FANTASTIC FUTURES

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Yves Citton, *Introductory lecture: Artificial intelligence and/or cosmolocal studies?*

I come from a background in Humanities and Literature, so I'm certainly not a specialist in AI or archiving issues. I'm going to try and relate questions about artificial intelligence to questions about study. I think that it's perhaps important to rethink the word 'study'.

But first I'm going to quickly go over a few commonplace notions about intelligence and artificial intelligence. It's worth remembering that the word 'intelligence' may be derived from the Latin 'inter-legere', and that 'legere' means 'to choose', as in 'to elect' in contemporary French language, but of course for us, if we're interested in libraries or archives, we also understand it as meaning 'to read'. So, I like to think of artificial intelligence as readings, or inter-readings and, for humans in any case, there's no reading without interpretation – and this may be one of the differences between humans and certain types of machine in any case: this need for, or the inevitability of, interpretation taking place when humans read a certain number of things. And therefore the source of the word 'legere' or 'intelligence' can be found in 'collecting', which is a necessary part of archiving, and in 'selecting', which is also important in the work of archivists and librarians.

As regards the word 'artificial', I'm going to move on much more quickly and just refer to some very practical things, which is that these inter-readings, or these readings of machines by machines, take place all the time – you see it in databases and things working in databases – and that the characteristic perhaps of these intelligences (I don't like the idea of artificial very much because human intelligence is also artificial in that it's shaped, it's stuffed with art and with craftsmanship more so than mechanical intelligence) is prescriptive, programmed and written in advance, there's no real surprise and there's the chance (not always in reality) of exhaustiveness. As a result, there's really no subjective selection, as in the case of human intelligence. Unpredictability can take place if there's no possibility of exhaustiveness and yet, unpredictability is ultimately very difficult in the human realm.

So any intelligence or archiving is both artificial and therefore intelligent.

Let's move on a little faster and leave some time, I hope, for the discussion. I'm not going to go over the history of automation again because I think that talking about automatic and mechanical intelligence is perhaps more appropriate, but you all know these dates of progressive outsourcing and whatever, and maybe I'll just stick to the later stages, to where we are now, where it seems to me that what characterises us, what characterises AI as we see it today (after, say, 2010), is what two American media theorists have called worldly sensibility – one of whom is Mark Hanson. Worldly sensibility makes us aware of the fact that all over the planet, even if very unequally, there are more and more sensors (sensors gathering data) which can sense, which are in some way alert to what is happening in terms of temperature, in terms of humidity, as well as to what's in our fridge (if we have a connected fridge), what we watch on our screens, etc.,etc... 'Wordly sensibility' or we could call it global sensibility. There's someone else called Benjamin Bratton who has written a

great book called 'The Stack' which talks about 'computation at a planetary scale' and makes us aware of the fact that these detectors or sensors spread across the planet create a type of computation which must be considered at a planetary level.

So, this progressive outsourcing of certain skills – machines have been outsourced physical movement (the steam engine was an example of this) – moved on to mental processes. We can outsource calculations – there's been the ability to compute since Pascal at least, and logical operations since Babbage and Ada Lovelace perhaps; today, as regards writing texts for sports or stock market journalism, which write themselves to a certain extent in conjunction with this worldly sensibility and computation at a planetary scale, we can talk about attention to the environment.

What is 'attention to the environment' exactly? It seems to me that this is what will be coming as regards the type of AI we imagine in a more or less fantastic future (which is perhaps also the unsettling, to a greater or lesser extent, present), and it's exactly this inter-reading capacity of machines which read machines, humans which read machines, and everything which tries to read, select, collect data and information in the planetised world in which we're having to live. And the question which remains is what's the role of what we used to call or continue to call human minds?

This is where it seems to me particularly important to revive the term 'study'. We all understand what it means, we all use the term 'studying' – in general when we say that we're studying or that we have studied it's because we're quite young or we're in education. I myself like to say that I'm a student at Université Paris 8 as well as a teacher at Université Paris 8. The practice of study can be characterised in a more interesting way than just simply saying that it's a period in life from which one emerges, and for this I'm going to refer to two sources which are quite philosophical or poetic.

