Semiotics by Kay O'Halloran

Welcome to this episode of Exploring the Humanities Women's Voices from the Hong Kong Polytechnic University. Our podcasts allow us to showcase the exciting and innovative work being done by our colleagues in the humanities, intersecting with fields as varied as aviation, mental, physical, health, virtual reality, AI, design and neuroscience.

I am Renia Lopez from the Faculty of Humanities.

Today we are very lucky to have with us Professor Kay O'Halloran. Professor Kay O'Halloran is head of the Department of Communication and Media and co-director of the Digital Media and Society Institute at the University of Liverpool. Thank you so much for being with us today.

- Thank you. It's a pleasure to be here.

The work that you do is mostly on semiotics. Why should the average person care about semiotics? What is semiotics?

- That is a really good question. It's interesting that not many people actually know the term semiotics, which sort of explains that it's been marginalized somewhat from public knowledge and perception. Semiotics is the study of sign systems. And through sign systems, humans make meaning. So, what semiotics is concerned with, it's concerned with language. It's concerned with images. It's concerned with sound. Any sort of system that we make meaning through: clothing architecture and so forth. Today it's particularly important if you think about social media and you think about the internet, and you think about streaming media and so forth. Basically, the whole nature of communication today has changed and therefore, it's become a huge means of transmitting information, both fake and authentic.

Lots of interesting points there about social media. Tell us more about how does semiotics connect to social media and memes. You haven't mentioned it, but what about memes?

- Semiotics is the study of language, you can theorize it like, as a system, but you can also analyze what people are saying and you can also analyze the images. And in fact, this is what the big tech companies are doing in order to create profiles of different people. So there's a whole issue behind that, about data collection and so forth. But sign systems, if you're communicating on social media and you type the message, then you're using the linguistic sign. You could use emojis. You could send a photo, you could send a video. And so basically people are communicating through social media. But those communication is made up of sound systems, language, image, videos and audio and so forth.

You mentioned that the big companies are using this data that we're generating for them. Should we fear it? Is it OK? What's your take on that?

- I think we should be concerned, to be quite honest. Because basically what's happening is they're collecting data about everyone, from everyone, and they create user profiles. Now, according to those user profiles, that gets fed back in into what people actually see, on their screen, and also what's recommended for them. And it's extending beyond the simple thing of targeted advertising, which also happens through these user profiles. It's moved into like

political processes. In fact, it's moved into everyday aspects of life because these recommender systems, what do they do? They recommend music. They recommend video. What movie to see. They recommend where to go, if you want to go out to eat. What airline you're going to use. In fact, every single aspect of life today, human life today, is being impacted upon the data that's collected, the profiles that are made and the results that people receive.

A lot of people don't see this as an issue. They are quite happy to share their data with these big companies. Why should people be careful with this?

- Because I believe it's contributing to instability and political volatility. In other words, it's not just about personal preferences of clothes and entertainment and so forth. It's actually moved into, I think, a disruption of democratic processes. And so, there's a reason why the top ten companies are tech companies in terms of value. When you collect information about people, you can model what they're doing, you can predict what they're doing, and then you can change behavior.
- So, in a sense, it's not just about material goods. It's not just about marketing anymore. It's every single aspect of people's lives. And I feel that the world's become unstable because when you've got messages of a political nature influencing people's understanding and thinking and the decisions that they're making and affect their voting patterns.

How does the work that you do help this situation?

