



# ELLTA Conference

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**KEYNOTE ROUNDTABLE on July 26, 2017**

**Dr. Mai Nguyen-Phuong-Mai**  
**Associate Professor at Amsterdam School of International Business (AMSIB)**  
**The Netherlands**  
**Contact: [CultureMove@CultureMove.com](mailto:CultureMove@CultureMove.com)**

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Dr Mai Nguyen-Phuong-Mai started her career as a journalist. She holds a PhD in Intercultural Communication from Utrecht University, The Netherlands. She is currently Associate Professor at [Amsterdam School of International Business](#) (AMSIB), and running her own training agency [Culture Move](#). As a professional trainer and freelance writer, she has lived, worked in, and travelled to more than 100 countries worldwide, including one year in the Middle East [tracing the path of Islam through the Arab Spring](#). She communicates as a public figure [here](#).

This keynote roundtable reflects part of her latest book publication: “[Intercultural Communication – An Interdisciplinary Approach: When Neurons, Genes, and Evolution Joined the Discourse](#)”. The focus of the roundtable was about context and the meaning of context in teaching and research. Other two keynote speakers are Professor Ibrahim Ahmad Bajunid (President of the Malaysian Association for Education and Director of IAB Global) and Professor Anders Örténblad (Nord University, Norway).

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## Intercultural Communication – An Interdisciplinary Approach: CONTEXT is Software of the Mind

Good morning everyone. It is a great honour to stand here and address ELLTA again. It has been six years since the first ELLTA when I was invited to speak. It is wonderful to see how our community grows into a strong and reputable network with significant influence in the academic circle.

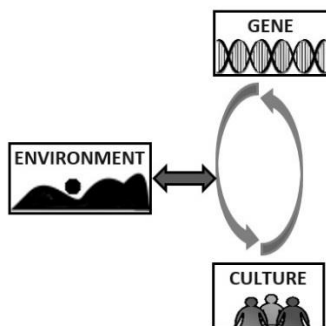
Today, I would like to contribute with the keynote roundtable on the topic of context and how context plays a vital role in our field. I will start with my own experience in teaching. As a lecturer of intercultural communication and management, one of the most critical questions that my students and I need to address is: “Why do we diversify culturally?”

We often discuss thoroughly how a certain culture has unique values or practices, such as a strong group mindset or a tendency for risk-taking. But this question touches on something deeper: Where does this uniqueness come from?

In this keynote, I will share with you a model I developed as an attempt to answer this question from an interdisciplinary approach. It incorporates insight from evolutionary biology and cultural neurosciences – a field that has put its name on the radar for merely a decade. It is also part of the first chapter in my newly released book: *Intercultural Communication – An Interdisciplinary Approach: When Neurons, Genes, and Evolution Joined the Discourse*. It is my hope that this model will illustrate how context plays a crucial role in understanding culture, in the sense that culture is not as a static entity that can be measured or calculated, but as a dynamic force that constantly evolves for the survival purpose of our species.

The model is titled *The Diagram of Diversity Pathways*. To aid your understanding, it will be constructed in steps and patched together at the end of my keynote.

### 1. The Interaction of Environment – Culture - Genes



*Figure 1. The interaction of Environment – Culture – Genes (Nguyen-Phuong-Mai, 2017)<sup>1</sup>*

Culture, in terms of traditions passed from one generation to the next, is not limited to humans, yet human culture is unique in the sense that it is cumulative. For animals, mostly, their genes tell them how to survive, and this survival is largely dependent on genetic improvements such as better wings, feathers, shells, claws, poisons...etc. For humans, genes have largely given that role to culture – a driving force that enables humans to accumulate knowledge to an extent which could not be achieved by a single generation. Culture, not genes, gives us most of the information we need: the language we speak, the behavior that fits in, the friend to make and the enemy to kill. In short, as the biologist Pagel concluded in his study,<sup>2</sup> culture has made the human species a spectacular ecological success.