The first is Giorgio Agamben, an Italian philosopher who has recently said some rather odd things about the pandemic, COVID and vaccination – so maybe you've heard of him in the last few years, but not in a very complimentary light. However, he has also done some very, very important work, I think, in particular some small articles on the idea of study. So, Giorgio Agamben (it's in Italian because diversity of language is very important in this planetary approach to computation) plays on the similarities between (and it works quite well both in French and in English translations) between 'studenti' (either the 'students' that we were or still are), 'studiosi' (which is a bit like, but not quite the same as, 'studious' in that it's not a student card or a social status, but a certain attitude – being a bit meticulous, a bit odd, a bit lost in things like books, ideas). Then there's 'studio', (first and foremost in the sense of a space, a place). For example, a recording studio is a place in which one isolates oneself from ambient noise, one isolates oneself from communication in order to be able to do something which requires a little bit of silence, which actually requires a break in the communication of the data and algorithms circulating the surface of the earth..., so the studio as a sort of retreat; and 'studie', which are both the 'studies' one undertakes, but also the studies which one makes, in the sense (I think, which works well in French and in English too) that one can undertake piano studies, or before making a painting which is going to be a masterpiece, one makes studies in the form of small sketches.

I think that understanding this unpacking of words etymologically which are linked to the notion of study is important for understanding the primary thing which I associate with

Agamben and with the idea of study: it is that it demands a certain amount of withdrawal. But withdrawal from what? From the circulation, from communication and perhaps even more so from production, from the productivity, from the economic-financial imperatives of growth and production. So, that's the first aspect of the idea of study, which is still very rightly withdrawn, isolationist, perhaps even a little individualistic.

And that's why I think it's very important to offset it, to supplement it, with what a poet called Fred Moten, a poet-philosopher, and someone who studied and taught in management schools and who is now more of a political philosopher called Stefano Harney, do. In a book called 'The Undercommons' (which is a series of essays which you can find online), they talk about study, but more specifically black study, with the aim, not necessarily of taking a decolonial approach, but of looking at social reality from what they call the undercommons, the American inner cities, the equivalent of which would be the suburbs in France. Here, they tell us, that the studying done in the back streets of bad neighbourhoods, when young people find themselves in the back streets of bad neighbourhoods, is not at university, not in business, not in doing anything productive, but in talking, joking and laughing – they're cultivating their sociality. They do things with others, they're thinking with others.

So, what they're putting forward is not a definition but a reminder of the fact that studying is often done with others and it's important to do it with others, together with, I would say, a co-presence in the sense of a co-presence with equal status and not an authority telling you what you have to learn. You discuss, you agree, you try to argue etc. So, let's try to get to the bottom of this type of studying, not merely, especially not merely at university or in consultancy firms, but more broadly speaking the intelligence of listening to each other, reading each other, interpreting each other, doing cross-readings, interpretive debates based on multiple perspectives, and based on a sharing of skills and incompetencies. The sharing of incompleteness is a key idea for Moten and Harney: we enter into studying from the moment we recognise and value our mutual incompleteness, which can then be shared and discussed.

I'm going to move on quickly (I'll come back to it perhaps at the end) to try to say that there are these places of study which are studios which seem a bit closed in because doors are in evidence – a bit like Virginia Woolf's *A Room of One's own* – and you need to be able to close the door in order to be able to study and not be disturbed by children, by telephones, etc. So, everything that takes place is small, even though the studying in Moten and Harney is done by several people, it's done in a small group. I think that today we can't avoid trying to think about my planetary scales, and what I'm proposing here is to start by distinguishing different ways of looking at these planetary scales.

Normally, people talk about global as opposed to local. I'm now going to talk about cosmolocal in order to try to disentangle or widen this rather simplistic dichotomy.

So, yes – there's the global. The 'globe' can be defined as what falls within the scope of a financial economy of value which gives a price to things, which is centred around or creates the logistics which involves these devices, I think, from China, etc., and also an infrastructure of financing and finance. So that's the globe. It's the globalisation which we've accepted for several decades, or even several centuries, but which has become more pronounced over the last 40 years.

