Original Article

The role of geomedia in building intercultural competence

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A qualitative case study within the context of a student exchange program between Austria, Germany and China

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Abstract: Structured student exchange programs are known to foster intercultural competence (IC). We conceptualize IC as a construct that ranges from the individual level to the interactive cultural level, and we complement existing models of intercultural sensitivity and processes of introspection. Several factors may influence IC, such as mediatization, the ubiquity of geomedia, and global economic power shifts – in our case the rising global influence of China. In our long-term, qualitative case study on Austrian/German and Chinese exchange students, we consider geomediatization as a new *socio*-technological regime that influences processes of social, cultural and physical orientation. The results indicate that, at the level of student exchanges, IC is a process of self-reflection and self-development. Geomedia play a major role in this process: they promise to provide a certain authenticity of experience, and sense of independence and safety, promises that are thwarted by exchange students' strong platform dependence and reliance on "the bubble".

Keywords: Geomedia, intercultural competence, China, student exchange, qualitative case study

Introduction

Intercultural competence (IC) has been intensively investigated and its importance in a globalized world is undisputed. It is even framed as a key competence in the 21st century (Bertelsmann Stiftung and Fondazione Cariplo, 2008). The importance of IC is often argued, and given increased professional opportunities in a global labor market, student exchange programs are seen as effective tools to foster this soft skill. In the European context, the Erasmus+ Higher Education Program functions under the umbrella of the European Commission to serve students, staff and institutions, and the impact study by Souto-Otero et al. (2019) shows significant results for the students who participated. Interestingly, the authors' results show high levels of intercultural openness, tolerance and engagement with social and political issues, and significant results with regards to competences relevant to employment and social cohesion (such as intercultural understanding or critical analysis of the media) (ibid. 181).

Three developments have possible fundamental influences on IC and the ability to achieve it. First, alongside other metaprocesses such as globalization, individualization and commercialization, mediatization concerns the central role of the media and media technologies in almost every aspect of our lives (Krotz, 2007), or even their indispensability (Jansson, 2018a).

Second, interwoven with those metaprocesses are global power shifts, influencing worldwide policymaking. On the one hand there are transnational, global companies, the so called "big five" (Google for Searching; Facebook among social media; Amazon in online retailing; Apple and Microsoft in personal computing), that have led to a "commercial annexation of public culture" and to an "economy of advanced capitalism" (Murdock, 2017, p. 123). The privacy policies, and data-mining and marketing strategies of these companies have created a new form of capitalism, "surveillance capitalism" (Zuboff, 2015, 2019), thus bringing existing notions of "private" and "public" into question, and allowing new variants of social and political life to thrive. These developments are particularly driven by geodata (Atteneder & Collini-Nocker, 2018; Claesson & Bjørstad, 2020; Elwood & Leszczynski, 2011; Keßler & McKenzie, 2018). On the other hand, there is China with its closed political, social and media systems, economy and self-controlled digital platforms, but rising global influence regarding (digital) infrastructure, developments in engineering, financial power through loans, and massive investments in Artificial Intelligence (AI).

China currently competes head-to-head with the USA regarding digital infrastructures, platform economics, robotics and automation; Europe is far behind (Heymann & Körner, 2018). The Chinese government invests in Europe's digital and physical infrastructures with projects such as the "One Belt, One Road" infrastructure network project, with a strategy formulated under the slogan "Made in China 2025" to overcome China's reputation for cheap mass products or the government's plans to launch China's own digital currency (Chen, 2019). China grants credits to foster those infrastructures to such an extent that some countries risk never being able to pay back their loans (Steinmetz, 2018). This initiative is accompanied by media offensives on Western network platforms to promote China's hard and soft power (Liang, 2019).

Other particularly noteworthy Chinese initiatives, with a potentially global reach, include plans to revolutionize China's entire health system ("Healthy China 2030") to make it more affordable, by outsourcing some diagnoses and treatments to AI platforms such as "Ping An Good Doctor" (Lovett, 2018; Wang, 2015), a service that would also include a "smart medicine cabinet" that could dispense more than 100 medications (Lovett, 2018; Wang, 2015). Another notable initiative is the introduction of a "Social Credit System"(Schlieker, 2019) based on (social network) behavior, and face and voice recognition, where algorithms decide which behaviors to foster and which to hamper. This system, which is being trialed between 2014 and 2020 to test the honesty and creditworthiness of voluntary participants, is a major step towards total control and surveillance (Sinopi, 2018).

At the same time, the Chinese university sector has been developed thanks to significant investment. According to the Center for World University Rankings (2017), there are several fields in which Chinese universities are particularly strong, notably Computer Science (Hardware and Architecture, Information Systems, Theory and Methods), Software Engineering, Telecommunications and Artificial Intelligence. Due to Chinese protectionism, which prevented U.S. corporations like Google and Amazon from penetrating Chinese markets, China developed successful equivalents such as Baidu (China's biggest search engine), Alibaba (an e-commerce platform with payment function), and Tencent, which combines instant messaging, a social network platform, an email service, online games platforms, news portals, online trading and a payment function. According to Goldfarb & Trefler (2018), China has developed significant commercial AI capabilities that can be measured by the number of

Chinese authors presenting papers at the major research conference hosted by the AAAI (Association for the Advancement of Artificial Intelligence). Whereas in 2012, 41% of the speakers were affiliated to U.S. institutions, this number decreased to 34% in 2017. Interestingly, in the same timeframe, the number of presenters affiliated to China increased from 10% to 23%. If we compare the largest companies engaged in AI by market capitalization, it is remarkable that Tencent and Alibaba, both AI-intensive Chinese firms, are also amongst the largest companies in the world (Goldfarb & Trefler, 2018, pp. 1-4).

These Chinese initiatives, which increase the global area of influence, not only lead to changes in political power relations, but especially to a spread of specific values and norms, such as an understanding of state control or privacy that differs from Europe. China's rising power status in international systems is linked to China as a normative power (Zhou & Esteban, 2018). A better understanding of culturally different value and norm systems and the corresponding skills and behaviors could therefore become increasingly indispensable to gain a foothold in a globalized job market. It is precisely this argumentation that legitimizes the increasing number of exchange programs between different countries and is listed as the main benefit of participating in such programs. In this respect, an exchange program with China is particularly suitable for exploring the conditions for developing intercultural competence.