However, the power transition from genes to culture is not mutually exclusive. In fact, as the gene–culture co-evolution theory posits, *genes are crucial mechanisms in turning useful cultural values into genetic traits, and vice versa.*<sup>3</sup>

I would like to show you three maps from a study of Chiao and Blizinsky (2009).<sup>4</sup> The first one shows level of depression genes, the second one shows the level of actual depression, and the third one shows level of collectivism and individualism in different regions of the world. There is a positive correlation between depression genes and collectivism, which means collectivistic people are more likely to be depressed. However, that is not the reality. Despite the fact of carrying higher level of depression genes, collectivists are *less likely* to suffer from depression, in comparison with individualists. Why?



Figure 2. Known prevalence of S-S and S-L serotonin transporter gene variants worldwide (Chiao & Blizinsky, 2009)



Figure 3. Percentage of populace diagnosed with mood disorder at some time in lifetime. Compared to map 1, it shows that high level of depression genes does not lead to high level of depression diagnose. In fact, the opposite happens, especially if we look at Asia and North America (Chiao & Blizinsky, 2009)



Figure 4. Collectivism and individualism in world cultures. (Chiao & Blizinsky, 2009)

Let's go back in time. When our ancestors migrated to regions of the world, especially in Asia and Latin America, they faced a hostile environment where high loads of pathogens, virus and bacteria easily caused diseases. In order to cope with the constant risk of infection, our ancestors slowly developed a cultural strategy to deal with the high load of pathogen: A group-oriented mindset. This mindset enabled tribe members to conform to collective rules, regarding sanitation and food preparation. Those who followed this culture rule had better chance to survive.

So what does this have to do with depression genes? Interestingly, those with depression genes need social support to maintain their wellbeing. They need and fit well in a group-oriented culture where group support not only *blocks* the effect of depression genes but also increases people's positive mood and emotion. As a consequence, those with depression genes are favored in the process of evolution, both because depression genes are more compatible with group-mindset, and because group-mindset is a strategy to deal with pathogens.

In short, nature and nurture are both active in dynamically shaping the diversity of human cultures. Following a vicious circle of cause and effect, what has been culturally "nurtured" long enough (collectivistic) will slowly become "nature" with genetic traits (depression genes). In turn, nature (depression genes) reinforces values that are useful for survival (collectivistic).

## 2. The Interaction of Environment – Culture – Genes – Brain

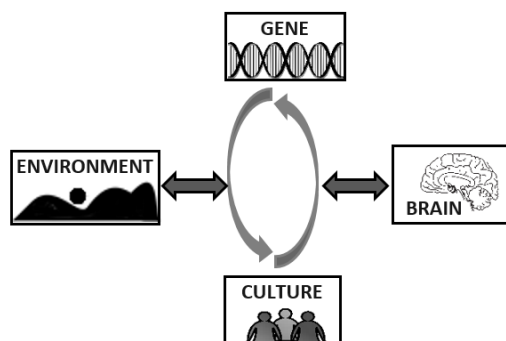


Figure 5. The interaction of Environment – Culture – Genes – Brain (Nguyen-Phuong-Mai, 2017)<sup>5</sup>

So does that mean we are stuck with the values of our cultures? Of course not. That is where the notion of brain's plasticity comes in. The brain takes guidance from genes to direct behaviors, but your everyday practices change your neural functions. Like a muscle, and we are not talking about an analogy, the brain is literally like a muscle, for it can grow, reduce, and adapt in accordance with the way we think and act. In short, it changes with exercises.

Here is a model I created to help understand the brain's plasticity. We have approximately 100 billion neurons in our brain. When two neurons communicate, they do not really touch each other, but sending neurotransmitters through a small space called a *synapse* with the help of receptors. If we repeat a certain thought, an action or a ritual frequently enough, the synapse will get smaller, the dendrite will grow bigger, there will be more neurotransmitters and receptors. Eventually, the neuron will grow a new branch, and the sending-receiving of neurotransmitters become super quick, effortless, even subconscious.

