainted by an approach to education that is test-driven and lasts eight highly structured hours a day. My feeling is that we could radically redesign public education and give students far more freedom and self-determination while still covering the academic basics. There are some examples of public schools that aim to strike these kinds of balances, like Windsor House in Vancouver, which is democratically run and very student-centered. We should explore these public experiments and learn from them.

PJ: Your unschooling experience took place at the dusk of the age of analog mass media – in your talk at the Walker Center (Taylor, 2009), you said that the Internet arrived into your home just after the most important formative years. While there is no doubt that the Internet offers significant opportunities for unschooling (Jandrić, 2014& 2015), it is also far from panacea described by techno-optimists such as Ivan Illich (1971 & 1973). What are the new opportunities for unschooling offered by the Internet? On the flip side of the coin, what are the main threats?

AT: I was unschooled in late 1980s and early 1990s, and we were still living like it was 1972. Maybe we would have felt that there was an alternative education community that was not just mythic, something associated with the past. Today you do not have to be so isolated.

I think that it would have been interesting to have the opportunities offered by the Internet, and I probably would have had a broader sense of a community, even if it was a virtual one. But I wrote a whole book being critical of the way that the Internet has developed – *The People's Platform* (Taylor, 2014) – and a part of me is grateful that the Internet was not yet mainstream when I was growing up. We had TV and movies and video game players and all that, but we did not have the seduction of going online to escape the day. What would I do if I was unschooling own kids? Would I just leave them on the Internet all the time without limits or would I intervene? I really have no idea. The digital platforms that are dominant today are not

designed for learning. They can be used in that way, but it is not their primary purpose. That brings us back to politics of boredom. I often go on Facebook when I do not want to be bored, but when I am feeling too lazy to actually do something interesting of my own volition. Which is not to say you cannot occasionally learn things on Facebook—but it is certainly not the best environment for edification.

PJ: In the debate with Dana Goldstein, you said that "education is not the No. 1 issue I would address the question of social inequality in the United States (Taylor & Goldstein, 2012). So what is the No. 1 issue that needs to be addressed?

AT: Economic inequality. Capitalism. In my opinion, the education debate in the US is totally twisted, because we keep asking schools and teachers to do things that schools and teachers cannot do, like create jobs or eliminate poverty or equalize opportunity. These are impossible tasks. They are problems that need to be solved on a political and economic level. If we had a less unequal society we could have a much more interesting debate about the virtues of different pedagogical methods and educational philosophies, including unschooling.

If you want liberation – liberation of children, liberation of women, liberation of people of color, liberation of disabled people – the main obstacle is economic. That is why my efforts are more focused on economy than on education. Yet, I think there is a pedagogical dimension to all the projects I undertake.

Unschoolers of the world, unwork!

PJ: In an interview with Alexander Heffner (Taylor & Heffner, 2014), you identify as writer, film-maker, and political activist working around economic justice issues. Based on appreciation of your award winning documentary films Žižek! (2005) and Examined Life (2008), I would definitely add that you are at least a bit of a philosopher. And, as far as I know, you play guitar and accordion with *Neutral Milk Hotel* – at least occasionally, therefore, you are also a performing artist. Could you tell us something about the interplay between these diverse strands of your work? How do they inform each other, how do they interact?

AT: For me, the main question is why. Why are things the way they are? Could they be better? You can see this fixation on social justice issues in *The People's Platform* (Taylor, 2014), in my documentaries, and in other things I have written. Music is different. It is an important space where I slip out of the mode of being an intellectual, of trying to argue and to persuade and agitate. Music is not about trying to be right or prove someone wrong or to galvanize people toward a certain perspective or action. Being involved in music reminds me that there are other modes of being in the world.

I just love ideas, and all my personal projects are based on questions I have and things I want to learn. Also, I want to make something to share with people as the product of

that inquiry – that is my pedagogical streak. I wrote *The People's Platform* (Taylor, 2014) in an accessible style, without a lot of jargon, so that a young person could understand it, and in the hopes that would be assigned by college instructors. My ideal reader or documentary viewer is someone between 15 and 25, who is curious, who does not have a lot of expertise, but who aspires to know more and who is open minded.