Third, a new socio-technological condition – geomedia as "relational concept" – culminates in fundamentally new ways of (re)thinking the dialectics of place and media. Conceptually, the term "geomedia" describes the current media reality and does not only refer to a bundle of specific technologies or their associated practices, but rather functions as a label for the situations created by location-sensitive and spatial in interaction with further social, economic, cultural or political developments. Therefore, "Geomediatization" – that is, the indispensability of geomedia technologies in almost all social spheres and the subsequent adaption of (inter)actions (Adams, Cupples, Glynn, & Jansson, 2017, p. 10) – plays a role in our specific context, as exchange students might have an increased need for social, cultural and physical orientation. Our assumption is that geomedia influence the appropriation and perception of processes of culture, space and sociality in manifold ways.

There is extensive literature on social media, ICTs and appropriation of place in the context of tourism (see e.g.: Amaro, Duarte, & Henriques, 2016; Jansson, 2018b; Munar & Jacobsen, 2014; Narangajavana, Callarisa Fiol, Moliner Tena, Rodríguez Artola, & Sánchez García, 2017; Nguyen, Camacho, & Jung, 2016; O'Regan, 2009; Su, Wan, Hu, & Cai, 2016), most often based on Urry's "tourist gaze" (Urry, 2002) seen as a performative act, with its typical practices such as photo-taking. We consider these studies on tourism as organized mobility as part of a new mobility paradigm (Sheller & Urry, 2006). They are important as they concern tourists' changed perceptions of place. More recent research in geomedia studies has had diverse application fields. Jansson (2019) promotes an analytical framework for the role of geomedia technologies in gentrification processes; Halegoua (2020) and Polson (2015, 2016) focus on professional mobility and digital place-making that provoke new affordances and agencies, especially for women; Frith and Wilken (2019) point to the social shaping of geomedia service platforms based on Lievrouw's (2006) take on determination/contingency. In addition, some studies deal with the gratifications of the use of so-called "location-based services", for example with regard to identity formation processes (Saker, 2016; Saker & Evans, 2016a), as a digital memory function (Finley, Naaz, & Goh, 2018; Trigg, 2012) or with regard to social interactions or emotions (Evans, 2014; Wu & Wang, 2015). However, although these are very interesting approaches and worth consideration, they do not fully capture the specific setting of student exchanges, which are neither purely tourism, nor clearly professional (job-based), and there are no studies that specifically examine the role of geomedia in IC processes in this context.

The aim of this study was to find out whether and at what level intercultural competence was achieved in the case of a specific student exchange program. Assuming an increased need for orientation (in terms of navigation, social but also cultural orientation) in such exchange programs, the question arises whether and in what way geomedia promote or hinder the development of IC. In addition, this context raises the question of how to cope with socio-cultural challenges and, accordingly, learning processes and transitions. Research in this area is promising insofar as geomedia have become ubiquitous mediators between space, place and people. Geomedia in their dual nature are to be understood as media that are located: their use is bound to a specific location (every form of communication happens in a physically determinable space that can be expressed by added GPS coordinates) and as media that situate and therefore contextualize communication. This complexity and multilocality points to the productive elements of geomedia and the co-constructed nature of technology, the social and space. For research on IC, this results in the possibility of reintegrating space as an analysis category, but with a more fine-grained breakdown. Meaning that this proposed approach to space and place, however, does not fall into the trap of conceptualizing space as a container in which culture takes place, but as something fluid, changeable and constructed. On the other hand, research on the role of ICTs in student exchange programs and on the acquisition of IC is being expanded through the concept of geomedia. Geomedia not only create access to physical-geographical space, but also actively construct it by making pre-selections, guiding our perception and prescribing our handling of space. In this sense, (geo)media are not merely "carrier media" for the representation of geographic content, but should be thought of as a concept characterized by the simultaneity of different spatial, social and technological layers and dimensions. The respective scope of action of individuals is significantly influenced by these multiple digital realities, which cannot be reduced to physical-spatial components or media representations.

Theorizing intercultural competence

Intercultural Competence

A Delphi study amongst intercultural scholars showed the best-rated definition of IC to be the "ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (Deardorff, 2004, p. 186). Deardorff identified 22 essential elements of IC. To eliminate the fragmentation inherent in the list, she then developed a process model to summarize all components into four inter-related sectors or levels. The model moves from the individual level to the interactive cultural level (from internal to external outcomes). The individual level consists of attitudes and personal attributes (first sector). Central elements here are openness (to intercultural learning and to people from other cultures, without judgment), respect (valuing other cultures and cultural diversity), curiosity and discovery (tolerating ambiguity and uncertainty). The second sector describes specific skills (to listen, observe, interpret, analyze, evaluate, etc.) for acquiring and processing knowledge (cultural self-awareness; understanding and knowledge of culture; culture-specific information; sociolinguistic awareness). The desired external outcome (fourth sector), such as behaving and communicating effectively and appropriately to achieve one's goal, is based on the desired internal outcome (third sector) – that is, on an informed shift in frame of reference/filter, which comprises adaptability (to different communication styles and behaviors, and new cultural environments), flexibility (selecting and using appropriate communication styles and behaviors; cognitive flexibility), ethno-relativism and empathy (Deardorff, 2004, p. 196).

In order to gain an ethno-relative view, we have to overcome an ethnocentric orientation. In his developmental model of intercultural sensitivity (DMIS), Bennett (1986, 1993) provides a conceptualization for becoming an interculturally competent person. The first three ethnocentric orientations are denial, defense, and minimization. In this stage, one's own culture is experienced as central to reality. Ethno-relativism, by contrast, means that one's own culture is always embedded in the context of other cultures. Cultural differences are no longer avoided, but rather contribute to one's becoming more culturally sensitive and to developing cultural competence. This ethno-relative level has three stages: acceptance, adaptation, and integration. Acceptance means that the foreign culture is – in principle – regarded as of equal value to the home culture. In the adaptation stage, the experience of foreign culture leads to culturally adapted behavior, and foreign cultural perspectives can be adopted. In the final stage, integration, the person deals with the issue of his/her own cultural marginality, which means that the self is not constructed at the center of a culture, but at the margins of two or more cultures and central to none (Bennett, 1986, 1993).

