Reflections from Scholars and Practitioners

Public Administration as a Scholarly Discipline Today–and How ICT Will Affect It

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After sketching out how Public Administration (PA) scholarship looks today, this lecture asks how information and communication technology (ICT) will, or might, influence it in the near future. First, we look at what information and communication technology can already do today and how it has changed our life-world by 2017. Two critical, interlinked phenomena are then analyzed: MOOCs (massive open online courses) and their effects, and the current ability of algorithms to write a certain type of texts. These may have the effect to strongly enforce, even lock in, the current tendencies of PA, but they may also give rise to an altogether different kind of development of scholarly inquiry in the discipline and beyond.

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PA as a Scholarly Discipline Today

Public Administration (PA), as such, is a field that is, in its natural state, without a methodology, because it is created and brought together by its subject, not by its method. That subject is the working state. Traditionally, PA has been done by lawyers, economists, public-finance people, governance scholars, bureaucracy scholars, management experts, and so on (see Drechsler, 2001). But we live today in a scholarly world in which method is more important than anything else, certainly more than the subject. The application of methods has become the point, not a tool.

What happened during the last 30 years or so is that international globalized PA borrowed its method from other fields. Very simplified, PA borrowed its methodology from political science. Political science borrowed its methodology also, just a little earlier, from economics. Economics did not have this kind of methodology before World War II, either, but

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subsequently, it borrowed its methodology from the hard sciences (see Drechsler, 2011; Raadschelders, 2013). That is why today, we in PA, if totally watered down and still more in tendency than in practice, have more and more a methodology for top articles in top journals (not good ones but high-ranked ones) that pretend that we all are physics professors (Groeneveld et al., 2015).

Thus, we have a hard-science approach. We ideally want things expressed by formulae. Everything should be rigorous and empirical with hard data and reproducible experiments. That is the ideal; that is what we want (although in PA, of course, we hardly ever achieve it). Why do we want that? Because that is what physics people want, or wanted. In a world that trusts hard scientists, the economists borrowed their methodology from physics, so they looked more serious. The political scientists borrowed it from the economists, so that they looked more serious. And we in PA borrowed it from the political scientists. Why is this so? A hundred years ago, people in the university did not want to look as if they were engineers or scientists. At Oxford or Cambridge, if someone said, "you look like an engineer," this was an insult (Snow, 1959). Today, our world privileges the natural sciences; the natural sciences are cool. We think what is true is what has been proven by a natural scientist, so we borrow their certainty for our field via this big cascade of methodological legitimacy.

We tend today to think of claims that are mantled in scientific attitude as more convincing than of those that are just based on anecdotes, although there often is no reason for this. Most recently, the abhorrence against U.S. President Donald J. Trump's "alternative facts" (*Alternative facts*, n.d.) and anti-science stand has ironically revived and re-legitimized, as a counter-measure, a late 19th century positivist understanding of "reality," reinforcing this attitude, if often based on good intentions. However, originally, one of the reasons why the latter theory had been promulgated in the U.S. social sciences after World War II was to delegitimize any criticism from the Left (McCumber, 2017).

The leading journals in the social sciences promote this attitude. The top journal in political science is the *Annual Political Science Review*, published by the American Political Science Association. It actually makes room for one or two essays about thinking and theory, but all the other essays are very empirical, and the more math you have in it, the better. The scholarship in the top-ranked journals, also in PA—which included *Journal of Public Administration Research and Theory*, and, more recently, *Public Administration Review,* and so on—tends towards quantification, counting, not discussing something, and modeling; in PA

admittedly less so than in most other social sciences, but the tendency is clear. That means that, ideally, I create a theoretical model by mathematical means, preferably of how things work. This bias towards modeling and quantification strongly pushes articles that tell their readers what they already know. Anything that is based on models, anything that is based on quantification, is a push towards something that is not new. You think intuitively that an essay with a research line is correct if it confirms something you already know; so, you replicate what people want to hear. The Jan Hendrik Schön plagiarism case illustrates this very well—he wrote all kinds of articles, two top journal articles every month. Schön really had a mass production of articles, all of which he made up himself. The way he did this is that he did experiments with results that were exactly as all his colleagues expected them to be. So he did not have anything new, but all his essays corroborated the findings of senior colleagues, and for career purposes, that was fine (Ross, n.d.).

