Barry Buzan is Professor Emeritus of International Relations at the London School of Economics and honorary professor at the University of Copenhagen, Jilin University and China Foreign Affairs University. He is probably best known for his publications *People, States & Fear: The National Security Problem in International Relations* (1983) and *Security: A New Framework for Analysis* (1998) which he published together with Ole Waever and Jaap De Wilde.

Professor Buzan is a central figure of the Copenhagen School and Regional Security Complex Theory. He is currently very engaged with the English School approach which is based on the understanding that there is not just an international system, but also an international society.

Professor Buzan, the aim of *Technologies of International Relations (IR)* is to 'look back' at the role of technology in IR's core texts, and to 'look forward' to what part these technologies might play in the years ahead. What understanding of the term and concept 'technology' do you have, or is it, similarly to the concept of security, basically an "essentially contested concept"?

I am sure it is an "essentially contested concept", because most things in the social sciences are. My view on the material side of technology is probably quite conventional. I would see technologies as the instruments and the knowledge behind tools that enhance the capabilities of both humans and animals to do things. Thus, I would favour a very broad understanding of technology. But I would also think of there being things like social technologies. This was something that Richard Little and I argued in *International Systems in World History* (2000). In this publication we refer to various kinds of social institutions like money, intergovernmental organisations or international law. In a sense these are also technologies which fit that general definition in the same way.

You are a key voice within IR scholarship. On reflection, how do you feel technology has been present in your work and your core publications?

Since I was knee-high, I was interested in war, military, and weapons. This interest got me into IR, and particularly 'Strategic Studies' as it was called back then. It made technology very central to my early work, but at this stage mostly in a military sense. You find technology in *People, States and Fear* (1998), when it discusses the defence and the power-security dilemmas; you find it in the *An Introduction to Strategic Studies* (1987), which is entirely about military technology; and you find it again in my book with Lena Hansen on *The Evolution of International Security Studies* (2009), especially when referring to nuclear weapons and nuclear proliferation.

While technology has not played a particularly central role in my work on the English School, it is far more present in my engagement with Regional Security Complex Theory. If you read my publications closely, there is a caveat which says: "This theory depends on territoriality continuing to have political and economic and military significance". If territoriality no longer has this significance – in other words – if one moved into a globalised world with very high connectivity and interaction, then Regional Security Complex Theory would not work. So in that sense, the theory is dependent on what I have elsewhere called "interaction capacity". It is the capacity to move people, things, goods, and ideas around the system. This is to some extent dependent on geography, but in modern times it is dependent on technology: are you in a world of sailing ships and horses or are you in a world of

steamships, telegraphs, Internet and such like. So technology is a major background variable in that.

For me technology is also a huge mediating factor in how we think about international systems. This can be seen in *The Logic of Anarchy* (1993) that I wrote together with Richard Little and Charles Jones as well as my recent publication with George Lawson on *The Global Transformation* (2015). The latter is looking at the 19th century and examines a series of interlinked transformations, of which technology is one. The 19th century changed the world and laid down the foundations of the modern international system as we know it. It is a system that is created by new technologies of transportation and communication. So in that sense, technology was my starting interest in the subject and it has been there in a variety of ways ever since.

Where do you see a relationship between technologies and classical IR concepts such as power, security, anarchy, and global order?

I would say you can hardly conceptualise anything in IRs without thinking about the background technological conditions. If you look at military concepts, you are immediately thinking of technology. You are then thinking of what kind of communication systems you have got, at what speed, and over what distances. You are also thinking of what kind of destructive capacities you have got, at what speed, and over what distances. Technologies frame the conditions of war and the dynamics of a system. So in that, sense all of these concepts rest on a set of technological preconditions.

In your film reading for 'Millennium: Journal of International Studies' you examine the international relations of *Star Trek* and *Battlestar Galactica*. You focus on how the United States views its own destiny and its relationship to technology and place in the universe. I like the idea of using science fiction to study dynamics of IR and technology. Do you see more potential for that?