Deardorff differentiates between the individual level and the interactive level, the latter being again divided into internal and external outcomes, making this conceptual framework suitable for the empirical part of our study, while applying Bennett's DMIS framework will help us to analyze the learning process and to evaluate which level the students reached after finishing their exchange semester.

We strongly emphasize the processual character of acquiring IC. IC is not something static or discrete but consists of transitions that can affect all four sectors. However, two shortcomings can be identified, especially in Deardorff's model: (a) the limited explanation of the concept of internal outcomes, and (b) the emotional drawbacks experienced in intercultural encounters (better known as culture shock), which are important for gaining self-knowledge in order to build up IC. Therefore, two further concepts will be introduced to establish a sound theoretical framework: the oscillation model of cultural internal and external experiences, and the concept of cultural confusion.

The oscillation model – a closer look at the process of introspection

The first shortcoming relates to the third sector in Deardorff's model (2004), the internal outcome, which involves a shift in reference and is of utmost importance for developing IC. Unfortunately, this component is not mentioned in the definition of IC: the first part of the definition, "ability to communicate effectively and appropriately", focuses on sector four (external outcome); the second part of the definition, "based on one's intercultural knowledge, skills, and attitudes", focuses on the first two sectors (attitudes; knowledge and skills). Furthermore, the process of gaining and evaluating desired outcomes such as adaptability, flexibility, ethno-relative view and empathy is not elaborated. Therefore, we introduce the oscillation model of cultural internal and external experiences. This model will help us to understand how the process of self-perception and introspection helps us to become aware of our own cultural filters and enables us to act with cultural sensitivity.

To be effective in engaging in IC, people need to construct observational categories that highlight communication. In the next step, they need to create categories that allow them to experience the world in a way which is similar to how people with a different worldview experience the world (Bennett, 2017, p. 4). However, the process of developing mutual understanding is always based on an interaction between the self and the other. The other can never be understood per se, because filters (the so-called socio-cultural filters of perception) are always interposed in perception. Experiencing the other is thus shaped by one's own socialization. These filters help us to deal with the infinite number of sensory impressions that affect us according to subjective criteria. Perceptual filters organize our experiences, and

therefore the focus must be on the unconscious strategy we use to order and generalize our subjective world and on how we assign meaning to the world. Building up empathic capacity is therefore a self-reflective process of cognition.
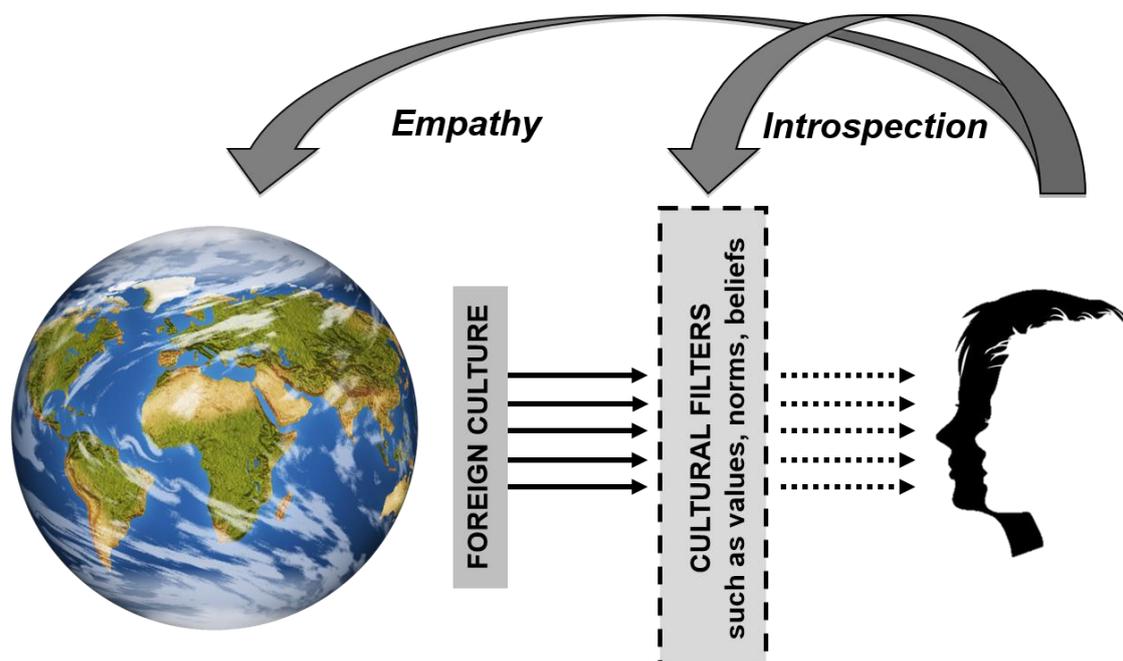

Fig. 1: Oscillation model of cultural internal and external experiences (Herdin 2018, p. 165)

The oscillation model describes the other as a mirror of one's self. Values represent a helpful approach because they are the core elements of culture and legitimize social norms. It is therefore necessary to become aware of one's own filters of perception, because we cannot experience and understand the world in an objective way. The writer Anaïs Nin makes the point: we do not see things as they are; we see things as we are. The other thus functions as a mirror in which the mental contours/profile of the self emerge. In this way, rigid perspectives and routines and solidified values can be challenged. This form of introspection, which can lead to greater self-knowledge, represents an important approach in the cultural discourse even though the other is ultimately incomprehensible. We can only create mental, metaphorical, 'maps' of the world outside us. To access reality is only possible via the subjective unconsciousness. Just as a map does not correspond to the landscape but only represents it in a symbolic way, so objective reality does not exist. Interaction with the other always represents an act of introspection with the goal of developing an empathic sensorium which "leads to personal enrichment, because it functions as a catalyst to explore one's own sensory world and to deal competently with contradictions" (Herdin, 2020).