The funny thing with all this quantifying, modeling methodology is that nobody in the hard sciences agrees with that anymore. Physicists believed something like that 70 years ago, and mathematicians believed it maybe 90 years ago. For physicists, all that precise modeling is laughable (see Drechsler, 2011). But for us in the social sciences, it is very actual. Albert Einstein, who is the iconic image of hard science in our modern times, in his famous Prussian Academy lecture of 1921 already said that the more mathematical modeling you do, the less the model will say about reality, and the more you talk about reality, the less you are precise (Einstein, 1921).

In other words, operationalization, that means putting real-life questions into a testable formula, creates scenarios that are trivial. Anything in the classical social sciences that can be put into a formula is not interesting because it is so simple. If this article says, "this is the question, these are the databases, that is what we want to know, and now we are going to rigorously test it by so and so many interviews, *n* equals this," and so on, Einstein, as well as other scientists, would say, that this is necessarily a trivial article. "Trivial" is a technical mathematical term, but in the social sciences, it is a normative judgment—if you say to social scientists that their essays are trivial, they are usually not happy. But this is a good reminder nonetheless. What is scientifically interesting is what you cannot operationalize.

A consequence of "method first" is that it privileges form over content. We want a rigorous empirical kind of essay, never mind what questions it answers, rather than a new question, an interesting thought or anything like that. That would, as the saying goes, "not make it through peer review." So we do not so much look for problems that we can

investigate, or investigate phenomena that present themselves to us, that astonish us, which is actually the traditional basis of inquiry since Aristotle. Rather, what we do—or at least what tendency we have—is that we look for obvious things that we can state in a "rigorous" manner in order to get a publication out of it, so that we have another publication, and so that we are being promoted or gain prestige among our peers.

The current trend, however, of how we measure whether an article is good or not is a move from input to output. And that is enabled by ICT. As I mentioned before, the usual way today of how you describe that a professor is good is that he/she has published in the right journals (yesterday, the criterion was *what* he/she had published, with an emphasis on books). I recall when, in a faculty meeting of an institution I was visiting, a science administrator said, "If you have a paper accepted by a journal that is not one of the top ten, reconsider publishing it at all." The reaction by the senior people even at that place was very negative. The leading PA scholar of our time later commented that this was really enforcing "normal science"—a devastating criticism—but, of course, the administrator was "only following orders" from the university in question, which focuses almost exclusively on indicators and rankings rather than on real contents and science (Hoffmann, 2017).

Why do you publish in the right journals? Because on average, more people read a good journal than a bad one. So if you get yourself into a good journal, more of your colleagues read what you are writing and will, perhaps, also cite it. Thus, a journal is good because, on average, articles in this journal are good. But that, of course, is a 1980s way of thinking, because today we have very large databases, the most famous—and paradigmatically superior—one being Google Scholar (Harzing, 2017), which track exactly how often individual essays are actually cited by one's colleagues (Bakkalbasi, Bauer, Glover, & Wang, 2006). Hence, the reason why we say that an essay is good because it appears in a specific journal is obsolete.

Today, and *a fortiori* tomorrow, even a working paper that you just put online yourself, if it is cited a lot, might be much "better" than an essay in a top journal. There are articles in the top journals in PA that do not ever get quoted by anyone, not even by the author's sister. They were written, essentially, for nothing. But 20 years ago one could not know very easily how many people quoted an article. Now "the Web" reads all the articles in the universe, and a few more. That is what Google is all about, to read everything. As such, Google can tell you how many people cited your articles in a semi-objective way. At least, this is where most places are tending towards—we are not there yet, but the road on which we are leads to assessing the quality of a professor with one number. All of us

professors really hate this, but this is the logic of the ICT techno-economic paradigm. We are getting one number, and this, by and large, is the previously mentioned *h*-factor (Hirsch, 2005; Bornmann & Daniel, 2007).