- I think as academics, and as teachers and professors, we have an obligation to educate. That's our role, to educate young people who come into our university to be aware, to be critically aware of what's going on in the world. And so, actually, the role that we play in terms of language educators, humanities researchers and so forth - courses have got to- and our teaching - have got to keep up to date with these latest trends. It's almost as if the tech companies are tearing ahead. The political parties are sort of steps and steps behind. And the universities, to a certain extent are as well. And this is in computer science, you know, one of the areas, the technological areas, which is really important. But in order to understand this technology, we need the humanities researchers as well, because basically the impact is on society. And so what we've got is a merging of technology and society. Hence, we need these sorts of interdisciplinary approaches.
- The work I'm doing, what we're doing, is we're exploring the use of artificial intelligence, in terms of natural language processing, image processing, automated analysis of social media, automated analysis of government communications and analysis of online use, and looking at the differences of what is said politically, what's reported in the news and what people are talking about in social media, largely to reveal patterns and trends. The differences between the platforms and how they're used, and we're not doing this in order to make money like the big tech companies are doing. We're doing it in order to understand cultural patterns and to demonstrate them and to demonstrate the impact of social media on everyday life. So it's a critical approach in order to open it up so people start understanding what artificial intelligence is, because as you said, many people are not aware.

And one of the issues that we have now is misinformation through fake news. Is this something that you address in your lectures, for example, and how can semiotics help to spot fake news?

- I mean, again, this is you know, this is an interesting question. Fake news is when something's being generated which doesn't match reality. Remembering that artificial intelligence has no concern with truth. If you look at natural language processing, it's predicting what token will come next, so it's not got any relation to actual reality. And which, of course, humans are deeply concerned with.
- So if we're doing an analysis and we're using these artificial algorithms, we can look at the image. And in analysis of that, we can look at the text and do an analysis of that. And we can look at the relations between the text and the image. And so with fake news and with memes as well, which you asked earlier on, what happens is, is a recontextualized. So we could pick up "oh, this is the text we'd expect with this image. Actually, no, this is a text we wouldn't expect with this image. Actually, this image has been changed". Because what happens with, with memes and with fake news is you can get an image, it's doctored. And so if you're tracking over time how an image is used, you can track how it's being changed and recontextualize.
- And in that way, you know, we can we can identify fake news, we can identify memes, through this recontextualization process. So once again this is about educating students to be critically aware of what they're reading, what they're looking at. Also look at the source of it all and then be able to pick up on when something's changed and identify it as fake news. Because a lot of people are just looking at social media to get information which of course is a platform for disseminating, misinformation, disinformation and mal-information.

The work that you do goes beyond, academics and what you do at university level. This is the sort of saying that a government level, they should be checking. Do you get involved with them?

- Yeah, we are working one project, which I'll be talking about [lecture delivered 31st March 2025 at PolyU] is run through the Pandemic Institute. What we were doing then was looking at communications during Covid with the idea of improving healthcare communications, because that was across the situation and they were very keen to get the messages out that were clear, that would inform people and often, they missed the target. Different communities use different social platforms.
- But I think one of the roles of the sort of work we're doing, is to inform government policy and regulation, because at the moment, a lot of these tech companies, they are not being regulated, and we're actually going in the opposite direction. If you look at what's happening in the States, the United States. In Europe, I think they're taking very progressive steps towards guarding people's data and having the companies regulated. So, a lot has got to do with understanding of the changes and the impact and changing policy and regulation to make things transparent, which they're not at the moment.

Do you think they will eventually become transparent, or have we reached a point where we are way too far down the road to go back?

- In my talk about [lecture delivered 31st March 2025 at PolyU] I will say that the future of technology is yet to be written. There is still hope, of course. If you look at the history of how it got to this, a lot happened after September 11th and there was a lot of government concern about not having the information, we weren't analyzing it, and a lot of support was given to some of these tech companies, in the States. I think they they've monetized it so well that they're the wealthiest, the highest value companies now in the world. And they're actually determining a lot of the policy that's going on.

- So that's heading in the wrong direction. But I think if the public and everyone understood, and as we reach more and more crisis situations, and I'm talking about global and political relations, then surely some regulation must come in because otherwise I think we're on a dangerous path.

And what about artificial intelligence? Is artificial intelligence going to help us to do something with this or is it risking the opposite?