Too little significance has so far been attributed to this aspect of self-knowledge, which is of central importance for establishing successful communication. From a constructivist perspective, competence cannot be associated with knowledge or attitudes, but rather with a certain "condition". Communicating well in another culture "is the ability to establish a particular perceptual condition that enables communication competence to be exercised" (Bennett, 2017, p. 4). Whereas people naturally learn and develop a sense of culture in their native environment, a clear and nuanced feeling for communication in other cultures does not often come naturally. For short-term sojourners, Bennett (2017) argues for perceptual flexibility, which consists of two aspects: perceptual acuity (being aware of one's own perceptual processes – "cultural self-awareness"), and perceptual agility (being able to change

those perceptual processes and setting up the conditions for empathy). One less obvious aspect of being empathic is being "mindful", "since no matter how attentive one is to different cultural expectations, it is likely that some *automatic* [our italics] processes from one's own culture will be engaged – possibly in ways that are detrimental to the goal of effective communication" (Bennett, 2017, p. 5). Consequently, when we talk about a "different culture" we mean the individual perception of "otherness" or "difference" in relation to one's own "fabric" (a construct of one's belief system, socialization, previous experience, etc.). Therefore, the question of how "otherness" is constituted is always a question of the constitution of one's own identity. According to Hall (1997) and philosophers such as Lévinas (1969), difference is indispensable for identity-forming processes and for the construction of meaning, and it is therefore the "basis of that symbolic order which we call culture" (ibid. 236). But difference can be the basis of prejudice and stereotypes; it is both "necessary and dangerous" (Hall, 1997, p. 234).

Culture shock – to be reconsidered in times of interconnectedness

The second shortcoming of Deardorff's model lies in neglecting intercultural setbacks, better known as culture shock. But in times of accelerated physical globalization in combination with rapid developments in information technology, the topic of culture shock needs to be reconsidered. Classical models are based on Oberg (1960), who stated that the new cultural experience begins extremely positively (honeymoon stage), since the first experiences elicit excitement. Unfamiliar signs and symbols in the host culture then lead to uncertainty and anxiety (disillusionment), and this accumulation of stress and cognitive overload ultimately leads to culture shock. This shock may trigger reflection on one's own attitudes and adjustment in order to cope better with otherness. The implementation of new behaviors would lead to a feeling of emotional stability, and at best it results in empathic behavior and an integration of cultural differences.

It is questionable whether these kinds of models are still relevant today, as cultures are not isolated entities and otherness is accessible at all times through increased mobility and digital interconnectedness. These developments require a dynamic model, such as Kim's dynamic stress adaptation growth model (Kim, 2001, 2017). Acculturation is understood as consisting of spiraling positive and negative phases. The dualism of stress and adaptation is related to the duration of the stay abroad, which ultimately leads to the individual's psychological adaptation to the foreign culture (Kim, 2001, p. 246).

Neuliep (2017) refines the factors that influence a difficult cultural experience. He lists intrapersonal, interpersonal, spatial and control factors, as well as cultural similarity, quality of information, host culture receptivity, geopolitical factors, and organismic-biological factors. Applying these factors to a student exchange, we see that participation is voluntary and limited in time (control factor), and right from the start the participants get an idea of Chinese culture through information from the program managers and former participants (quality of information). Particular emphasis is placed on the interpersonal factor in the exchange program. According to Neuliep (2017), this factor includes social support networks, host culture relationships and native culture relationships (cultural informants)[1]. In addition, the students

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[1] "Cultural informant" is a term originally used in ethnography to describe people who are deeply integrated in the culture that is being observed and are willing to give insights and guidance to answer ethnographers' questions (Spradley, 2012; Spradley & McCurdy, 1972). We use the term to refer to anyone who knows more about the host culture than the exchange student, including the program's coordinators, former participants or buddies.

are actively integrated into the host culture, as courses have been established to meet their academic needs, and bonds with their buddies are promoted (host culture receptivity).

Although the cultural differences in the Austrian/German–Chinese exchange program are profound, the students are well prepared, socially embedded, and always networked online, both to their buddies (as cultural informants) and home (family and friends). A culture shock in the classical sense was not to be expected and did not occur. Cultural challenges provoke more to a form of cultural confusion (Hottola, 2004), a concept that provides an alternative framework, which was developed in the field of tourism. Most tourists are not motivated to assimilate or even to adapt to the host culture because of their short-term exposure to cultural differences. Although the exchange program lasts longer, it, too, is limited in time. While in traditional models culture shock is characterized by uncertainty and anxiety, in the cultural-confusion approach learning and control management are more central than depression and recovery (Hottola, 2004, p. 461). As in the Oscillation model, cultural confusion (external experience) is the catalyst to reflect on one's own values and beliefs, which could lead to greater self-awareness.

Mediatized Cosmopolitanism

Although we have stressed the increasing importance of China (as a nation-state with its specific policy) globally, we argue strongly against a conceptualization of China as a homogeneous culture. History has shown the problems of conceptualizing the nation-state as a container for culture and society. In direct opposition to traditional notions of the nation-state, cosmopolitanism (as for example in Beck, 2002) captures various aspects which we describe under the term IC, such as acknowledgement of "otherness" in terms of culture, places and people, a certain curiosity regarding difference, as well as empathy (Beck, 2006, p. 7). Lindell (2014) attempts to operationalize the concept of cosmopolitanism, dividing indicators into moral, political and cultural aspects of a cosmopolitan disposition – that is, a disposition to "elevate 'openness' to the 'transcultural' or global level" (Lindell, 2014, p. 3).

Several authors emphasize the centrality of media and communication (technologies) in processes of cosmopolitanism: globally mediatized events that make people cosmopolitans by default (Beck, 2006), different ways of relating at a distance (Rantanen, 2006), or the assumption of cosmopolitanism among 'digital natives' (high media and technology penetration and low age) (Lindell, 2014, p. 7) mean that it is "impossible to conceive of cosmopolitanism(s) today without accounting for mediatized lifeworlds" (Christensen, 2014).

To help counter the shortcomings of mediatization theory, we adopt Janssons "cultural materialist perspective": "mediatization" does not refer simply to increased media usage or increased digitalization, but rather to a structuration of, and materialization within, the fabric of social life and culture, through everyday (unconscious) habits. Further, Jansson (2018a, p. 7) points to the dialectical nature of mediatization as having possibly liberating as well as trapping tendencies through which the tension between autonomy and dependence can be expressed, and pays attention to the complex relations between mediatization, individualization and globalization.