PJ: According to your website (Hidden Driver, 2015), Examined Life (2008) is:

A series of contemplative walks with leading theorists including Judith Butler, Peter Singer, Cornel West, Michael Hardt, and others directed by Astra Taylor. Examined Life boldly takes philosophy out of the dark corners of the academy and into the streets, reminding us that great ideas are born through profound engagement with the hustle and bustle of everyday life, not in isolation from it.

Philosophy may be born in the streets and social struggles, but the academy definitely plays an important part in its articulation and dissemination. Could you please assess the role of the academy in the society? Why did you decide to abandon safety of Ivy League universities and become an independent film-maker?

AT: This is a paradox. I have taken an outsider path, yet I have a lot of respect for intellectuals who are working within the academy. I totally understand why people pursue a more conventional career. My father was a professor, and that is a pretty good gig. You get to teach, to do research, there is a steady pay check and a retirement fund. The academy is a place where people of certain temperament can go and feel a connection between their vocation and avocation, which is really important.

I have got two minds about the university. On the one hand, public education creates these incredibly important spaces, where people are encouraged and supported to think. Once I got to college, I started to enjoy myself more than I did during my brief stint in high school, because of my relationships with mentors and the way there was more space for independent study. At the same time, I am very idealistic, and for me school was never scholastic enough. I always had this ideal of a community of learners, and graduate school did not live up to my imagination, so I left.

I was starting to get really cynical about being in academia, to be honest. Then, filmmaking gave me another way to approach living an intellectual life and reinvigorated me. As a writer, and as a filmmaker, I can enjoy all these esoteric debates – I can enjoy Deleuze and Derrida, I can enjoy analytic philosophy and utilitarianism, and I can give into post-Marxism – but I am not trapped trying to publish or perish about them. I am also free to mix theory and practice, which is very important to me. I suppose I have figured out how to be unschooled as an adult. My Mother and I were joking that this should be called "unworking" – just like unschooling is not against learning, unworking is not against labouring. Rather it seeks to free productive meaningful labor from the conventional framework of work.

Overall, I am really fortunate to be able to economically support myself doing what I want to do. My wager is that I have done much better than I would have done in the academia, where I might be stuck as a permanent adjunct. I jumped out of a sinking ship at the right time – the odds of getting an academic job are not good, after all. There are lots of brilliant, well-qualified people knocking on the front door, so I might as well do something crazy over here on the side.

PJ: You are an active participant of the Occupy Movement – amongst other activities, you co-edited the book *Occupy! Scenes from Corporate America* (2011). What is the relationship between your artwork and activism?

AT: I am not really an artist, though I have played music and worked in film. The political is what drives me, fundamentally, and I like the challenge of finding creative ways to express my political impulses. Social justice has been my motor since I was a kid. Sometimes I wish I could tap into other kinds of motivation, but I am who I am.

I was very galvanized by Occupy. Basically, it was an unprecedented moment for an expression of some of the ideas that I was already thinking about. How do you build political power? How do you create lasting social change? How do we push back against financialization? Movements of social upheaval do not come that often, they do not last long, and they are never perfect or easy. There is always conflict. There are always people who disagree. There is always in-fighting.

Reading history prepared me for the sides of the Occupy that turned off lots of my peers. Occupy repulsed many people who were sympathetic to its fundamental claim about inequality and the lack of democracy in our society. Smart, successful, well-connected people would turn away because they disagreed with one small attribute, or did not like the protest's style. Or they would quibble that the protest should not be at Zuccotti Park, it should have been in some other location. Or that the occupiers should make this or that demand. I took a totally different view. My feeling was: This is it. This is what we have to work with! We need to work with what is in front of us, or it is going to be 15 years before another movement emerges. It does not matter of whether or not you don't like the drum circle – I don't like it either. What I like is that people are talking about class and capitalism in the United States.