- There's nothing wrong with artificial intelligence per se. It's how it's used and how it's regulated, and what transparency is involved in that.
- Artificial Intelligence as a term is interesting because it has a lot of mystique wrapped up in it. I think that serves the interests of the companies that we've been talking about. In a sense, there's nothing intelligent about them, per se. If you think about intelligence as being a human kind of cognitive ability. But it creates this mystique and this notion of the Blackbox and as if we can't understand what's actually going on. And so, once you start thinking not, artificial intelligence, but automation as Bender (2023) recommended, then a whole range of different questions come on board. Who's automating it? What's being automated? What case is being used for the automation? Whose interests are served by the automation? And so forth. And so, when you take artificial intelligence and change it, this is actually just a case of automation because, basically, computers are input-processing-output devices and they run by algorithms, the output. So, this is what artificial intelligence is, it's automation. Highly successful. Given the power, the computing power and the data that it's been trained on. So is automation good? I'm going to change your question. Is automation good or is it bad? And people would go: “well it depends what's being automated.” And that's how we've got to start thinking about it.
- So, it's very much a case scenario. If we can identify artificial intelligence, can identify an image, cancers… of course this is great. And of course, there are many positive aspects of the use of artificial intelligence. You see other uses, when they use it to sort of supposedly network people, but actually they're being used in order to collect data about people. Zuboff calls this “surveillance capitalism”, in her 2019 book. Making money out of using and selling people's data to certain companies who then can target different people for different purposes. So, yes, is automation good or bad? In some cases it's real good. In other cases, you might not want a robot dealing with you, you might want a human being.

You have mentioned in one of your papers about surveillance capitalism. Tell us what is it and what is the role semiotics plays in it?

- This is not my term. Shoshana Zuboff coined the term because she was looking into the impact of digital technology on society. And she developed this term to explain how people are being used, the data about people is being used as a new form of capitalism as a way to make money.
- In other words, what she says in her book, her fabulous book, on ‘Surveillance Capitalism’, is that human experience is now for sale. And when we talk about human experience, we're talking about just about every aspect of people's lives: if you've got something wearable;

your bodily functions, and all these monitors, these sensors and so forth; people's communications with other people.

- And this is where semiotics comes on board. When you communicate something that can be analyzed, it's not only just actually what you say in the images that you post, it's your reaction to them, whether you like them or dislike them, who your network is, and so forth. So semiotics, the study of sign systems and how people communicate and make meaning, is fundamental to what's going on, because that data is being used, as I said before, to create profiles of people to sell, and then they can be targeted.
- So we've got individual messages for the first time. If you remember Noam Chomsky, 'Manufacturing consent', he was talking about mass media and the way that that influences how people think. They can now target individuals with individual messages to sway people who may go one way or the other. So it's become individualized, which has never happened before in human history.

And I suppose one of the risks is that we tend to get our ideas reconfirmed by what we read, and we never get to see the other side of the story.

- Absolutely, absolutely. Well, if you're not sure, and they can pick up that, you're not sure. They can send certain messages to convince you of the other way. So this is where critical literacy becomes digital literacy, data literacy, artificial intelligence literacy. These things become key in order to operate, be empowered in today's society. And this is where education plays such a huge role.

So tell us a little bit more about how do you think the media has changed and what is the role of the media today?

- The way people receive information today, read it and understand it is very different. We used to understand mass media and the role that they played and their political sort of leanings. That's all become very confused now with social media. When you can create profiles of different people and when you have control of them and understand all the messages that are sent back and forth, you become the gatekeeper in a sense.
- The tech companies that are running these platforms can track who's communicating with what. So, I guess the question is people getting information from unreliable sources. I mean, the networks that are not moderated now or checked and so forth. And a lot of the big media companies now, even more so than before, of course, are determining what it is actually [being accessed], people do access information, what they, what information they're accessing?
- And this is how you create this misinformation which spreads. And if you control the platforms, the social media platforms, and largely still now and do control- the public broadcasters are very few- the private sort of media companies, you can change the way people are perceiving the world and incidences in this world to think about things in a certain way.