At this point, we have to ask about the consequences of mediatization for student exchange programs and encounters with an unfamiliar place and culture. With respect to the ubiquity and indispensability yet dialectical character of mediatization, we find on an individual level aspects of "cosmopolitan selves" which may "integrate vernacular experiences of territorial insecurity, threat, and loss, as well as more subversive manifestations of identity and identification" (Christensen & Jansson, 2015, p. 1438). The cosmopolitan self stands in tension with the encapsulated self, which "entails the very opposite outlook, an ethical desire to avoid ontological threats and problematic encounters with the Other. It corresponds to the social logic

of dwelling, moving, and fantasizing in a seamless, uninterrupted, and securitized manner" (ibid.). While the "intense mediatization of our worlds brings with it a de facto openness to, and the possibility of connectivity with, the other (cosmopolitanism), it also makes it possible to create mediated bubbles of closure, clash, monitoring and exclusivism" (Christensen, 2014, p. 160).

When students spend a semester abroad, we assume that they have an increased need for orientation in the broadest sense: socially, culturally and physically (navigation) – socially with respect to the organization of study and social life and the management of existing social networks; culturally in (de)constructing and perceiving "the different culture"; and physically in placing/moving/navigating themselves physically while at the same time (adopting a phenomenological view) having bodily experiences that challenge their own "fabric".

This points to the question of how to capture the relations between the perception and appropriation of place, communicative practice (expanded through media and technologies), and actual location.

Relations of Place and Media

Fueled by socio-technological conditions such as digitalization, algorithmization and datafication, the ongoing discussion about the dialectics of space/place and media regains significance. Techno-economically, "ubiquitous geodata capture" (Wilken, 2018) is at the core of almost all services and business models. At a higher level of abstraction, focusing on broader societal implications several authors refer to "geomedia" (Fast, Jansson, Lindell, Ryan Bengtsson, & Tesfahuney, 2018; Gryl & Jekel, 2012; McQuire, 2016) as an analytical framework and relational concept that captures the co-constitutive processes between space/place, media (technologies), and the social (Fast, Jansson, Tesfahuney, Ryan Bengtsson, & Lindell, 2018, p. 8).

Sketching the terrain of geomedia studies, Adams (first in 2009) systematizes the dialectics of space/place and content/context in his "four quadrant diagram":
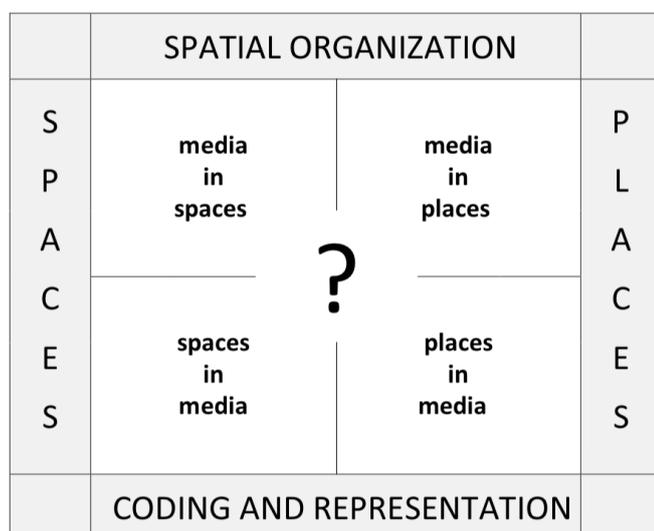
Fig. 2: "the ontological and epistemological terrain of geomedia studies" (Adams, 2018, p.43)

Adams bases his ideas on Lefebvre (1993) but aims to provide a framework that is more complete and easier to apply, avoiding essentializing the binaries and seeing the terms, rather, as being on a spectrum (Adams, 2010, p. 40). It is fruitful to adopt an understanding of

space/place that ranges from a container perspective to a constructivist understanding of place (Wardenga, 2006), capturing space as socially constructed and reshaped by individuals' discursive practices. Space in this tradition is a product of the appropriation of space; and as Massey (1999) famously pointed out, this is a question of power geometries. Starting with the "media in places" quadrant, we should note that "an act of communication is an event that occurs somewhere – it *takes place*" (Adams, 2018, p. 43). When applying these quadrants to our exchange students in China, we can imagine the students going out to a karaoke bar. This particular public place with its specific implicit and explicit rules "shapes communication, not merely with regard to interpretative or 'decoding' activities, but also with regard to embodied engagement and social interactions arising from communication" (ibid. 44). As an example for the "place in media" quadrant, we could think of the students watching a vlog about a particular place in China which they plan to visit – for example Suzhou, which is famous for its history, architecture and canals. Watching a vlog about it would mean "encountering a place in video form" (ibid. 44), with the video having a life of its own that was "separate from but related [to]" (ibid. 44) the physical space. "Space in media" refers to "topological spaces defined by networks of organizational affiliations and personal acquaintances", such as the spaces of connectivity of social network sites where the "main structuring force is who 'knows' (or 'follows' or 'likes') whom, rather than who is necessarily physically close to whom" (ibid. 45). It is this quadrant that was involved when students argued that their communication habits regarding their existing social networks (with friends and family "at home") would not change although they were in China. The final quadrant, "media in space", refers to the actual material or hardware for the transmission of (digital) signals (sounds and images) – fiber-optic cables, communication satellites, or other technology. Adams points out that all "four quadrants are profoundly interdependent and come together in every communication event, although one aspect or another may be more apparent" (Adams, 2018, p. 46).

Acknowledging technological developments such as a GNSS, mobile devices with permanent internet access, digital cartographical applications, cloud services, connection between APIs and social media profiles, augmented reality, sensors (for movement, speed, light, etc.), and the software that is an integral part of these technologies, we may share a non-technodeterministic view that takes the *social construction* of (geomedia) technologies into consideration (Fast, Ljungberg, & Braunerhielm, 2019). With respect to geomedia, some scholars point to a conceptualization of "software as both a product of the world (created via a collective and contingent process) and a producer of the world (or code/space) through its relations and interactions" (Zook, 2012). This means we have to consider "the reciprocal shaping of technology, the social, and space/place" (Fast et al., 2019), pairing a social constructivist (Berger & Luckmann, 1969) with a SCOT (Social Shaping of Technology) or rather ANT (Actor Network Theory) perspective. These approaches come together in the "socio-technological molding force that has been presented as *geomediatization*" (Fast, Jansson, Tesfahuney, et al., 2018; Fast et al., 2019; Jansson, 2019) and that is marked by the indispensability of geomedia technologies in virtually all social spheres, where (inter)actions have to be adapted accordingly (Adams et al., 2017, p. 10).