The *h*-factor is a mathematical model that indicates how many essays one has published that have been cited by at least as many people as articles you have published. So if you have an *h*-factor of 13, it means that you have at least 13 essays that have minimally been cited 13 times each. So you may have 100 essays, but many are not cited that often, but you have 13 essays of which the least-cited essay has been cited 13 times. So your *h*-factor of 13 is the number at which the number of your essays and the number of your citations meet. That is partially very nice because it privileges continuous publication of decent stuff, and it is, of course, horrible for the one-book people who write one classic and nothing more, because that does not show at all. There are many problems with that approach, but it gives you, also—and not least—students, a very quick reference of how good somebody is.

This approach is strongly pushed by the need for competitive research funding. How important this is today depends on where you are. Some years ago, there was a big thing in the press about two University of Columbia anthropology professors who were fired because they brought less than 80% of their salary every year. Their contracts were terminated (Goldberg, 2014). Yes, there are attempts and practices today to establish "social relevance" or "social impact" as additional criteria for measuring the quality of scholars and scholarship (European Commission, 2017), but I would say that, so far, all boils down to research, measured in top-level publications and/or their impact. There is also a serious, hitherto unsolved problem of how to measure social impact beyond appearance in media or board membership in non-government organizations and the like—and the fact that, once again, what will be measured will not be the actual relevance or impact, but their indicators, i.e., at best the shadows at the cave's wall (Drechsler, in press-a).

Most of science and research money these days, and since well over a decade, comes from central agencies, either national or international (Connell, 2004; Conraths & Smidt, 2005). You really need this money to survive, to go to a conference, to buy a keyboard, and to pay your PhD students, among others. The decision on whether you get competitive research money or not is assessed based on your quality and your track record and a couple of other things, including the project itself, of course, but how good you are in terms of publications, measured by input (top-journal essays) and/or output (citations), is crucial. So this is not just a matter of vanity, but it is about how you live and even whether you survive.

Now, what about scientists' quest for the truth? Social scientists wanting to change the oppressive world, social scientists trying to find out how the world really is held together? As my colleague Rainer Kattel likes to say, today, science is really just a way for a segment of the middle class to live in peace (or so they thought). The argument is that most people who go into science these days do not want to know anything and that universities essentially promote a life that the monasteries did. If you are not fit enough for business, you go into science, because as a professor you can still live. But it only seems this way; in reality, of course, you are pushed into a business environment. All of us in science have to behave like entrepreneurs these days. If we do not, there is little money left and where there still is money left, these are niches that are rapidly dwindling away.

So in sum, this means, for PA scholarship in the year 2017, that the incentive, that means what we should do or how the system pushes us to behave, is to write replicative essays—essays that say the same thing that we know, for mainstream journals, soon essays that will be cited often, that say exactly what our colleagues want to hear. By and large, this is what makes a career. These are essays that put method over contents and that tend towards the countable, the quantifiable, the rigorous, the scientific—towards what can be put, in essence, into a table, an equation, a graph.

What Can ICT Do?

How information and communication technology (ICT) influences, and especially will influence in the future, PA, is one of the most-researched and published—and talked-about—topics in our discipline, often under the label of e-Governance—even the state as an institution might be transformed (Drechsler, in press-b). But how about ICT's influence on PA, not in the sense of bureaucracy, but PA as a field of scholarly inquiry?

In this context, I like to say that in ICT, the future is here already. What that means is that most people, and the older they are, the less, are not fully aware of what is actually going on in ICT and what we already have achieved. The Snowden affair (Greenwald, 2013) brought some of us a little closer to realizing how the world ticks and how many people try to know what we all think. The idea of all big social media sites, as they will very openly say—both Eric Schmidt from Google and the chief finance officer of Facebook, Sheryl Sandberg, have said this (Thompson, 2010; Vis, 2014)—is that they want to know what you want before you know it yourself. A key idea of social media, maybe the main one that drives it beyond the rhetoric of uniting people, is that information is there that

knows better about yourself, who you are, what you feel, what you want and whom you love than you do.