Yes and I am aware that other people are doing this already. For example, Stephen Benedict Dyson has written a short introductory text to IR based on the analysis of Star Trek, Battlestar Galactica, and Game of Thrones. *Otherworldly Politics* (2015) was the result of Dyson's teaching experience in Beijing. He used references to such shows to explain IR concepts to his students, making it easier for his class to relate to what he was talking about. Thus, as a teaching tool such investigations are certainly promising.

Besides, science fiction – or rather the practice of reasoning about future scenarios – is also a useful opportunity to start thinking about the unthinkable. For example, Dan Deudney and I are currently trying to reflect on the consequences of artificial intelligence (AI) for IR. At one stage in the future – some well-informed people are thinking in 2035 or maybe 2045 – there will be a form of human created intelligence that is superior or equally superior to the Mark 1 human being i.e., you and me. The question is: what happens then? IR has not engaged with this kind of question yet. Indeed, it is a little bit like how IR has failed to engage with the scenario of the aftermath of a nuclear war. IR took you all the way up to the point of nuclear war and said: this might happen, this might happen, this might happen. But that was the end of the story.

I would say the only way you can think about the potential outcomes of such incidents is using some of the tools of science fiction. It is this systematic thinking about scenarios that

would be applicable to quite a lot of the – what you might want to call – big threats that are looming in the not too distance future, may it be global disease or the rising sea levels. At this moment of time, IR does not think of that. It is very much focused on small and medium problems and on assumptions about continuities. It has not really started to reflect about big disjunctures. It seems to me that science fiction provides here an opportunity for IR. Besides, it might also bring a bit of fun to the field!

In your book *Security:* A *New Framework for Analysis* (1998) you are broadening security by outlining five 'sectors' of security. You are thereby referring to military, political, economic, social, and environmental security. I am aware that there is a lot of discussion about the expansion of these sectors. I was wondering if you would see the Internet, or cyberspace, as being one of these new security sectors. Would it qualify as a functional differentiation? Is there consequently a way of speaking of, for example, a "technological sector"? Or is encompassed in the other five or more sectors?

I have spent a lot of time trying to theorise sectors, especially in work with Mathias Albert. Albert, due to his sociological background, noticed that the notion of sector was similar to the notion of functional differentiation prevalent within sociology. The original five sectors — as it does say in the book — are empirically derived. In other words, if you looked at the literature on international security at that time, those five sectors would come up all the time. These sectors were not derived from any theory, and I have failed to find a way to do that. Instead, it was a purely empirical derivation, though they did embody a certain functional differentiation that characterised them. One could use the same empirical method nowadays to try to assess what is being talked about in the literature. There is therefore absolutely nothing set in stone about sectors.

There is – as you rightly pointed out – a much talk about cyberspace being one of these new sectors. And I acknowledge that if we were writing that book nowadays, we would probably have picked that up empirically. Yet, it is not quite a sector in the functional sense than the other five sectors are. You could make the argument – as you hint in your comment – that cyberspace is in some sense an aspect of the other sectors. There is a military, political, economic, and social aspect to it. It does, however, have some distinctive characteristics of its own. Thus, if you just take sectors as meaning: the things to which security is attached – for example cybersecurity, food security etcetera – maybe cyberspace should also be thought of as a new sector.

Nevertheless, I do not think that there is a technology sector. I think that would be going too far. Technology is a variable that affects – for the reasons I have been talking about earlier – all the other sectors in different ways. The attempt to make this a sector in its own right does therefore not resonate with me. That being said, I would not stand in your way if you want to try to do it. You would have to make the case for it and I think that would be a bit difficult. But prove me wrong!

You and Ole Waever have used the five sectors framework to analyse how and why different issues and sectors are securitized in different regions of the world. Would you see any aspects of technological issues such as the Internet being securitised?

It seems to me the only sensible way to answer this question is to say that anything can be securitised. Securitisation theory is based on constructivism. It does not require that there is an actual, real threat. It simply depends on what can be successfully constructed as a threat.

In that sense, there is nothing distinctive about technology. Its securitisation will depend on the local conditions. Once you start looking at the local conditions, some things become easier to securitise than others, for example, due to cultural or historical reasons, or because of the nature of international society.

Across your work you emphasise the importance of re-connecting IR with history and sociology and refer to the importance of the 19th century for the character of international society to this day. However, looking at the way society is currently developing, would you not say there will be a need for IR to connect with engineers and computer scientists soon as well?