These approaches provide fruitful analytical frameworks for investigating the media–space–technology triad and allow for its extension to cover aspects of the construction of IC, as based on the concepts of "foreign" space, culture and "otherness" in combination with reflection on the self. Consequently, we must focus on the processual and co-constructional character of IC. Geomedia could be a bridge between cultures, or allow the perception of difference, and could perforate closed cultural settings. They could help to overcome the limitations of a traditional (container) understanding of space and could moderate cultural obstacles of difference, such as language. If "intercultural competence" means the "ability to communicate effectively and appropriately in intercultural situations based on one's

intercultural knowledge, skills, and attitudes" (Deardorff, 2004, p. 186), geomedia could help to focus on similarities rather than differences, or strengthen the tolerance of ambiguity.

The Sample

Participants in our study were part of the Master's Exchange Program "Media and Communication Management" (MCM), a cooperation between the School of Journalism at Fudan University, Shanghai[2], and the Department of Communication Studies at the University of Salzburg.

The Exchange Program was established in 2007 at the Sino-Austrian Center for Media & Communication Management (University of Salzburg). Since the start of the program, more than 400 students have taken part and studied for a semester in Salzburg and Shanghai. The special characteristic of this exchange program is that two cohorts (Chinese as well as Austrian/German students) study together for one semester in Salzburg (winter) and then in Shanghai (summer). To ensure students' motivation, they had to go through an application process to prove their attitudes towards openness, curiosity and respect (the first sector of Deardorff's model (2004)). Once on the program, they were obliged to work in intercultural, collaborative teams and to analyze cultural differences in academia and their respective scientific systems to stimulate IC.

To enhance their cultural skills (second sector) and foster cultural exchanges on a daily basis, students were integrated in mixed social buddy pairs (one Chinese with one Austrian or German) and academic tandems. Due to Salzburg University's catchment area, there were a significant number of German citizens amongst the students. The cohort we studied consisted of 14 students from China (4 from BFSU, 8 from NNU, 2 from Fudan), and 11 from Austria/Germany.

Methods, approaches and data capturing

The data for this paper was gathered between 2016 and the end of 2018, at Fudan University, Shanghai, and at the University of Salzburg. To ensure rich data, we applied a qualitative mixed-method approach, combining focus group interviews (during students' stay in China/Salzburg as well after their return to Salzburg/China), "in vivo" diaries (Nezlek, 2012), and "worldcafés" (one per semester). To gain insights into their experiences, impressions and changes in attitude, and their retrospective reflections, we accompanied the students and collected data beyond the actual exchange period.

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[2] Fudan University is the main partner; junior partners are Beijing Foreign Studies University (BFSU) and Nanjing Normal University (NNU).

cohort	WS16/17	SS17				WS17/18
Chinese students	group interviews (3-5 students per interview)	worldcafé 1		diaries	worldcafé 2	
Salzburg students			group interviews (3-5 students per interview			retrospect group interviews (3-5 students per interview)

Fig. 3: time-scheme for the data-capturing process

Focus group interviews averaged 60–90 minutes and allowed insights into group settings and group dynamics (Guest, Namey, & Mitchell, 2013). In wintersemester (WS) 16/17, we started the focus group interviews with Chinese students during their stay in Salzburg. Field notes about body language, eye contact and facial expressions were taken. Those markers helped to identify ambiguous expressions and, accordingly, differences in meaning during the interviews what was marked in the transcripts and taken into account in the analysis. Especially in the interviews with the Chinese students, agreements with statements of the others were made clear through non-verbal gestures, which made the field notes important additions to the material. The worldcafés, as format for participatory (Löhr, Weinhardt, & Sieber, 2020), circularly shifted communicational processes allowed students from China and Salzburg to work together on their stereotypes and prejudices about the respective foreign country. The results of the worldcafés, in turn, were specifically addressed in a section of the semistructured interviews as a stimulus and were thus incorporated into the results and the evaluation. The "in vivo" diaries captured experiences in everyday life, organized according to type of event, such as excursions following the so-called "Event-Contingent Design" (Bolger & Laurenceau, 2013, pp. 17-18). The diaries were structured using questions about the diarists' strategies for preparing a trip, the used technological tools, platforms and subsequent behavior; they were urged to answer the questions as far as possible before and during the event. This "intensive longitudinal measurement" (Bolger & Laurenceau, 2013), or "intensive repeated measures" (Nezlek, 2012), reveals "the relationships within and between everyday behaviors, activities, and perceptions" (Bolger & Laurenceau, 2013, p. 12). The approach also both reduced recall bias and gave us a point of comparison for the answers given in the group setting, which may themselves have been subject to group biases.

About three months after their return, we again did focus group interviews with the Salzburg students to find out more about the transitions they were going through and possible re-entry culture clashes. We asked them to classify their experiences and wanted to know whether they would look differently on their semester abroad having a distance to the events. Unfortunately, the "retrospect" interviews with the Chinese students could not be carried out in the wintersemester 17/18 due to lack of willingness. In this respect, the analysis of the longer-term transition processes could not be carried out in a comparative perspective.

Finally, the data was loaded into MAXQDA (version 18.2.0), a qualitative data analysis program and coded. The coding scheme resulted from a theoretical framework that was refined and replenished through the coding-procedure – for example by sub-codes. Utmost care was

taken to establish clear, mutually exclusive codes according to the approach of Campbell, Quincy, Osserman, and Pedersen (2013). This required keeping a balance between reducing the coding scheme for a higher degree of reliability, and implementing code families to capture different nuances of a general theme. To overcome subjective interpretations of what to consider the unit of analysis and in order to achieve inter-coder agreement, the first samples were coded in joint coding sessions, discussed, revised and enriched with background information. For more structure code families were implemented to capture different nuances of a general theme. The transcripts of the group discussions most often included free responses to open-ended questions from sometimes different speakers, hence the units of analysis were not naturally given. We decided to stick to the idea of Krippendorff (1995) to select "individually meaningful and codeable entities", a process called unitizing. In the final step, the finished coded transcripts were, according to our research questions, combined, exported and finally extracted to results-sheets for analysis.