One of the big horrors of science fiction was that we have machines like robots that imitate being human persons; that is already a pre-ICT fear; recall Olimpia in E.T.A. Hoffmann's *Sandmann* (1817). But, in order not to recognize that Olimpia is an automaton, your vision must be manipulated. When you chat with somebody, and that is not a real person, then it is a computer program, an algorithm. The big horror was always that you have machines that are not recognizable anymore; more so, that lie to you and tell you that they are actually not machines but real persons (Dvorskyi, 2013a).

A recent story had it that this had actually happened—lying algorithms that try to sell health insurance. It looked that way, but later, some people said that this had not actually been a robot but nice ladies in India with a heavy accent, who, when they interact with you, have a selection of pre-recorded statements, and they click on it to reply. There is still a human in it, and that may well be (Dvorskyi, 2013b). But, on the other hand, this showed how close the step to a computer telling you "I am a real person" really is (Nicks, 2013). On 7 June 2014, a program called "Eugene Goostman" passed the Turing test (Furness, 2014). While there are well-known issues with the Turing test (Halpern, 2006), the fact remains that this does make a difference, as we will see. True, last year, an "AI robot fail[ed] to get into [the] University of Tokyo" (*Japan Times*, 2016), but it is noteworthy that this was seen by some as a surprise.

Academics in the past few years have been very much impressed by the rise of what is called "massive open online courses" or MOOCs. These days, everybody has to be into them. The main driver in science is what is cool and in fashion, and if everybody does it, you have to do it, because if not, you look like a loser. You do not want to look like a loser—if this sounds like 14-year-olds, that is how it is (*Economist*, 2012; Friedman, 2013).

MOOCs are mass-enrolment online courses, centrally offered, to which everybody can subscribe; these are legatees of putting lectures online and long-distance learning. There is no business model for them yet, and the creation of MOOCs is very expensive, but since everybody does it, you do it, too. You study something online, the teacher is online, maybe the exams are local, but often, there are no exams.

Some of the MOOCs are successful, many of them have enrolments in more than hundred thousands, and there are a couple of important platforms, like Coursera, that offer them and bring them to about any

connected household. Then you get the story that this is so nice for poor little children in poor countries, that they can get a top MIT education for free.

But the MOOCs have an interesting consequence, and this now slowly ties together what I have been talking about so far. If you have an online course for 200,000 people, what kind of exam can you give? How can this be graded? You can only ask questions that are basically multiple-choice checkable or checkable by computer or other infrastructure, because, otherwise, it is not possible. That is one of the influences of the MOOCs, and if MOOCs get more popular, that, in return, has an influence on science. MOOCs privilege knowledge that is replicable, general, and usual. You cannot have courses for a lot of people in which you ask essay questions for students to react in a nuanced way to complicated problems. Of course, the more literary computers become, the more they can ask complex-looking questions, because they can understand, and judge, the answers to them as well. On the other hand, the tendency to ask simple, easily evaluated questions is not only technology-driven, but it also conforms to the logic both of large classes and or teaching being a quite low priority in an academic system where—often existentially necessary—funding is allotted based on anything but good teaching, however measured.

Hence, the MOOCs are pushing the very technical approach, which we talked about before, and which, remember, is our approach in PA, and in university teaching generally, anyway. This has two consequences. First, an already visible split between elite and virtual education, i.e., actually it is not so that now the poor people from the provinces get an MIT education. MIT people still get an MIT education, for which they pay a lot of money, tens of thousands every year or semester, and whether the education is worth it or not may be debatable, but the networking surely is (Rothman, 2014). Neither is it so you get a mass education for the masses, and the top people still get to talk in an exclusive environment with the top professors (not in an intelligence sense, but in a money one) (Allen, 2013). Recent research has even shown that even within the MOOCs itself, students from a more elite background do better (Hansen & Reich, 2015).