This doesn't exclude and, on the contrary, must be thought of together with 'worlds', and the word 'worlds' is always in the plural in the definition which I'm putting forward because it means 'cultures'. The sense of worlds exists: when we think about the end of the world, it's always the end of our world because it's our cultural world, which, yes, has values, but not just financial values. It involves other values, which are ideological, religious, aesthetic, etc.

There's also the layer on the ground (terre), which is what Bruno Latour talks about in 'Les Terrestres', where we all live in territories which are always variable in scale and geometry, because what is perhaps most important about territory is the effects not just of citizenship, but also of joint ownership. What's on the other side of the border of what I define as my territory? It's usually what's outside, on the other side of the border, which will determine my territory. But in any case, we have this layer, let's say, of the earth.

On the other side of the idea of the globe, there's also the continuation of military colonisation, which involves geopolitics and the international agreements which succeed in being made or failed to be made in Glasgow, and finally we have this notion of 'planetarity'. The next edition of 'Multitudes' is about the notion of planetarity, and so I think it's important to talk about it, to spread the word a little bit. So what is planetarity? It's thinking about the earth from a terraforming point of view, not that terraforming would be going to Mars to make Mars or whatever liveable, but being able to protect the earth's habitability.

So, as regards the planet, there are physical-biological conditions which mean that at over 45 degrees with a certain level of humidity, the human body no longer functions and so it's absolutely necessary to take into account, beyond the geopolitics of the globe, of the worlds, etc., this pressure of which we are now aware due to planetarity and of which which we are now informed about thanks to computation on a planetary scale. Because in the end, the IPCC and its equations, which you can see in the Gare du Nord (if you've paid attention in Paris), these climate equations are computations. This is one form among many of AI, of artificial intelligence, or this computation on a planetary scale.

So, when you think about AI in this way, I think that there are some delusions about there being a great replacement. Great replacement, for the French here, resonates with some pretty sad things which are happening in local politics, but I think that this idea of the great replacement also exists elsewhere, particularly in AI, when you think about Kasparov being beaten by a machine or the *deep blue* program in 1996, it was seen as a victory for machines over mankind.

This kind of discussion is based on a number of delusions, of which I'm just going to point out just one, and that's about forgetting what we all know, that machines aren't machines, they're human programs, they're human operations which are carried out by machines – but above all forgetting (and it's something that quite a few people repeat quite often fortunately) that what's always stronger than machines or devices, is humans assisted by machines. Kasparov today with software and machines is stronger than any machine or any software or any, that I know of (maybe you'll correct me – you know all this better than me) chess player.

So all intelligence is an impure mixture. It seems to me that the notion of impurity is central to this. To what? To automation, whether it be machine automation or embodied automation.

Kasparov uses the automation of certain anticipated movements of chess – which I myself am completely unable to do with my body – in other words externalized and embodied

automation, intuition and improvisation, and therefore, I would say, an impure mix of AI, artificial intelligence and study.

So if we come now to what I think concerns us today, it's what is happening in libraries, museums and archives.

We had another, or at least I know that I'm not a specialist, so maybe you never had it, but it seems to me that in the general discussion about archives, there was another delusion of a great replacement which heralded a shift from centralised archives like the BnF towards archives distributed by Napster or BitTorrent. Basically, a shift towards peer-to-peer made it much safer by having hundreds or thousands of small hard drives keeping the same files rather than concentrating everything in one place which could be bombed etc. and this was a bit the way the internet was behaving at the time of the cold war.

Then, a second change to the peer-to-peer internet took place during the glorious 90s and 2000s when it moved towards the horror of platform capitalism, where everything was re-centralised with Facebook and Google, with all this and all this. It seems to me that it's based each time on delusions of a great replacement because in fact all this survives. Fortunately, there are still BnFs, there are still peer-to-peer sites which distribute certain files and there are platforms which add a layer to this which can be very problematic but which do not erase, or at least you'll tell me the opposite because you know better than I do, but which do not erase peer-to-peer practices either.