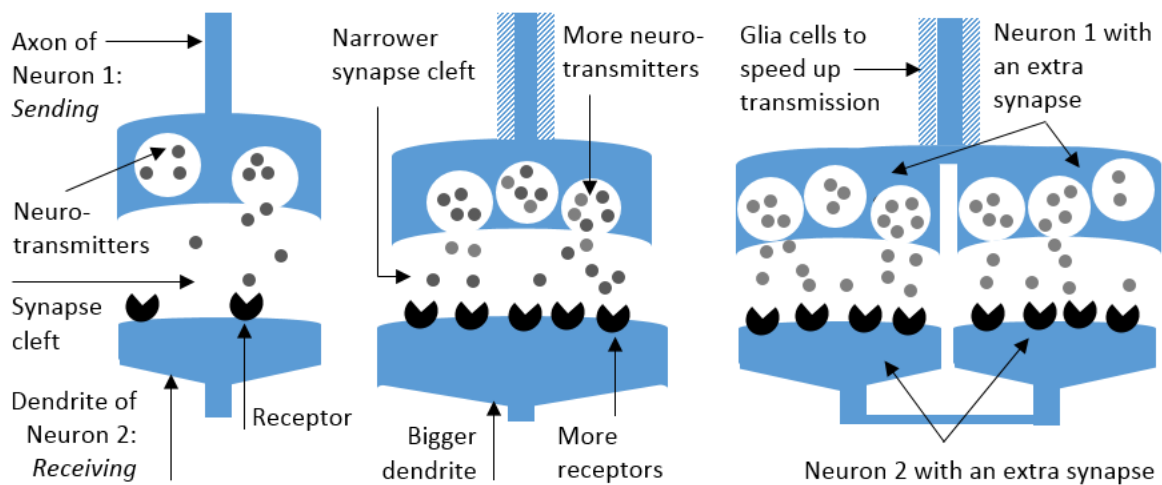


Figure 6. Long-term potentiation (Nguyen-Phuong-Mai, 2017)<sup>6</sup>

It is fascinating to see how the brain physically rewires itself so we can forge new pathways, create new habits, and adapt to different cultures. The culturally patterned brain enables us to voluntarily take actions that are appropriate in a specific context. In fact, we don't need intensive training to see how malleable the brain is. People who are primed by subtle cultural cues will have responsive neural reactions that correspond with those cues, regardless of their original cultural backgrounds.<sup>7</sup> As a consequence, when priming a person with collectivistic cues such as reading passages emphasizing "we" and "our", or with individualistic cues such as "I" and "my", (s)he will react accordingly by activating corresponding neural pathways. The brain's plasticity enables the acquiring and representing of multiple cultures<sup>8</sup> in our mind, so that we can switch between values simultaneously, communicating very complex information, to the point that we can be both collectivistic and individualistic, as long as a specific context activates that element in us.

### 3. The Bi-directional Impact of Behavior on Genes, Culture, and Environment

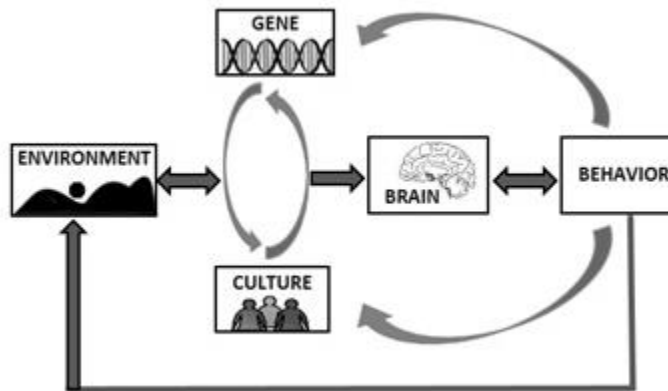


Figure 7. The interaction of Environment – Culture – Genes – Brain (Nguyen-Phuong-Mai, 2017)<sup>9</sup>

The brain's plasticity shows that while neurons direct behaviors, repeated behaviors change the very structure and function of the brain as well. In the same bidirectional way, behaviors are not only the result, but also a driving force in the potential change of genes, culture, and environment.

First of all, behaviors can modify DNA. For example, within a short period of only three months, changing in behaviors could turn on or off 500 good and bad genes.<sup>10</sup> The reason why identical twins have the same genes, yet they can have very different personalities, even physical traits is because genes can be modified by the choice we make every day.