Activism is an expression of my political ideas, and also a laboratory for experimenting with theories and ideas. Concepts that can be so pristine get muddied and mixed up in practice, and I love that. You have these intellectual frameworks: This is how the economy works! This is neoliberalism and what it does to people! This is how capital accumulates! But when you go out into the laboratory of real life, things get messy. Protest movements are a kind of petri dish, allowing you to learn and reassess. I like the zone where ideas and actuality meet. This is also visible in my films. Take the scene with Michael Hardt in Examined Life (Taylor, 2008). His boat hits the rock, but he has to continue his thought. In Occupy there were all these lefty ideas and ideologies, and it was chaos! You can either run away, or you can embrace that and try to create something new. Instinctually and intellectually, I resist any division between theory and practice – to me, it is all part of the mess we have to immerse ourselves in.

PJ: With Laura Hanna, you are active in an offshoot of Occupy Wall Street, Strike Debt, which is "a nationwide movement of debt resisters fighting for economic justice and democratic freedom" (Strike Debt, 2015). Here, you started the Rolling Jubilee campaign, which buys out people's debts for fraction of their face value and liberates debtors at random. The campaign achieved tremendous success – at the moment of writing this question, you have raised \$701317 in donations and abolished \$31,982,455.76 of debt (Rolling Jubilee, 2015). In the article "Rolling Jubilee Is a Spark—Not the Solution", you say that "the campaign to buy and abolish debt was never intended to fix the debt crisis by itself. It's an act of solidarity and an opportunity for public education" (Ross & Taylor, 2012). What are the main pros and cons of such projects working 'in and against the system'? What are the possible routes of transcending debt resistance beyond the system (Holloway, 2016)?

AT: It is a tricky thing. We know that we cannot buy and abolish all the debt in the world. Even if we had billions of trillions of dollars we would not spend it on debt—that would be idiotic. We understand that a deeper transformation of the economy is necessary.

That said, I actually think that I was too aware of the limitations of the Rolling Jubilee when it launched. I did not realize how much it would inspire people, I did not realize how much it would shake people's thinking, and I did not realize the possibilities that it would open up. The impact has been pretty profound. We hoped that the Rolling Jubilee would demonstrate multiple things to people: solidarity, the idea that our side can find holes and hack the system, the principle that some contracts can be broken, particularly if they are associated with a debt that is illegitimate and immoral to begin with.

To this day, the Rolling Jubilee electrifies people – there is something about it that shakes up people's expectations. The obvious next question is: What do you do with that opening? We knew we had to bring the project to a deeper level. People are going into debt for basic things that should be publicly provided like healthcare, education, and shelter. But to achieve that kind of systemic change we need political power, and we also need organizations aimed at building that kind of power.

That is why we founded the Debt Collective, a new kind of debtors' union. This is a very urgent experiment, given the fact traditional trade unions are in the decline. We need new forms of economic identity and solidarity. We launched the Debt Collective in order to aggregate debtor power. Our view is that debt should be seen as leverage for the indebted. We want to say to creditors, "Our debts are your assets-a source of potential profit but also potential loss." We have already launched one successful debt strike, which after a year led to the federal government cancelling people's debts and announcing a new federal standard for forgiving the debts of student borrowers who have been defrauded by their colleges. To be clear, people do not have to hold student loans or mortgages or actually be individually in the red to work with the Debt Collective. Many of us, regardless of our personal financial situation, live in municipalities or states that are broke or bankrupt, primarily because we refuse to properly tax the rich in this country – instead, cities and states issue bonds and borrow from them. In this sense, everybody is a debtor, and we need new forms of association that recognize this fact and that can help organize people under these neoliberal conditions.

Before the Rolling Jubilee (2015) I did not understand how ready people are to act. People in the United States are angry and they know that something is wrong. You actually do not need to tell them that things are wrong! What they want is strategy, a campaign worth their limited time and energy. We know that the Rolling Jubilee is not a solution, but it is actually the window into the sea of political potential that we need to seize. This is where I get tired of the theory camp – organizing is very different than theorizing. Organizing is real human brings bridging divides to build political power. Organizing is getting your hands dirty and making demands and backing them up. This demand may not be the solution, but then you make a bigger demand, and then a bigger one, and so on... It is very different than a neat and tidy academic debate.