Results

The categories set from the theory, supplemented by subcategories from the material, are: "aspects of intercultural competence" (consisting of the individual and the interactive-cultural level), "the group", "relations of place and media(-technologies)" and "transitions".

		Chin. stud.	Salzburg stud.	Diaries	Retrospect IVs	Total	Total per Main category
Aspects of intercultural competence - Individual level (introspection)		1	0	0	0	1	
	lessons learned, competences, capabilities, ambiguity-tolerance	17	24	7	52	100	
	strategies for stress-reduction	14	27	15	0	56	
	self-reflection	3	20	11	25	59	**216**
Aspects of intercultural competence - Interactive cultural level ("the other")		1	0	0	0	1	
	the importance of travel	9	1	1	4	15	
	contact with locals	8	13	19	27	67	
	cultural informant	17	6	3	0	26	
	changed stereotypes/images of China/Salzburg	20	38	15	30	103	
	language barriers	10	22	6	12	50	**262**

The group		0	3	0	0	3	
	group dynamics	7	10	0	1	18	
	isolation/encapsulation	2	11	1	5	19	
	role of the group (group reflections)	2	9	0	3	14	**54**
Relations of place and media (technologies)		0	0	0	0	0	
	tools / geomedia tech. / ICTs	26	27	13	2	68	
	(changed) perception	8	14	4	1	27	
	navigation	7	20	29	0	56	
	appropriation (of places)	12	6	12	13	43	
	permanent connectivity	9	15	2	0	26	**220**
Transitions		0	0	2	6	8	
	re-entry	0	0	0	26	26	
	stress (trigger) group	0	15	3	1	19	
	stress with locals	10	18	16	6	50	
	stress with oneself	6	16	1	5	28	**131**
	SUM	189	315	160	219	883	
	N = documents	4	4	16	3	27	

Table 1: Coding scheme and results per category

On an individual level, the following topics could be identified from the material: "lessons learned, competences, capabilities, ambiguity tolerance" (100 mentions), "strategies for stress-reduction" (56 mentions) and "self-reflection" (59 mentions). It is not surprising that most of the competences and learnings achieved were only recognized and named by the participants after the exchange programme. On this level we see intra-individual processes of change towards IC, such as the development of skills, competences and capabilities or a generally more relaxed approach to life and the better tolerance of ambiguities. "If you are quite relaxed and don't let yourself get stressed, then it works. If you now /.../ look at every little obstacle a thousand times, of course, and look at it from every angle, this obstacle becomes bigger than it actually is" (IV1_2). The development of the own attitude was partly even described in the direction of fatalism.

In the terms of the developmental model of intercultural sensitivity (Bennett, 1986, 1993), a higher degree of ethnorelativism could be observed. Students became more culturally sensitive and developed a measure of IC, especially on the levels of acceptance and adaptation. Regarding Deardorff's model (2004), change happened predominantly in the third sector (the desired internal outcome), such as an informed shift in reference based on experiences that were reflected on, adaptability to new cultural environments, or behavioral and cognitive flexibility.

On the interactive cultural level topics such as "the importance of travel" (15 mentions), "contact with locals" (67 mentions), the role of the "cultural informant" (26 mentions), the change of stereotypes" (103 mentions) and language barriers arose.

Within our sample, the role of cultural informants in providing access to the host culture was immense. This might not be reflected in quantitative measures, but most contacts with

locals came about through the connections of cultural informants. In preparing for new students' stays abroad, former MCM students supported both Chinese and German/Austrian students; the MCM Coordinator was an essential pillar for administrative matters. However, contact with local people and institutions was minimal. This echoes findings in the field of cultural surface synchronization (CSS), which indicates that while cultures synchronize globally, they do so only superficially – with respect to clothing, global retailers, behavioral patterns etc. (Herdin, 2018, p. 664). Values and norms that are deeply rooted in the social fabric still exist and influence beliefs and habits. Intercultural learning takes place on the margins, and "the other" is seen through one's own reflection, meaning that the experience of difference is tested against existing coping strategies and behavioral norms. There is very little common ground or common understanding. These findings indicate that while strong existing filters (through socialization, experiences, values and norms etc.) hinder intercultural contact, these must be seen at the same time as protective, complexity-reducing mechanisms that help to prevent mental overload. Coming back to Deardorff's model (2004) the fourth level (the desired outcome), the ability to communicate effectively and appropriately in an intercultural situation was hardly noticeable and deep cultural exchanges with Chinese locals rarely took place as students were unable to decipher "the others'" mindset. This became visible in communication behavior, for example, when it came to expressing a direct "no", or conversely, when a vague statement could not be decoded. "…so the distance to the locals is greater than I might have expected…" (IV1_1). Overall, language barriers were among the most frequently mentioned problems when it came to direct contact with locals and food and language were the main topics discussed in relation to cultural differences: problems understanding labels in a supermarket, ordering food, making complaints, availability of certain goods, different mealtimes, new flavors and foodstuffs, cooking at home vs. going out, etc. Interestingly, we did not discern any differences between the Chinese and Austrian/German groups where the main topics of discussion were concerned.

Nevertheless, both groups discovered the huge heterogeneity of Chinese/European culture, which is the first important step to eliminating stereotypes and prejudice. There were certain changes in attitude. For example, "to go to China and learn everything about Chinese life and culture" changed to "the more I learn [about Chinese culture], the less I know." Or the astonishment of the Chinese students that Paris, for example, does not meet their romanticized expectations[3] and that not all of Europe is affected and uncertain by terrorist attacks. With regard to safety-aspects, an interesting topic came up in the lively discussions, although we didn't ask about it directly: the perception of security. A common view amongst Chinese interviewees was that Salzburg was extremely safe compared to other European cities. They said that they were quite anxious about living in Europe due to recent terror attacks. Nevertheless, living in Salzburg seemed to be an option they were happy with, compared to Paris, for example, where they experienced muggings. Safety also played an important role for the Austrian/German students, but in a completely different way. They felt safe in Shanghai and other parts of China due to heavy surveillance, such as CCTV. Being surveilled by the state was an evil that they accepted in order to be able to travel and go out independently and freely.

Reflecting on the whole student exchange, after settling back into their home setting, one interviewee when asked about what they had learnt and understood about Chinese culture stated "the foreign culture is different, and that's ok". Overall, the results indicate that IC is a process of self-reflection and self-development. The (intercultural) experiences that they had were interpreted by the participants in direct relation to "the self".