So what we have to think about in this impure mix is really the coexistence of superimposed archiving at various scales, and here I'm going to take two slightly extreme examples.

- On the one hand, the BnF, the British Library and so on are all vested with official authority, and when I say authority, I mean that when I don't know the spelling or written form of a French writer's name, I go to the BnF website to see whether the BnF capitalizes the 'L' in Charles Tiphaigne de La Roche or not, and then if the BnF says so, I go along with it because it's an authority.
- On the other hand, there are also very small companies which archive, disseminate, and museify, if you like, and here the example I like to use is that of the American poet Kenneth Goldsmith, who is famous for the idea of *uncreative writing* and who is also famous because he, for more than twenty years I think, every evening when he has finished his work, takes a glass of whisky and adds to Ubuweb, which is this incredible database of various things related to poetry, contemporary art and music, etc. If you're interested in this, Kenneth Goldsmith is about to release a book called *Duchamp Is My Lawyer* which will soon be translated by Jean Boîte Editions. So, this is not therefore official, or institutional or linked to governments. It's someone who makes his own database, who makes his own little museum, who makes it available and who has become, for I think thousands or hundreds of thousands of people over the years, a central example of how to archive and share, with all the possibilities in between.

So, I was saying before, what I think is more interesting as regards issues to do with AI is not so much the automation, which just continues and is perhaps accelerating, but the scale, the planetary scale in which both BnF and Ubuweb are involved, despite their size, their budget and their thoroughly incomparable numbers of staff.

And now I have some questions, practical questions for you I think, and I hope that we'll answer them during the day.

One can imagine, or fear (it remains to be seen), a global standardisation of cognitive operations induced by AI, where these cognitive operations are then, on the one hand delegated by machines – reading is done by crawlers before being done by humans – but where on other, these cognitive operations delegated to machines are then, by ideological effect, re-projected onto humans. I believe that one can see, without being conspiratorial or demonising, the whole development of cognitivist philosophy, or of cognitivist sciences, let's say, as having tried to model the human mind using cybernetics to make machines, and then to re-project onto the human mind the categories which we've made and which we've developed through machines.

Is that a good or a bad thing? Like everything else, I think there are things happening which are really, really fantastic and then there are also dangers of which we must be aware.

And my questions would be whether, and I think you can answer these (perhaps the answer is obvious to you and I hope you can enlighten me on this), in the work of cataloguing, archiving, libraries, museums – whether in Paris or in Mumbai – are the automation, the criteria, the pertinence involved already standardised? Do we have the same machines working or working in the same way because we have the same software? Do we consider that programming languages and microprocessors are not as important as cultural and linguistic differences?

It seems that the answer to the third question would be a yes. I'm not sure about the previous questions, and I'm interested in knowing which of you might have a good understanding of what might be happening in Lagos, Paris and Beijing: has all this already been homogenised by the homogenisation of hardware and machines?

I'm going to come to some things which are perhaps more specific – and I'm sorry, I've included archive libraries and I've forgotten the museums, so I apologise for forgetting the museums as the third term of the day – and to think of these as places. What kind of place can a museum, an archive or a library be in this planetarised space I was talking about earlier, both at an ecological level and at the level of computation on a planetary scale? So it seems to me that they are, first and foremost, places of storage, so we have our own resources which constitute a kind of intelligence. Well I didn't develop this earlier but we can talk about "potential intelligence" or intelligence which has yet to be updated, which is there either in the form of books on library shelves or in the form of data on servers, a "potential intelligence". An archive, a library or a museum is also connected via digital technology. The BnF is connected with researchers from all over the world who are here today or who are online, so it's an intelligence which works, which has worked, which is developed using AI and machines which which resonate or which are read by each other on a planetary level, and it's a constant co-activity of automated attention and bibliographic attention, curation, etc.