Million clicks for a hundred volunteers

PJ: Through digitalization, the network society quantifies (almost) all human activities and subjects them to the capitalist logic of efficiency and profit. However,

cultural work, which is enhanced by the unpredictability of the human touch and the irregular rhythms of the imagination and intelligence, defies conventional measures of efficiency. Other trades were long ago deprived from this breathing room, the singular skill of the craftsperson automated by the assembly line, much as the modern movement in architecture, to take one of many possible examples, has cut back on hand-finished flourishes in favour of standardized parts and designs. (Taylor, 2014: 41-42)

What are the main causes and consequences of resilience of cultural work towards the digital revolution? How does it position cultural work in relation to dominant modes of production and consumption?

AT: The answer to your question is based in a contradiction. Cultural work is resilient on some level, because it still takes a human being to do it. They are trying to industrialize the production of sounds and images, but on some level they still need some person's intuitive touch to create a beat or melody or phrase or montage that other human beings like. Though companies are trying, they still have not figured out how to automate the creation of popular song or a bestselling novel. So there is this resilience.

At the same time, the marketing of culture is not resilient, so we see the industrialization of cultural distribution. Culture still has to be mediated, and this is where I critique the advertising driven economy. It encourages and rewards aggregation as opposed to creation, distribution over production, because that is where all the profit is.

The other thing I point out in *The People's Platform* (Taylor, 2014) is that while culture may be resilient – we still might need human beings to create art – the idea of the artist is being repurposed by neoliberalism. The ethos of the artist has been appropriated to obscure the ways people are exploited today. Neoliberalism conceives of us as isolated free agents, as risk takers – and this overlaps nicely with the conventional view of the artist. As an artist you do not deserve any help, because you just want to be creative, because you are doing something frivolous and stupid and inefficient and unproductive, so therefore you should be on your own – that is the typical view. This is simultaneously scary and seductive – people are tempted to make the gamble because, who knows, they may get lucky and become an art star. Our economic system encourages people in all fields to project the stereotype of the risk-taking artist onto themselves.

This view of the artist raises a deeper problem, though: Why do we think that the artist does not deserve support? This dual condemnation and exaltation of the artist as someone who does not deserve a safety net is based on a devaluation of creativity and work that is not immediately productive and profitable.

PJ: Can we apply the same line of argument to science?

AT: More and more, this also applies to science. Governments invest less and less in fundamental science, and applied science is increasingly driven by industry. If you want to test a drug to see if some plastic implant makes the skin irritable, then you can get your science funded – because some company has a plastic implant that they want to sell. But if you want to do something more conceptual or civic minded it is a challenge to get the funding.

PJ: The Internet clearly breaks traditional distinctions between professionals and amateurs – recent changes in occupations such as journalism and arts are clear cases in

the point. What are the main consequences of the new (power) dynamics between professionals and amateurs?

AT: The problem is in the economy of scarcity, where more and more rewards are going to a few people at the top. This creates a toxic dynamic where either you are going to make it and be a star and have a huge audience, or else you will be a perpetual amateur or intern without any security. It is a dynamic that pits people against each other.

Take newspapers, which are, ideally, institutions that support people to be journalists. Back in the day journalists did not have to cultivate their personal brand all the time. A journalist could be somebody whose name was not that recognizable – all that mattered was that the newspaper's brand was recognizable. Today, you have to make your name grandiose enough that people will hire you because you bring along 100 000 Twitter followers or Facebook friends. Actually, the publication does not even care about your article – they just want your Twitter followers. At least in part, this scarcity and competition for resources drives the division between amateurs and professionals and feeds into this destructive version of American populism, antielitism, and anti-authoritarianism instead of creating more constructive versions of questioning authority.

Professionals have done a lot to exclude non-professionals and maintain their fiefdoms. They are not blameless. Investigative journalism is a prime example of a profession that completely deserves to be criticized – for things such as the reporting about non-existent weapons of mass destruction and failing to predict the economic collapse in 2008. But just because journalists have failed does not mean that we should cheer the death of professional journalism, or that the public should have to rely on a bunch of amateurs sharing their opinions on the corporate Internet for information. We need to build better institutions, which always means getting into political economy and figuring out less profit-driven ways of funding things.