The second key consequence of MOOCs, perhaps even more important for us, is mainstreaming and non-specificity. If a school says, "we borrow the accounting class from Ohio State, and everybody in the world takes the Ohio State accounting class," what that means is that everybody learns Ohio State accounting. Now, with accounting, as well as courses such as mechanics and astronomy, this may be okay. But, in PA, if absolutely everybody takes the introductory class from Ohio State, there

is no specificity anymore, there is no different methodology, there is no way for a young scholar or a very senior one to challenge the mainstream, because the mainstream has become the law (Bustillos, 2013; Heller, 2013), and that, in a field that does not even have standard textbooks.

This might not sound very horrible, but actually this is a serious horror story if one believes in context, legacy and specificity. Because what does it mean that everybody does the same in the world? That means that everybody does what is done in the United States, because that is, of course, with English, but not only because of that; the nation that is dominating the science world and particularly, together with Britain, the PA world (Drechsler, 2013). That is the type of PA we have talked about, the one inherited from political science, economics, and, ultimately, 19th century physics.

This brings me to my connecting point, and that is that algorithms and computer programs can already write essays today (Lohr, 2011). We already live in a world in which some normal human texts, or what sounds like normal human texts, have not been created by a human, or have never even been revised, checked, or edited by one. Texts can be written by machines. But what kind of texts can be written by machines? Writing is done by machines already, especially if just data change but how they are put together remains, over the years and decades perhaps, the same. What the computer programs do is that they look at a field, then they see how humans have written about it before. They see that just the data change, sometimes this, sometimes that, and then they take the sentences of tens, hundreds, thousands, maybe soon millions of texts on the same subject, tie the particles and connections around new information and present it to you as a report, or statement, or even an essay. Once again, we are not talking about the future, we are talking about now, and this is not that often realized (Lobe, 2015).

It started, apparently, with sports reports. For a lot of people in the world, in the newspaper—even if it is just online—this is the central part. You read about how people played soccer and who won. But if you think about it, even live soccer reporting is always the same. There is always an inflated piece of leather, and some young guys run behind it, trying to catch it and putting it into the goal. It is always the same story, always the same people. There is nothing new in sports, really. It is an internal game that goes on and on and on. So anything that has happened in soccer has basically happened before. All you actually need is the hard information: ball goes from A to B, you can know that by tagging; then you say, even live, "Yes, yes, yes, he should be … there is a struggle here … he is taking over … he is not taking over … he is going in … yeah, goal!" and things like that. In the end, it sounds exciting—but any machine can

do that. The first reports that were actually done by computers concerned, as it seems, is American football—not the major league, but regional or college football. This was apparently done by a firm that is called Narrative Science, and their motto is, "retransform data into stories and insight." That sounds cool, and it also sounds really scary. This has steadily increased. There is already sports reporting in the media that has not been written by humans, because it is, essentially, always the same, and nobody notices (Kurz & Rieger, 2013, pp. 250-251, pp. 260-261; Lobe, 2015).

Another example is weather forecasting. If you go to any of these weather pages, such as *weather.com*, which are very popular and thus lucrative, as they attract a lot of viewers, what you will see is that there is usually not just graphics and tables but also a text, "tomorrow it's getting more cloudy but still warm in Baguio, but we expect some more sunshine on the weekend." Nobody has actually written this; this has been generated. It is like the text from your GPS. The weather data are there, and a computer program ties this into language.

Yet, by now, another typical way for computers to write essays is through the quarterly reports of firms (Kurz & Rieger 2013, 251). That means if a text is nothing but a story based on data, a computer program is probably even better than you at writing the text around it. These texts–sports texts, weather texts, report texts–can be written by computers. "Whenever prose narrates a table, algorithms can write it as well" (Kurz & Rieger 2013, p. 251). By now, this has even reached the level of normal news (Dorrier, 2014; Lobe, 2015).