I would not underestimate the difficulty of doing that. You have probably been in academia long enough to know how quickly academics seal themselves off into little discursive entities. They share a certain kind of jargon and vocabulary, they publish in certain journals, and they talk to each other and not to anybody else. This happens within departments, let alone between them. So there is what one might describe as a language problem in doing that. It is like the problem of people trained in political science talking to economists. Unless you learn the language of economics, you cannot talk to economists. So it is actually very difficult to do that.

Indeed, my preferred route would be to make sure that all academic disciplines encourage generalist as well as specialists. You need people who know something about everything, but not much about anything in huge depth. That is the way I have organised my own career. The thing that attracted me about IR was that you could be interested in everything and you did not have to acquire a discipline. You could dabble in all kinds of things. However, the name of the game is then: can you provide added value to those specialists who know a lot about some small patch of time and space? And the answer is yes. Increasingly, as we get more and more specialised, we need generalists. Nonetheless, we are not doing a very good job in producing them.

But would you say – coming back to the topic of this conversation – because of the importance of technologies and specifically digital technologies, IR has to or will have to move there?

Yes, because most books on the matter are written by engineers. These are people who know the tech-side of things, but they know nothing about the context of technologies. So these books, while interesting, are very narrow. Technologists need generalists too. These generalists are then able to hook the discussions into wider debates in the social sciences. For the problems that society is facing, we require lots of specialist knowledge being linked together. The less this knowledge is linked together, the less we are able to answer some of the big, urgent questions in front of us. How we are going to do that is not clear, because there is this structural problem there. The internal dynamic of academic life tends to push academics more and more towards specialisation. This specialist imperative of an academic career is standing in the way of the need to tie expertise together.

Perhaps IR is a good discipline for doing that, because it has always been a cross-disciplinary field. On the basis this particular status, what do you see as the most significant challenges for IRs in the context of technological change?

Keeping up is a pretty big challenge. There is an aspect of what I once called "hectic empiricism". If you were involved in Strategic Studies during the Cold War, maybe eighty or ninety per cent of the energy in that field was taken up with trying to keep abreast of what the new technological developments were and thinking about how they would play into deterrence logic, escalation logic, and arms control. Keeping up with these developments was pretty much absorbing all of the energy that was available. There was relatively little left over for trying to think outside the box and think about bigger questions. And it seems to me that we are still in that game. The cyber theme is evolving at a stupendous rate and so are other things such as AI or biotech. Trying to keep up with all of that is challenging, especially if we are aiming to get ahead of it in some way. As I said earlier: we should be thinking about the unthinkable, thinking about the scenarios of the day after some big change. If we were able to do that, we would be doing pretty well.

Conversely, what do you see as the most significant opportunities for IRs in the information age we are currently living in?

The information age provides opportunities for the globalisation of IR. IR as a discipline is, has been, and will probably continue to be far too much based on Western history. We all pretend that Western history is world history and that Western political theory is political theory – but it is not. It seems to me that there is a real need to bring other people's histories and other people's political theories into thinking about IR in a more global way. The technologically connected world and technologies underlying interaction capacities provides opportunities to achieve this. Technologies will consequently facilitate this overdue movement which is an action that needs to happen as quickly as it can.

Lastly – a more personal question – what are the five key technologies you could no longer live without and that help you in your day to day life, but especially in your scholarly work.

'Not living my live without' is a tough criterion for me. I could get by with the pre-digital tools I used in the first half of my life, and live without computing and word processing, although it would be a somewhat impoverished existence. But that said: email is absolutely crucial to me: most of my collaborative work is now done that way. Second, word processing. I got my first word processor in the early 1980s and it transformed my life and also changed the way I wrote. Web browsing is another technology I, as anybody else, am dependent on. For example, if I give money to charities it is generally to Wikipedia. In my growing old age and as my eye sight is deteriorating, on-screen reading is also becoming vital for me. This technology allows me to control the light and the font size. My number five key technology would be my Pavoni Coffee machine. It produces brilliant coffee which keeps me going and is an important fuel for my activities!

Professor Buzan, thank you for taking the time talking to me.