PJ: In networked economies, the ancient "romantic stereotype of the struggling artist" (Taylor, 2014: 60) has poured to all sectors of production, thus becoming an overarching cover for the general trend of precariatization of labour. Instead of proclaimed liberation, freelance workers in all trades experience insecurity, inequity, and poverty. Atomised precarious workforce is unable to organise in traditional ways such as trade unionism. Can you identify new opportunities for organisation and resistance suitable for precarious workers of the network society?

AT:I just want to clarify that the definition of the network society includes everybody. It does not mean just people who are on the Internet, it does not mean just someone who is on Facebook or whatever – the network society includes all of us, because the

Internet is more and more woven into our lives. How do we organize people under these conditions of networks, neoliberalism, late capitalism, or financialization?

Where trade unions are really strong, citizens should fight to keep them. If I was in Europe, if I was in Quebec, my focus would probably be on adapting trade unions and helping them evolve to survive in a network society. In the United States, in the social reality that I am a part of, it just does not make a lot of sense for me to go and join a dying union. I personally would be a fish out of water, but also there are so many people who are not able to join unions for various reasons: because they are students, because they are self-employed, because they are unemployed, because they are working three non-union jobs, because they have a job that they hate which means they do not want to join the union, because they do not want to face the fact they will be there in five years.

My solution is to try to organize people in a way that correlates with financialization. The goal is to aggregate people who are in precarious working environments and give them some leverage. Lots of people are ready to join such an association, but they are dispersed. They are not all in one town or workplace. To go back to the Debt Collective (2016), debtors can be found all over the country – which means they are on the Internet. That is where you find human beings in 2016. At the Debt Collective, we try to take our relationship with people we meet online to the next level. We get them to join the political organization which will last, and which is not just about online petitioning but power building.

The digital age adds another dimension. So many movements measure themselves by simple online metrics: how many petitions they delivered, how many people opened their emails, how many clicks they got. At the Rolling Jubilee (2015) we had a taste of that, because we went viral at launch. But today I would trade a million clicks for a couple hundred die-hard organizers.

There is something reassuring about getting millions of Facebook likes. It is easy to be seduced by what Jodi Dean (2005) calls communicative capitalism, but I think we just need to get over it, and actually focus on dedicated human beings and not these empty numbers. We need to resist the irresistible logic of digitization, measurement, and virality – because it does not empower. Public awareness and education is not power. We need to build actual power to challenge capital. How do we do that? That is not something you learn how to do in critical theory seminars in grad school.

PJ: You mentioned that you would trade a million clicks for a couple hundred volunteers. What do you think about the organizing power of online communities?

AT: There is potential, there are pitfalls, and in the Debt Collective (2016) we just want the best of both worlds. We are not opposed to going viral on principal. But

ultimately we are trying to build a militant grassroots organisation that engages in economic disobedience.

There are lots of problems with online communities: one is the platforms. As I wrote in *The People's Platform* (Taylor, 2014), online platforms were not made for us to be active citizens on. Nevertheless, many people are on Facebook, so as an organizer I have to be on Facebook to reach them. We can be aware of the shortcomings and risks and also take advantage of the fact that people are there at the same time. There is utility to these networks, we are not going to turn our back on them, but it does not mean that they necessarily help you to build power. There is no contradiction, just a recognition of the basic fact that if power was the same as awareness or virality, then every stupid cause that you got an email notification about would be remedied – which is obviously not the case.

Old battles on a new terrain

PJ: The precariat is not just under-employed – it also needs to do a lot of nonremunerated work, such as writing biographies and proposals for the next gig. Here, we arrive to personal branding, which seems to have become a necessity in the digital economy. What are the main problems associated with personal branding?

AT: Why do brands develop? The old brands developed when industrial production was relatively new, when people went from knowing the person who was selling their goods to buying at a supermarket. To put people at ease advertisers made this fake version of the old guy who used to work at the store and sell these new mass-produced products. The brand exists there because there was a severing of the human relationship. But I am still human! Why would I have a brand?

Whose interest does personal branding serve? Why is it happening now? People began talking about it in the 1990s around the first dot.com boom, a time that corresponds to shifts in labor market. People are becoming more precarious and unemployed, and personal branding is a cover for that. It is a way of shifting responsibility for a much deeper economic transformation on to the individual. Basically, it is a way of saying: It is your fault! If you had built enough of a personal brand, you would be successful. Personal branding also tricks us to identify less with labor than with capital, less with workers than with the corporation. When you are a brand you imagine yourself not as a lowly worker or intern but as an executive, because you are a company.