However, libraries, as we saw earlier during the presentation about what was being done on the Saclay plateau, are also places of study (and here, at the BnF, many of us come here or used to come here to work and to study). So what kind of study place is it? It's a place of study, yes, as used by librarians, between libraries, by users, and also for study (I think, particularly using Gallica Studio, and probably not just at the BnF), to accommodate and interact with what can be called open source intelligence, all these groups, all these little

Ubuwebs, which are personalised or collective to a greater or lesser extent, develop a collective intelligence, network it, and therefore benefit from being connected to something like a mildly centralising institute such as the BnF

And to try to describe this perhaps in a slightly surprising way – these places which are places of archiving, places such as museums and libraries – I'm going to make a diversion via a South African researcher, I believe, called Ruth Simbao, who talks about cosmolocal orientations. Perhaps you've seen the term 'cosmolocal' elsewhere. I myself had never seen it before I read her work, and she refers to these cosmolocal orientations as attitudes, practices and rituals which both affirm and intensify the particularity of a locale, a specificity that's in Paris or in Lagos or in a particular place, a particular territory – but it's done by energizing that territory using cosmopolitan connections. And she says this, so in a quote in English which I think is being circulated, which I'll try to precis here: cosmolocal is more about embodied orientation, attitude, interrelation rather than a locale or rather in terms of being here rather than on the other side of the border because *place* itself is made up of relationships, of constantly evolving, and mouving conversations between living beings and environments, and place also constitutes ever-developing processes which are simultaneously intertwined in time and space at different scales. And what she says which may be even more surprising (so I'm putting it out to you and you'll see if it's useful in your thinking), is that *place*, and cosmolocal places in particular, are not so much considered as being about data. In this case, the place where we are, we look at the GPS and it will give us data on where we are located. It's not so much about data, it's also about data but it's not so much data as, she uses this anthropological term *trickster* – I often don't know how to translate *trickster* well, so we'll leave it as *trickster* in French. This is basically a bad translation, but let's say 'farceur' (prankster).

Place itself can be a *trickster*. Thinking of the BnF as a *trickster*, what does that mean? It means beings and places which don't restrict themselves. There are things which can occur, and I would say that these things are precisely what emerge during studies and in particular in studies which feed computation, on forms of thought which human beings with their admirable yet limited brains cannot produce themselves. These things are produced as a result of the contact between studies and artificial intelligence, where places of archive, museum and library would be specific participants. So, here I'm showing you a quotation where she tries to pin down what she means by this idea of *trickster* in terms of place: understanding place as a *trickster* character means recognising place as *constitutive*, it is constitutive but somewhat constituent. *Tricksters* are often *shape-shifters* – you can see them as creative, generative and inventive shape-shifters. Places are not, they must be understood as not being easily pinned down to precisely one being, one identity or something which has to be done because *tricksters* are subversive, they are boundary-less or threaten boundaries, they are multiple, they work on thresholds, they are liminal and they are agents of trouble, mischievous. How can the BnF perhaps be a mischievous agent of trouble? For me, that's a great challenge. And finally, places should also be understood as dynamic. *Tricksters* are shrewd, skilful and adaptable negotiators. As a *trickster*, place bewitches us, it beguiles us. Place is not just data on where we are, but it is between us, it is beyond us and it is inside us.

So, to think of libraries, archives and museums as cosmolocal places, I think that this can mean at least a number of things, which I'll quickly go over. They are places of authority, as we've already seen, and these places of authority always have a little something. Well, I don't

know who, I'd be interested to know, who decided at the BnF that there should be a capital 'L' in the name Charles Tiphaigne de La Roche. Now, this won't change my life, but it's made me think a lot and I'd like (I know that I'm one of those rare people on the planet who has read all of Charles Tiphaigne de La Roche and written books about him), but I'd like to know who decided whether he should have a capital 'L' or not. There are things we do in authority which are precisely part of authority, which are also places of negotiation in the sense that any authority, in order not to explode or implode or be overthrown, has to adapt, to be enriched by contact with new things, which today we could call *open source intelligence*, and there contestation can occur. They are places for experimentation and once again Gallica Studio, I think, has an artistic dimension, a creative dimension which represents this type of study well. "Study" in the sense of the painter's studies or the musician's studies, where one sketches out forms of creation which are never completely finished but which are all the more interesting because they are not completely finished.