Secondly, while culture has mostly replaced genes in giving guidance to our behaviors, this interaction is also a two-way street. Social learning allows behavior to be a dynamic force that both reflects and reshapes cultural values at the same time. For example, the strict state-mandated one-child policy in China has decidedly transformed the entrenched cultural value of gender equality, filial piety, and patrilineality. This policy has created a value shift since daughters are expected to be bread winners and to have just as many responsibilities as sons do.<sup>11</sup> Even when the act is against the belief, repeated behavior can change attitudes and eventually deep-seated values. In order to avoid cognitive dissonance – a profound inconsistency between behavior and belief – people will try to establish their psychic equilibrium by consciously making themselves believe what they have said and done, hence changing their norms and values to make it in accordance with their behaviors.<sup>12</sup>

Thirdly, while natural environment has played an important role in diversifying human cultures (e.g. in the case of pathogens), in return, human cultures and behaviors have been reshaping and changing the environment significantly. Humans have flattened forests, dried up rivers, reclaimed land from the ocean, and, for the first time since the dinosaur disappeared, humans are driving animals and plants to extinction faster than new species can evolve.<sup>13</sup>

#### 4. Context as a driving force and indicator for diversity

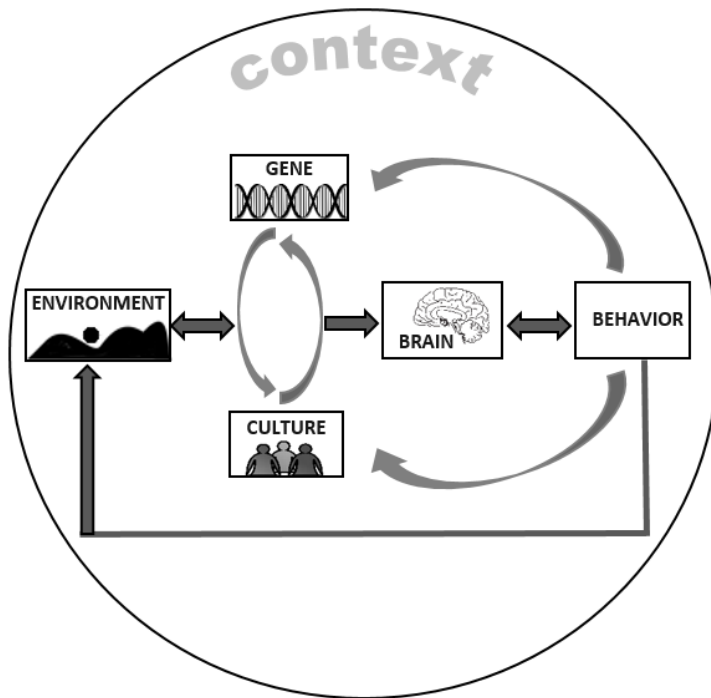


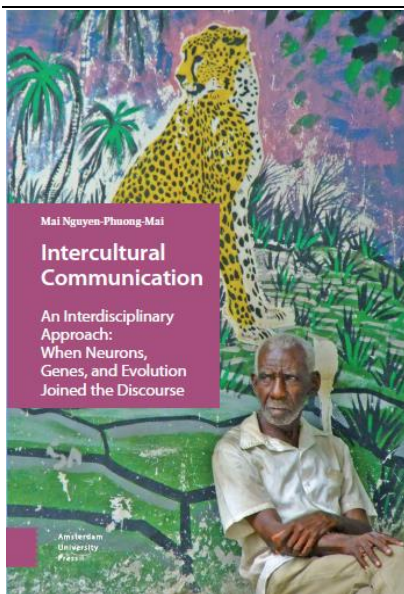
Figure 8. The Diagram of Diversity Pathways (Nguyen-Phuong-Mai, 2017)<sup>14</sup>

Context is defined as a circumstance that entails unique combination of elements, acting as a dynamic driver and indicator for changes. It is represented by a circle that envelops all varieties of interaction. From the viewpoint of culture as a survival strategy that responds dynamically to internal and external factors, context becomes the ultimate power in terms of predicting the “change” within and between cultures. It implies that particular situations and circumstances will influence the interactions, prompting environment, genes, culture, brain and behaviors to develop, adapt and change in a particular way. The role of context is so crucial in understanding changes that Osland and Bird (2000) suggested “indexing” context instead of indexing countries,<sup>15</sup> and Oyserman et al. (2014) put forward the concept of “culture-as-situated cognition”.<sup>16</sup> Context helps us to understand complex aspects of change such as cultural paradoxes and the dynamic speed of change across various time frames. From this point of view, understanding culture and its diversity becomes a quest of learning not only what culture “is”, but also how culture “responds” and what kinds of circumstances and situations that drive these responses. As contexts differ, so do the speed and nature of the change.