Personal branding is a product of the current system of labor relations and economic exploitation. It obscures the inequality fundamental to that system and recreates people as little corporate entities. In the age of Web 2.0., your personal brand is your visibility which is tied to your position on and your embeddedness in corporate online platforms. Personal branding also typically means Twitter followers or Snapchat

impressions and so on—it fits perfectly into the business model of the dominant tech platforms, so no wonder these interests are promoting the idea.

PJ: In digital worlds, we are increasingly used to 'free' services – typical cases in the point are search engines such as Google, and social networks such as Facebook and Twitter. However, we all pay for these services by giving out our personal data, which is then used for advertising various commodities. What are the main consequences of the increasing addiction of digital economy to advertising?

AT: In a way, *The People's Platform* (Taylor, 2014) is a response to writers complaining about the Internet and what it is doing to our brains. My point was that economics are key to understanding technology's effects, and the political economy of the Internet is driven by advertising and data collection. The more we click, the more capital they accumulate. And the more we click, the more our gadgets, or Google, or Instagram, serve us advertising that is personalized.

These days, native advertising or branded content or whatever you want to call it, is everywhere. You watch something and you think that it is a comedy video, and two minutes later you find out that it is actually a commercial. I find this type of content really off putting. We know that companies are not going to fund certain things; we know that they impose certain constraints in terms of the content and the form. In my book I describe advertising as a kind of artificial fertilizer, because advertising money cultivates a kind of cultural production we would not have otherwise. The dominance of marketing money means that all these great ideas have no home in this world because they are not attractive to advertisers – who have their own agenda. Also, I think that advertising is a huge waste of money, because of course advertising budgets are built into the price of product. People say advertising supports free culture, but consumers are paying hundreds of billions of dollars for advertising, just indirectly.

Furthermore, there are way deeper problems – and this is not news to anyone who has studied the issue. I wrote a long article for The Nation with Jathan Sadowski about how consumers are scored online (Taylor and Sadowski, 2015). Basically, we are segmented into different markets through our online profiles. Some people are offered certain ads, others are served something different. You, as a professor, might be offered membership in the gym while someone lower income may be offered fast food. Pre-existing social inequalities are amplified through algorithms. There is a kind of discrimination at work that can be especially serious when it comes to issues of job ads or credit offers. Companies are using data tracking in new and evil ways, subverting consumer protections that were hard won in the 1970s. This is not just about one person getting a bad deal and having to pay a higher interest rate. This is a major source of wealth extraction that targets the poor, and these kinds of manipulations also played a role in the financial crash of 2008.

PJ: Since its beginnings, the Internet is closely linked to the promise of individual liberty and social equity. As the Internet shows a strong tendency to create monopolies, however, this utopian promise is contradicted by stark reality. In an interview with Alexander Heffner, you say:

What we are seeing, is new power resembling old power. And therefore I say, that we haven't had a digital revolution, we've had a rearrangement. And old hierarches have carried over. And as long as we keep buying the silly me that everything's different now, we're gonna be blinded to how much everything is the same, and how little has changed. The encouraging thing is that the old tactics of changing things will actually work. We can take some of those old tactics and use them now, because things actually are not that different. (Taylor and Heffner, 2014)

Which tactics from the pre-digital age can be used in contemporary social movements? How should we go about them?

AT: Organize. We need to build power and find points where we can work collectively to impede the flow of capital – because we still live in capitalism. Yes, it is a bit more complicated today. Where is Google? Google is everywhere and nowhere. But Google still has the headquarters, it still has the shareholders, it still is supposedly regulated by the government. Governments have major power over all these tech companies, which is why they are getting into the lobbying game just like everyone else. We can take an individual approach to privacy, which means only those in the know will be able to protect their personal data, or the state could impose a baseline cross-sector privacy law that would protect everyone. Google would hate this because it would hurt their bottom line, and some techies oppose the idea because they do not believe government can ever play a positive role, but that is what I think needs to happen. We need to look at what role the state could play and to see it as a potential source of leverage over corporate interests.

