Transcript of Speech by Louise O. Fresco at the Opening of the Academic Year 2017/18

Distinguished guests, dear colleagues, dear students, and friends of Wageningen University and Research. It's an enormous pleasure for me to welcome you on behalf of the executive board of our institution, and I'd like to extend a special welcome to our new member on the executive board, Rens Buchwaldt, whom you will have a chance to meet during the reception.

Today is also a special occasion, because it's the last formal ceremony that we have in this year at the end of a century of extraordinary success and an extraordinary role for Wageningen University and Research. Next year we will celebrate our one hundredth anniversary, and you will have a chance to have a sneak preview of our programme downstairs at the reception.

It has been an extraordinary century, but as we stand poised to look back towards our achievements, we should and will, of course, look towards the future. Can we make the same impact, and if so, how will we make that impact? Is there a role for Wageningen and what will that role be? So, as you know, past results are not always a guarantee for the future and a lot of soul-searching will be going on in the next few months and years about who we are and what we want to be.

It's not a coincidence, therefore, that the theme of today's meeting is optimism based on science. And I think that it is very appropriate, given our history and also given the questions that we should ask ourselves. Is it still a time to be optimistic and, if so, is science indeed the basis for optimism? Or are other forces at work? I think these are very legitimate questions that we should ask ourselves.

And in fact, when you think about it, dark clouds gather at the horizon. Continuing geo-political and ecological tensions. An economic crisis that is still far from being resolved. Results are uneven and piecemeal. We have an ecological crisis, not least the highest number of refugees we have ever had in the world, 65 millions (sic), we have, still, an enormous number of people who are malnourished, and serious ecological problems. And, above all, the challenge to feed those tail- ten billon, who will be with us on this planet pretty soon.

And it's against this light that we also see that current political leadership nearly everywhere is weak. The unravelling of the transatlantic and European institutions are of concern, and weak leadership with access to all kinds of nasty weapons should be a concern for us all. So the feeling of pessimism is actually a legitimate feeling. Shouldn't we all be pessimistic? What is optimism actually about? Yet, it we look carefully at what's happened in the last century, or even

the last forty years, it's true the world that our grandparents and our parents knew, or even the world that we knew twenty years ago, is not the world of today. So many changes have going (sic) on at such enormous scales and speed. But, yet, in nearly all thematic and geographical areas, progress is the word that we should apply. Just to give you one, perhaps, token, but nevertheless very symbolic statistics: a hundred years ago, more than half of the world population was acutely malnourished. Today, it is about ten percent. And in meantime world population has grown by five -by a factor of five. So, there is enormous progress, but of course the progress is uneven; there's still large areas out of growth, of progress. There are serious ecological and economic costs, ranging from the loss of habitats to the disappearance of the corner shop around the corner in your quarters.

Society has become far more complex, but it's no denying that in this country alone the world has changed dramatically in forty years, in nearly all accounts, whether it's animal welfare, biodiversity, food quality, food safety, food diversity, conditions of work; things have really improved. And yet, pessimism is the name of the game and pessimism seems to be so attractive that we should ask ourselves, "What is it? Why is there such a feeling that in a way, notwithstanding the progress, things are going badly?"

And I think there are many explanations why pessimism is really part of our ingrained or innate nature. First of all, pessimism is based on fear and fear is a far stronger emotion than trust, so it's logical that fear drives us. And pessimism, of course, has had very distinct evolutionary advantages. Our ancestors on the African savannas were quite right in running away in front of lions rather than trusting the lion and seeing what was going to happen, obviously. But, we also learned. We learned not only to collaborate, to work together, to face problems and to make tools. We also learned from our mistakes. And if you look carefully of that history of progress in the last forty or hundred years, it is as much a history of learning, of discovery, of new, sometimes unintended, side effects, as it is the discovery of or a history of just sheer progress. Progress doesn't go in a linear fashion; progress goes by leaps and bounds, by ups and downs. And so the fundamental question for us all is: "Are we capable of harnessing the true positive factors and the positive attitudes that we also have?"

Of course, for the pessimist, all that material progress is actually even more dangerous, because it corrupts our souls and it's very interesting to hear that argument because, Jean-Jaques Rousseau, who you possibly know, already in 1750 said exactly the same thing. He said in French, " nos âmes se sont corrompues à mesure que nos sciences et nos arts se sont avancés à la perfection." So, the better and the more perfect our science and arts became, the more ourselves became corrupted. In other words, pessimism is not just an innate natural reaction of the human species, but it's also something which has a strong moral dimension, and it's that morality that gives the pessimist, in a way, the strong hand, if you want. It gives him or her the possibility to say, "Look, I

was right." And if the worst case scenario doesn't happen, it only shows that it could happen and the relief we feel at not having the worst case in itself is a satisfaction.

So pessimism, in other words, is there to stay. But we should ask ourselves, "How can we deal with the great changes occurring today and occurring in the future, to make sure that we do the right thing?" Because the major risk of pessimism and fear is that we remain paralysed, that we're too frightened to do anything. I think that is exactly the irony of what's happening in our western societies, where those who have benefited most from the advances of science and technology are perhaps most paralysed by fear. And fear and paralysis are a dangerous thing. To cite you one example which I think should concern all of us is that the hesitation or the downright refusal to do anything about the regulation of new genetic techniques, the so-called precision breeding, CRSIPR Cas, is a case in point. We actually should move forward, and we're not, not as a European Union and not as a country.