Regarding the role of the group, which is specific to such coordinated exchange programs, the following issues could be identified: the discussion of certain "group dynamics" (18

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[3] Aspects of the „paris syndrom"?

mentions), the group as a source of "isolation/encapsulation" (19 mentions) and overall "group reflections" (14 mentions). The group had an ambiguous character. On the one hand, it was seen as being hugely important, providing safety and a sense of belonging, family and home. Especially during the first weeks, the group was strongly bonded together. Some felt that even shopping at the nearest grocer's was a task that couldn't be completed without the group. Some interviewees stated that they wouldn't have considered going on the exchange at all without a group. Functioning as a catalyst for releasing stress and frustration, and as a mirror to reflect the participants' own coping strategies and reactions, the group fulfilled an important role. As one interviewee puts it: "I learn a lot about myself, because I see how others behave in certain situations…" On the other hand, students described interpersonal tensions and conflicts within the group, and the negative effects of a group bubble that prevented them from experiencing and exploring the foreign culture on their own. On returning to their "home" cultures, the group played an important role in the process of "deculturation" of "the other", in integrating the cultural challenges or cultural confusion (Hottola, 2004) experienced abroad. Some participants described, for example, that they could not share certain experiences with their friends or their family because they did not feel understood there.

In the category "relations of place and media(-technologies)" we could identify the subgroups of certain "tools, geomedia technologies, ICTs" (68 mentions), the discovery of a "changed perception" (27 mentions) through those tools, "navigational queries" (56 mentions), the "appropriation (of places)" (43 mentions) or issues of a "permanent connectivity" (26 mentions). Reflecting on the use of geomedia technologies, participants said that they relied on them at different stages of their exchange. Different kinds of geomedia technologies were key in preparing for the exchange as well as for excursions during their stay. They gathered information about their excursion destinations/host culture from travel blogs, vlogs, and better and less well-known commercial platforms such as TripAdvisor. They also prepared navigational queries and bought tickets in advance using mobile devices. The decision of where to go and what to visit was generally made before departure (for local and daytrips in the host-culture) and was based on their inquiries ("place-in-media" perspective). The interviewees, both Chinese and Austrian/German, expressed a strong wish for "authentic" cultural experiences and relied on geomedia platforms and services to provide them with information about these. The participants were under the impression that they were receiving "insider tips" and indications of "hotspots" that were normally known only by locals. But our research revealed that students tended to rely on just a small number of platforms for information, and the "insider tips" were most often revealed to be of commercial interest. Participants did not evaluate the source of the information; the use of geomedia was characterized by passive consumption. Geomedia were used for simple navigational queries and for coordinating social events (e.g. "I've sent you my location – where are you?"). They functioned as superficial communication tools with the possibility of visual and spatial extensions. Sending a picture and locational information for the broken air-conditioning is an example here.

Once students were in their host countries ("media in place" perspective), geomedia also helped to give students a sense of independence and safety with respect to mobility and navigation. The choice of POIs (Points of Interest) on excursions was generally made in advance, but sometimes there was room for spontaneous decisions, with the "help" of location-based services. Geomedia technologies worked as tools for emergency management if preparation failed, and as (non-human) agents for following a plan. Interestingly, participants described situations in which preparation *and* troubleshooting with technological help failed as being the most fruitful for their intercultural learning. Having to find creative solutions, overcoming resentments and fears – stepping out of their comfort zone – were associated with unpleasant feelings, but in retrospect were connected with pride. Participants described situations in which the environment in which they found themselves was blurred, their

perception of it being vague due to the extensive use of their smartphones. Movements were goal oriented, following a prior plan; POIs were "ticked off", with obligatory photo-taking.

Geomedia technology makes it easy to stay within "the bubble", whether the "group", "backpacker", "Chinese-travelers-in-Europe" or "academia" bubble. This points to media–space dialectics, as geomedia seem to reinforce the filters that already exist, helping to avoid challenges to one's own opinions. They could in this respect hamper the development of empathy and mindfulness.

After the experiences themselves, geomedia technologies were used to share pictures and maps with itineraries, to discuss the lessons learned, or for mental processing. They work as what Saker and Evans (2016b) call technological memory and play a role in identity-forming processes.

Within the framework of "place media relations", we experienced one cross-cutting theme: a strong dependence on mobile network technologies, referred to many times by Chinese and Austrian/German students alike, in contexts ranging from staying in touch with loved ones, shopping and finding the right goods, to navigation, translation, logistics and organizing one's social life. Talking about technological dependencies, one interviewee said: "I am completely lost without my smartphone." When asked about the one thing they wouldn't want to be without during their semester abroad, the students' number-one answer was their smartphone.

Conclusion

Cultural contact only happens on the margins, and in our study the cultural experience was reduced to a minimum (food and language). Furthermore, we argue that geomedia technology supports the strong existing filters, and makes it easier to stay within "the bubble", reducing uncertainty and challenge to a minimum.

Our findings strongly support the definition of geomediatization as the indispensability of geomedia technologies and adaptation of social (inter)actions according to these technologies. But the adaptation of social interactions in an intercultural setting often means to interact socially while staying within one's own bubble, avoiding insecurities such as having one's prejudices and preconceived ideas challenged. Geomedia technologies make it possible to navigate through a different culture without direct contact with that culture: the self remains "encapsulated".

Is this *appropriate* behavior and *effective* communication (and in that sense interculturally competent), or is it successful avoidance of intercultural contact within a foreign country? We would suggest it is both: going abroad *and* staying within the bubble, overcoming one's own barriers *and* reinforcing one's own filters, encapsulation *and* decapsulation… Most of the students admitted that they wouldn't have considered the exchange at all without the group setting or without the technological possibilities that enable orientation and a sense of security. Geomedia technologies therefore can help to overcome barriers. In a context that brings a "de facto openness to and the possibility of connectivity with the other" (Christensen, 2014, p. 160), we could speak of *geo*mediatized cosmopolitanism. Moreover, several examples showed that geomedia bubbles could be burst – by accident or deliberately. Bursting the bubble, opening students to "the other", had challenging yet identity-forming aspects, as "the other" resonates directly with oneself. This means that geomedia as a socio-technological condition are co-constructed by filtered perception, appropriation processes and subsequent actions.

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