Many of the outspoken figures in the tech sector are libertarians, and they want us to forget certain historical facts. The state invested and created digital technologies, but technologies are being mythologised as products of corporate innovation and Silicon Valley entrepreneurs. The state has a positive role to play.

We need to organize to impede flows of capital, and be creative about finding points of leverage against the system. In the early days of the radio, most broadcast content was sponsored by corporations. People eventually organized, and fought for noncommercial alternatives. The US government did not say: Let's have public broadcasting, that would be really nice. People had to force the government to create that space, the public organized against the fact that advertiser interests were dominant. We have to do that work again, but for digital communications.

We can draw countless lessons from history, but first we must see how much we have been deceived by the narrative of technological change and exceptionalism. In reality, despite our high-tech networked toys, the present moment is shockingly retrograde. Advertiser funded media and advertiser funded content harkens back to the early days of television and radio. With companies undermining consumer protections, we are returning to financial arrangements of the pre-1970s. With Uber and other platforms evading worker protection, we are losing a century of labor gains and progress. Classroom technologies, like Massive Open Online Courses (MOOCs), are being implemented not to empower teachers and students but to cut payroll and privatize education. There is a sort of rolling back of the clock, despite the advanced technological conditions. We are going to have to refight some old battles on this new networked terrain. Only then will there be space for a future that is not stuck in the past to emerge.

References

Avrich, P. (2005). *The Modern School Movement: Anarchism And Education In The United States*. Edinburgh & Oakland, CA: AK Press.

Blumenkranz, C.; Gessen, K.; Greif, M; Leonard, S.; Resnick, S.; Saval, N.; Schmitt, E. & Taylor, A. (2011). (Eds.). Occupy! Scenes from Occupied America. London: Verso.

Dean, J. (2005). Communicative Capitalism: Circulation and the Foreclosure of Politics. *Cultural Politics*, 1(1), 51-74.

Goldman, E. (1969). Anarchism and other essays. New York: Dover.

Hidden Driver. (2015). About. Retrieved 7 September 2015 from http://hiddendriver.com/projects/examined-life.

Holloway, J. (2016). *In, Against, and Beyond Capitalism: The San Francisco Lectures*. Oakland (CA): PM Press/Kairos.

Holt, J. (1967). How Children Learn. New York: Pitman Publishing Corporation.

Illich, I. (1971). Deschooling society. London: Marion Boyars.

Illich, I. (1973). Tools for conviviality. London: Marion Boyars.

Jandrić, P. (2014). Deschooling Virtuality. *Open Review of Educational Research*, 1(1), 84-98.

Jandrić, P. (2015). Deschooling Virtuality 2.0. Concept, 6(2), 1-10.

Kozol, J. (1972). Free Schools. Boston: Houghton Mifflin Harcourt.

McAdam, D. (1990). Freedom Summer. Oxford: Oxford University Press.

Neutral Milk Hotel (2015). Home. Retrieved 7 September 2015 from http://walkingwallofwords.com/.

Occupy Wall Street. (2015). Home. Retrieved 7 September 2015 from http://occupywallst.org/.

Rolling Jubilee. (2015). Home. Retrieved 7 September 2015 from http://rollingjubilee.org/.

Ross, A. & Taylor, A. (2012). Rolling Jubilee Is a Spark—Not the Solution. The Nation, November 27. Retrieved 7 September 2015 fromhttp://www.thenation.com/article/rolling-jubilee-spark-not-solution/.

Rousseau, J. J. (1762). *The Social Contract: Or Principles of Political Right*. Retrieved 7 January 2016 fromhttps://www.ucc.ie/archive/hdsp/Rousseau_contrat-social.pdf.

Strike Debt. (2015). Strike Debt. Retrieved 7 September 2015 from http://strikedebt.org/.

Taylor, A. & Goldstein, D. (2012). Taylor and Goldstein Debate Schooling. Retrieved 7 September 2015 from http://www.ttbook.org/listen/51536.