To conclude, the Diagram of Diversity Pathways demonstrates 5 factors that underline the immense diversity we see in culture-related development of the human species, down to the level of gene and neuron. All factors dynamically and simultaneously relate to each other. Each factor is both a driving force and is under the impact of other factors at the same time. None of these factors is static. Cultural, neural, and genetic plasticity lead to an incredible behavioral ability to adapt to novel input and environment pressures across multiple levels of analysis. In order to understand the immense diversity and the uniqueness of each particular cultural case, we

need to take into account its unique context, i.e. the impact of environment, the dynamic interaction of nature-nurture, the brain's plasticity in maintaining old and forming new values, the power of repeated behaviors in changing deep-seated values...etc.

The dynamic interaction of these 5 factors also question our static framework of cultures, for example, those that assume each country has an index on the spectrum of individualism-collectivism. These frameworks should be seen as the first best guess, or *sophisticated stereotypes* as Osland and Bird<sup>17</sup> suggest. Boxing a culture into a set of values, or reducing a culture to a static index risks fatalism because it can indirectly promote assumption, prompting us to look for and see only cases and examples that fit. Human beings are not only the product of culture but also active agents in producing culture via our actions, changing our own genetic and neural makeup, while relentlessly shaping and reshaping the surrounding environment. That gives us back the authorship as active agents rather than a cultural dope.



### Intercultural Communication – An Interdisciplinary Approach: When Neurons, Genes and Evolution Joined the Discourse

This book is an introduction to Intercultural Communication (IC) that takes into account the much neglected dynamic paradigm of culture in the literature. It posits that culture is not static, context is the driving force for change, and individuals can develop a multicultural mind. It is also the first IC textbook in the field that incorporates insight from evolutionary biology and the newly emerging discipline of cultural neurosciences. Such an interdisciplinary approach provides readers with new angles, encourages critical thinking, and sometimes challenges conventional knowledge in the field. The combination of the author's multicultural academic and journalistic background contributes to a balance of diverse perspectives and world views on cultural theories and discourses. The book is ideal for courses in Intercultural Communication with study cases, discussion topics and class activities.

Connect with the author at [CultureMove@CultureMove.com](mailto:CultureMove@CultureMove.com)

Discussion at [www.facebook.com/culturemove](https://www.facebook.com/culturemove)

Price: €29. Ordered at [www.aup.nl](http://www.aup.nl) with discount code: ICOMMUNICATE for €25

<sup>1</sup> Mai Nguyen-Phuong-Mai, *Intercultural Communication – An Interdisciplinary Approach: When Neurons, Genes and Evolution Joined the Discourse* (Amsterdam: Amsterdam University Press, 2017), 28.

<sup>2</sup> Mark Pagel, *Wired for Culture: Origins of the Human Social Mind* (New York: W.W. Norton & Company, 2012).

<sup>3</sup> Peter J. Richerson and Robert Boyd, *Not by Genes Alone. How Culture Transformed Human Evolution* (Chicago: University of Chicago Press, 2005).

<sup>4</sup> Joan Y. Chiao and Katherine D. Blizinsky, "Culture-Gene Coevolution of Individualism Collectivism and the Serotonin Transporter Gene," *Proceedings of the Royal Society B: Biological Sciences* 277, no. 1681 (2009): 529-537, doi: 10.1098/rspb.2009.1650.



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- <sup>5</sup> Mai Nguyen-Phuong-Mai, *Intercultural Communication – An Interdisciplinary Approach: When Neurons, Genes and Evolution Joined the Discourse* (Amsterdam: Amsterdam University Press, 2017), 29.
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- <sup>10</sup> Ornish, D., Magbanua, J.M.J., Weidner, G., Weinberg, V., Kemp, C., ...Carroll, P.R. (2008). Changes in prostate gene expression in men undergoing an intensive nutrition and lifestyle intervention, *PNAS*, 105 (24): 8369–8374.
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- <sup>12</sup> Aronson, E. (1992). The return of the repressed: Dissonance theory makes a comeback. *Psychological Inquiry*, 3: 303-311.
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