So, how to move forward? I think there is only one solution and that is to turn to the only system we have that is, in a way, incomplete, imperfect, but it's still the best system we have and that is, of course, science and education and our innate desire to learn. What is so interesting about science and education is not that it is a way of finding facts. It's not that it is useful because it produces technology. No, what is so good about it is that it is a system, it's a culture, it's part of who we are, it's part of our heritage, that we are continuously looking forward, and searching and testing and refuting and debating, and arguing about things. It's not taking things for granted, it's not just believing facts, or so-called facts. It's the fact that we want to think and that capacity to think, combined with the capacity to listen, to test, to refute, is, I think, which (sic) makes us a great species.

And in that sense, by the way, the fact that there now is this enormous move towards artificial intelligence is going to be the true test case. Will we let artificial intelligence rule our scientific system? Will the analysis of metadata, automated or at least by machine learning, will that be the future of science, or what will it be? I think the great challenge for the future is also to develop a new science system that, one the one hand, helps us to deal with the enormous generation of data, and on the other hand, brings in people who feel in one way or other, strongly about science, or about technology and progress. And so, I see also citizen science as something that will become even more strong in the near future.

So, how do we deal with that, because science is of course not perfect even in it its current form, let alone in its future reincarnations? How can we deal with the enormous challenges that we have as at institution? With the pressure that we have from society to be transparent and even come up with desired solutions

and yet be true to our fundamental nature of science, which is that we move forward by consensus, but it's an evolving consensus. Science is not about feeling comfortable; science is not about getting the sort of average opinion, or some kind of a desirable outcome. The consensus moves with peer-review, however delicate that may be sometimes. It's not about consensus-building in itself; it's about the [inaudible] ideas, about giving room, making room, in our own institution for the apparent ideas, for what is not obvious.

So, that's the challenge to us all, to our academic system, but also in education, because not believing things at face value is something very important we should give our students as, perhaps, the most important thing to learn. And this attitude applies itself also to who we are as an institution in relation to the outside world. We are, of course, the leading institution in the field of food, agriculture, and environment. We've been very closely associated with that sector in the Netherlands, in Europe, and elsewhere. But, today our role is not just to defend the past; today our role must be to open the doors to provide a neutral broker platform for opinions and ideas. Not because the truth is somewhere in the middle, but it's only in ac –interaction, by listening and questioning, by questioning even the most absurd ideas, that we can move forward. And that's not easy, because we all love our own models and we hate to see somebody else's model, and we don't like other people publishing too much on our -in our field, because all that is complicated. Yet that open-mindedness, that fearlessness – so fear as a positive factor, fear not of the other, not of ideas, but the fear that if we do not listen and do not open up, we're going to miss some of the most important developments.

And, gosh, don't we have some challenges in front of us? And it's really quite frightening to think what needs to happen between now and the next forty years. The number of people involved in agriculture and food production will decline. The number of hungry consumers who need healthy food produced in a sustainable way will increase tremendically (sic) still. We will need to produce more food than all the farmers have harvested in the last years, millennia, I should say, since the advent of agriculture. That's staggering. And we have to do it in a sustainable way. We have to do it in such a way that we really contribute to a bio-based, circular economy.

To put differently, there is no solution to a sustainable society without our sector. We are the key linchpin of whatever we want to do. Any future will involve more use of biomass and we are the specialists in using biomass in new and innovative ways. And it's that innovative power, I think, that we need to unleash. We need to think about who we are and what we can do. And what we can do is not just believing facts or, say, Descartes, "je pense donc je suis," whereas the pessimists says "I fear so I am - je crais donc je suis." But it is believing in the interaction, with society, not just society of today, but projecting ourselves forward to bring about the kind of changes that we need, that we will need in

ever-densely more populated planet, with more demands, more needs, and more problems, and perhaps also more geopolitical tensions.

It's not going to be easy. It's not easy to be an open-minded scientist. It's not easy to be an open-minded student, but we welcome and will continue to welcome any criticism, any idea of the order of things. Because science, if you look back those one hundred years or more, often moves forward through odd ideas, through outliers, and that's what we need to foster – outlying ideas, the things that are not obvious. I know the pressure on all of us is very strong, to go towards the mainstream, but I am exciting you, or have a [inaudible] in you to go on and look at odd ideas, in a way.

Of course science is not the only system through which we will build our future. Science go hand in -goes hand in hand with a twin sister – trust, and trust is certainly the more elusive of the two. And trust will only be nurtured by a science that is transparent, that is open-minded, that explains where it's going. And we are still far from that. Actually, we may find help in another sister – the arts. Artists are often the ones scratching the surface, looking at the horizon beyond that what can be seen. Of course, there are quite a few arctics (sic) who are pretty pessimistic these days, if not downright epito -apocalyptic, but nevertheless in that combination – and you know we are fostering that relationship between art and science more than before, perhaps – in that combination I think we can move forward and open up the dialogue.

Our role is not just to produce good science and technology and educate our students as well as we can be. It's also to be that part of society where true dialogue about future options and issues can take place. So, let me suggest to you that we dedicate this last part of that extraordinary century of Wageningen University and Research to optimism based on science, based on art, and based on trust, because that is going to be our ultimate challenge. Thank you very much.