Taylor, A. & Greer, K. A. (2014). In Conversation: Astra Taylor and Katie Alice Greer. The 14th Future of Music Policy Summit, October 27-28. Washington, DC: Future of Music Coalition. Retrieved 7 September 2015 from https://youtu.be/KF2xhiSehe4.

Taylor, A. & Heffner, A. (2014). Astra Taylor in conversation with Alexander Heffner. City University of New York: Open Mind. Retrieved 7 September 2015 from https://youtu.be/zegh0gaK0Oc.

Taylor, A. & Mertz, C, (2006). Astra Taylor on Lessons: Unschooling, the Sixties, and Today's Left. Chicago: This is Hell! Retrieved 7 September 2015 from http://antidotezine.com/2014/03/28/astra-taylor-lessons/.

Taylor, A. & Sadowski, J. (2015). How Companies Turn Your Facebook Activity Into a Credit Score. The Nation, May 27. Retrieved 7 September 2015 from http://www.thenation.com/article/how-companies-turn-your-facebook-activity-credit-score/.

Taylor, A. (2005). Žižek! [Motion picture]. Canada, USA: Zeitgeist Films.

Taylor, A. (2008). Examined Life [Motion picture]. Canada, USA: Zeitgeist Films.

Taylor, A. (2009). (Ed.). *Examined Life: Excursions with Contemporary Thinkers*. New York: The New Press.

Taylor, A. (2009). Artist Talk: Astra Taylor on the Unschooled Life. 10/22/2009. Minneapolis: Walker Art Center. Retrieved 7 September 2015 from https://youtu.be/LwIyy1Fi-4Q.

Taylor, A. (2012). Unschooling. *n*+1, 13.

Taylor, A. (2014). *Examined Life: Excursions with Contemporary Thinkers*. London: Fourth Estate.

Taylor, A. (2014). *The People's Platform: Taking Back Power and Culture in the Digital Age*. London: Fourth Estate.

The Debt Collective (2016). Actions. Retrieved 7 January 2016 from https://debtcollective.org/.hardt

Author Details

Astra Taylor is a film-maker, writer, occasional musician, and a prominent political activist working around economic justice issues. She is an active member of *Occupy* Wall Street movement (2015) and its offshoots, playing a key part in the Rolling Jubilee campaign, and co-founding the Debt Collective (2015), which launched the first student debt strike in history in 2015. Astra plays guitar and accordion in the influential indie rock band Neutral Milk Hotel (2015). Astra Taylor is the director of the documentary films Žižek! (Taylor, 2005) and Examined Life (Taylor, 2008), a series of contemplative walks with theorists included Cornel West, Judith Butler, Peter Singer, and Avital Ronnel. Both documentaries premiered at the Toronto International Film Festival and have screened at cinemas, museums, and universities around the world. She is the editor of the book Examined Life: Excursions with Contemporary Thinkers (Taylor, 2009), a companion to the film. In 2011 she joined the team of *Occupy!* Gazette, a five issue broadsheet that reported from the frontlines of the movement and which served as the basis of the co-edited volume Occupy! Scenes From Occupied America (Blumenkranz, Gessen, Greif, Leonard, Resnick, Saval, Schmitt, & Taylor, 2011). In 2015, she won the American Book Award for her book The People's Platform: Taking Back Power and Culture in the Digital Age (2014). Taylor has written for New York Times, Los Angeles Times, n+1, The Nation, the London Review of Books, and many other publications and is a columnist for The Baffler. She holds an EHRP Puffin Fellowship from the Economic Hardship Reporting Project and is also a recipient of a Shuttleworth Foundation Fellow.

Petar Jandrić is an educator, researcher and activist. He published three books, several dozens of scholarly articles and chapters, and numerous popular articles. Petar's books have been published in Croatian, English, Ukrainian, Spanish and Serbian. He regularly participates in national and international educational projects and policy initiatives. Petar's background is in physics, education and information science, and his research interests are situated at the post-disciplinary intersections betweentechnologies, pedagogies and the society. Petar worked at Croatian Academicand Research Network, University of Edinburgh, Glasgow School of Art, and University of East London. At present he works as professor and director of BSc (Informatics) programme at the Zagreb University of Applied Sciences, and visiting associate professor at the University of Zagreb. pjandric@tvz.hr