They are *cosmolocal* places, "cosmo" in the sense that they are connected to that *worldly sensibility*, to that computation on a planetary level. They are "local" places because they constitute or bring together different communities, which is the case today – a global community is meeting here a little bit – and they are also "local" in the sense that, in addition to these online conversations which we can have via Zoom, which will happen later on in the cafeteria (there is no cafeteria but just outside here having coffee) this co-presence, this contact between faces, between bodies improvising as can be done at the bottom of a suburban back street, these studies in the sense that it's what we do with others simply by discussing, chatting, exchanging, I believe that it's also very important in all places, even more so after the pandemic, which allow us to come together physically.

So these challenges, which are the theme of today I think, the terraforming challenges of libraries, archives, museums, "cosmolocal" (to use the descriptions I've given you), would therefore be to feed the plurality of worlds, of cultures, to ensure their sustainability in their own territories, in certain places on earth, certain grounds (and here I am talking more about societal grounds, grounds for a new socio-culture), to survive in the flow of finance, information and globalized consumption (generally the way in which these planetary phenomena are taken on, and, as we've seen that changes many things – working alongside AI in certain jobs, in certain organisational charts, in things which need doing, etc.), of course also to contribute to international diplomacy, high diplomacy (not only where heads of state sign papers, but to all the communication negotiations taking place between cultures which are on a geopolitical level) and contribute to the inevitable changes – social and ecological changes – necessary to preserve the habitability of our only planet in terms of climate, nuclear energy, etc.

I'm going to finish with two slides The first is to try and give you a breakdown of what I've told you about different types of digital humanities. (In the publication 'Multitudes' – there was a "Digital humanities 3.0" issue in 2015 I think, and you can find, for example, the texts I'm talking about here). So what does this superimposition of layers which all coexist together in what we call digital humanities mean? Layer one is inventing and applying new digital tools which enable us to renew and disseminate our understanding of the existing corpus (Gallica is an example of this as it makes texts available which you used to have to come to this place to read, now you can read them all over the world, but of course it also renews our understanding of these texts by making them more accessible). There is a second layer. There was a Digital Humanities Manifesto 2.0 at the beginning of 2010, I think by Johanna

Drucker, Jeffrey Schnapp and other authors, which was about putting creativity in the mix, of using the connective properties of the digital to pluralise and energise creative interpretations which are the hallmark of Humanities. Here again, it would be study in the sense of the esthético-publico creative invention of Gallica Studio. Someone called David Berry has developed the notion of computational subjectivity quite a bit, saying that the digital humanities could also be tasked with humanising the digital in some way, humanising the functioning of algorithms by worrying about the fate of the subjectivities which are produced in contact with and by immersion in this world of artificial intelligence. I would add a fourth layer in the Anthropocene, Capitalocene, Plantationocene phase – choose the word you like best to describe redirecting omnipresent digital during the course of its development to the planetary perspective of the planet's habitability, of a sustainable and egalitarian eco-political mediatisation. This computation at a planetary scale both promises us ways of understanding our relationships, of understanding the climate which we cannot do without, and at the same time it induces changes which often go in a rather unsustainable direction.

And this is a short summary of what I have been trying to explain : the dual parallel task of cosmolocal libraries, archives and museums is the maintenance, in the sense of care, of the archives and collections, etc. – and here we absolutely need both artificial intelligence and care which I would call humanitarian in every sense of the word – and the maintenance of archives and the hosting and promoting of face-to-face study practices, study practices which cannot be substituted by AI because they directly involve the body and the anchoring of bodies in territories and on a planet. Another way of saying this is to contribute both to the outsourcing of attention – it's wonderful that machines can read texts, get things out of them, if only for the find function, for me the find function is something which has completely revolutionised literary study – so outsourcing this stress and at the same time contributing to what I hope I've made clear as cosmolocal redefinitions of the awarenesses and relevance which are at the crux and heart of what we've been discussing in our studies on pluralism. And now I've finished my forty minutes.