In some of your papers you also talk about *Division of Learning* in the digital age. What does that mean? Tell us about it.

- The approach that I'm taking to *Division of Learning* is once again, Zuboff. And she talks about this within her book on surveillance capitalism from 2019. What she says, and I think this is correct, the division of learning is now who knows what and who's got access to knowledge and information. And it comes back to, again, these big tech companies that have all this data that they analyze and have profiles about the way society is working. It's almost about a “datafied” society, but the ones that have got the data, are the companies, the private companies, not necessarily the governments or anyone else.
- The division of learning is they know what's going on, but no one else does. And what's happening now, and I think this is a key point, is for academic research, it's getting harder and harder, in fact, almost impossible to get access to the data we need. Like for social media data there used to be sort of means of downloading it and using it for research, they've all been blocked.
- So, in other words, this *division of learning* is referring to who knows what about what. And that is in the hands of a few now. What Zuboff talked about was the “first text” and the “second text”. In other words, the first text is what you see on the screen. The second text is everything that's happening behind it, the algorithms that are driving it, everything and all that influences what determines what you actually see on the screen. And traditionally, for humanities researchers and semiotics researchers they analyzed what’s on the screen, the meanings. But what we need to do is broaden our research scope to start taking into account what's happening behind the scenes.
- In that paper, what I do is I talk about it being like a one-way mirror. We're sitting in a room here, we can see what's going on and we're communicating with each other and we can see what's on the screen. Outside that one-way mirror is the people that are looking in and then taking this data and analyzing it and sending back something into the room. But we can't see them. We're in the well-lit part. And all around us is this one-way mirror. That's where the transparency needs to come into.

Do you think students are becoming more and more aware of this transparency?

- The need for transparency? Not to the extent [they should]- people think “what's wrong with this? I got my data, I don't care, I'm not doing anything”. But actually, the issues are bigger than that, because that data is actually modeling society and can change society in directions perhaps they may not agree with. Even if individually they don't mind it if they're getting recommended [information], but I think they should. I think they should be more critically aware because the impact is going to there in generations to come.

So, I would ask you again, do you think the students become aware of this after, for example, some of your talks or reading your papers? Do you think we are getting to them? Are we making a difference?

- I think we need to work a lot harder to make the sort of difference we need to make. It's making and educating students. But it's also, talking with governments and sort of contributing to the debate on how this should be regulated and what policies need to be put in place to protect everyone.

Is there anything that people can start doing today to be more aware of their semiotics in their daily lives?

- It's an awareness. I think historically we study language for certain things but in a sense, it's become fundamental that people understand how language works and how linguistic choices make meaning and especially now visually as well with images and audio and with video, because that's how people are communicating. It should be in schools, right from teaching about language, right from the very beginning. It's not mastering and being able to translate, that's one thing. But now students need to be able to look at the translation: was artificial intelligence generated? or look at some writing, is it AI generated or is this video AI generated?
- I mean, really there should be a tagline "AI generated" so everyone knows that it's a machine, it's automated, synthetic media, automated media. And so that really should come into regulation that it's actually marked as being that, which is not the case at the moment. They need to be more aware.
- I mean, surely, you know, I mean, would it impact so greatly on the actual functioning and, and the way that people think it is actually, I think the research problem of today and what a lot of funding could go into this critical awareness. But actually, with AI, a lot of it goes into meeting in industry imperatives, you know, rather than for the good of society.

Thank you very much. Do you have any last thoughts to share with the audience?

- What I'd like to say is traditionally the humanities is quite separate. I think we need to start working with other disciplines. I think it is the time for humanities to really show the contributions they can make. Because what we've got is technology basically intertwined into the very essence of being human, which is communicating, sharing ideas and creating knowledge. And so, we really do need all the disciplines to come together.

Thank you very much.

- Thank you. It's been a pleasure. Thanks so much.