This even pertains to posing questions—research, if you will. In Wolfram Alpha, for instance, you ask a certain question, and then it goes through the archives, finds this thing out and gives you the answer in somewhat nice prose (Wolfram Alpha is behind Siri to a good extent; see Sterling, 2012). You could even go and find your research question and ask it to one of these computers, and they will answer it—and for quite some time already (Spivack, 2009).

So, anything where I have the same kind of essay, just a variant of questions where the core of knowledge is a table or a quantification the outcome of which I then report, is something that can be done by machines. They can also do the basic research, and they can probably do this better than you, the more so the more databases we have, and then they can put it together as an article. Precisely this structure, this shape, and these contents are typical, as I explained earlier, of what counts for the best or most successful PA articles today.

We are, therefore, at a point in time right now when normal mainstream PA articles can almost be written by machines. When I mentioned that to the managing editor of *Public Money and Management*, she said, "Oh my God, that means you and I are going to be unemployed." I, of course, said, no, and that *Public Money and Management* is actually a really good journal, with many essays where this would be impossible, but it depends on what essay you write. Mainstream PA articles of the variety I described are, in principle, "machine-makeable" (In fact, but still close to science fiction, when machines will be able to grade standard student papers, it would hardly be a problem for them to review this kind of PA articles as well, potentially cutting out the human middle-man altogether).

Prospects

In sum, we can say that MOOCs, and other ICT-driven learning modes, push PA scholarship further towards research that can basically be done, and that can be done soon, by machines, and this kind of research is our default anyway. So in a sense, PA scholarship is on the road to becoming obsolete, and the business we PA scholars are in is like owning a bookshop. Remember bookshops, shops you went in to buy books before Amazon? While printed books still seem to survive for the moment (Preston, 2017), bookshops are quaint and cute and nice and dead. We buy books from Amazon (Siracusa, 2009).

But, of course, this is a highly pessimistic scenario, and there is no reason to be pessimistic unless one has to be. One of the fathers of the ICT world, Nikola Tesla, when talking about computers taking over—and he was one of the pioneers of that as well—famously said:

> Today the robot is an accepted fact, but the principle has not been pushed far enough. In the twenty-first century the robot will take the place which slave labor occupied in ancient civilization. There is no reason at all why most of this should not come to pass in less than a century, freeing mankind to pursue its higher aspirations. (Tesla 1935, p. 7)

Two German authors and internet activists, Kurz and Rieger (2013), wrote a book called *Free of Labor*, which I have cited earlier quite frequently. It is a general account of machines replacing people, especially in intellectual jobs (Kurz & Rieger, 2013; Frey & Osborne, 2013). Talking about science, they have pointed out that if robots wrote all these boring essays, scholars could focus on interesting ones again (Kurz & Rieger 2013, pp. 272-273). So we could, if we wanted, leave, say, the usual comparative-empirical papers and the like to the algorithms. Those papers often do not need humans to write them, sometimes not even machine-

like humans (It would be interesting, if not very collegial, to go through a list of PA scholars and categorize their work by their being machine-writeable or not.) The traditional scholars could get back to the aforementioned seminar room with some good students to seriously discuss what matters as far as the institutions of the state are concerned (which is of serious policy relevance, as well; see Drechsler, 2001).

Thus, we might actually see the return of classical scholarship, exactly when we need it, because of the challenges we are facing due to ICT, including the shift in human self-identity. The positive story would be for us to say that, because of this insight, we will quit writing machine articles and switch back to writing scholarly articles. The dynamics of Western-global science is not like that today, because funding is not allotted thus, but tomorrow, that may change—money and technology are the two forces today against which little can stand in the long run, but they may change course swiftly and surprisingly. Things certainly will be more likely to change for the better if those of us who share this perspective keep pushing, in the various roles they have within the scientific world and outside of it, into the right direction.

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