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The Opened Mind: An Application of the Historical Concept of Openness in Education

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This chapter will argue openness in education is an expression of the development of the human mind that allows the individual to seek an objective stance relative to received tradition. The capacity to think as an individual led to such advances in cultural evolution that it has become universalized with education becoming a project promoting nothing other than the further development of this capacity. This promotion of thinking skills may be constrained or uneven. For example, universities have traditionally exercised a gatekeeping function determining which classes and categories of people are permitted entry. Such a function will restrict the opportunity of some classes to develop those thinking skills we associate with education. Also considered in the concept of openness is the development of accepted canons and the ability of faculty, students and the public to challenge those canons. Since education involves self-change, it also changes the cultures of those who participate; and the discussion of openness must also include consideration of the receptivity of cultures to education.

Referencing earlier work, we will suggest that an evolved self-structure allowed us to situate ourselves temporally and contextually with notions of objective reality leading to our self-definition as a rational species. As will be seen, since such learning may effect changes to the worldview and to learners' "self," issues with respect to the transformative nature of education such as the balancing of the individual and the collective, and implications of democratization

are discussed along with issues of content and historical tradition. The receptiveness or openness of cultures to education-enhancing transformative education in the development of mind will be examined. We conclude with a paradigm on the transmission of cultural meaning. Fundamental to this discussion is what is meant by the term “mind.”

Cultural Evolution and the Development of Mind

Johnson (2003) defined *mind* to be an evolved cognitive program that included algorithms for objective belief, individual volition and internally consistent thought. After studying three-millennia-old written work, he declared that ancient Egyptians and Greeks lacked such minds. Although we cannot be certain when humans obtained the ability to situate themselves temporally and contextually as individuals with accompanying notions of causality, at some point in human history our ancestors would have lacked these abilities. It can be said, however, that significant developments in human cultures with inevitable applications to self-construal occurred during the period referenced by Johnson. Noting an outpouring of philosophical and religious thought across numerous human cultures during the period from 800 to 200 BCE, Jaspers (1951) declared this period to be the “Axial Age” when “the man with whom we live today came into being” (p. 135). Mahoney (1991) called this epoch “a time of turnings... of unprecedented reflective and spiritual activity when humans first “formally” discovered the universe within themselves and the powers of faith and reason” (pp. 29-30). Robertson (2017) argued that the self evolved culturally during this period with humans defining themselves using cultural memes for volition, constancy, distinctness, and social interest. Central to this development is the sense that there is an “I” capable of such thinking with self-reflection the inevitable spandrel to the exercise of these abilities.

The evolution of the individual self was not without cost. Homo sapiens owe their success as a species to the ability to take collective action in response to environmental challenges (Harari, 2016; Pinker, 2002), but prior to the development of an individual volitional self such action would be dependent on genetically and culturally programmed behaviour sequences that responded to triggering stimuli. While the “cultural wisdom” contained in such response systems was less efficient in addressing new challenges, it had eminent application to conditions in which they evolved. Creative individual action could result in less effective responses than those already present in the collectivity’s repertoire. Individual self-interest could destabilize the collectivity by challenging assumptions upon which the collectivity was based. Thus, the Axial Age was as much about placing limits on the volitional self as it was on embracing new knowledge creation, with resultant implications for openness in education.

Education prior to the Axial Age would have largely consisted of the rote learning of culturally mandated customs and responses. With notions of an objective reality that exists outside of such cultures, education necessarily became concerned with epistemological questions such as, “What constitutes evidence?” Initially, education that developed rational thinking abilities was restricted to small classes of people with limits placed on inquiry to protect the collective interest. In today’s parlance, societies that attempt to limit inquiry in the interests of the society are often termed “traditional” or “collectivist,” while those advocating a more radical paradigm are called “individualist.”

Yet people in societies deemed to be collectivist are capable of individual volition. For example, a recent study involving 1,660 Chinese adolescents (Li, Wang, Zhou, Kong & Li, 2016) found that a majority (85%) had a belief in their own individual volition and they scored higher on scales of cognitive and affective well-being than those who did not share this self-

belief. Conversely, individuals in societies marked as individualist engage in collective identification and action because such abilities are fundamental to social organization. Defining individualists as those who perceive themselves to be stable autonomous entities and defining collectivists as those who view themselves as dynamically defined by their social context, Chiao and his associates (2009) used functional magnetic resonance imaging (fMRI)¹ to modulate neural representations underlying these social cognitions during the processing of general and self-judgments. They found that such imaging positively predicted how individualistic or collectivistic a person is across cultures; however, subjects from Japan were as likely to be individualistic or collectivistic as those drawn from the USA. In a qualitative study using a cross-cultural sample, Robertson (2010) identified memes for both collectivism and individualism in the selves of every participant. Psychologists from a variety of therapeutic schools have reported that approaches assuming individual volition and/or self-regulation are effective in cross-cultural settings (Deci & Ryan, 2008; Freire, Koller, Piason, & da Silva, 2005; Robertson, Holleran, & Samuels, 2015; Seligman, Steen, Park, & Peterson, 2005). An implication of this research is that the dichotomous designation of societies as “individualist” or “collectivist” is too simplistic and such designations may reflect the official ruling political ideologies more than the constituents themselves.

Education has the potential to be personally transformative (Conrad, 2008; Robertson, 2011a). It is argued here that from its earliest beginnings, the project of education has been based on an evolving vision of our human potentiality that includes conceptualizations of objective belief, individual volition and logically coherent thought. Issues involving the scope of what is taught and to whom it is taught and openness with respect to content and access flow from this beginning.

Education as a Response to the Needs of the Individual and the Collective

In this chapter, openness references opportunities given to those classes of people permitted to gain the knowledge that promotes capacities of selfhood. The ability to question and develop the mind is a powerful advantage that is promoted as a practice of power. At the same time, the individual thus formed and promoted must also be contained and enabled within the collective cultural matrix. From this perspective, history is a balancing of the forces of collectivism and individualism. Democratization is a process of extending the rights of citizenry and education to increasing classes of people and extending the rights of the educated to question existing knowledge the ultimate triumph of individualism. Open access to a university education is part of a three-millennia process of the formation of the individual and the democratization of knowledge with open universities and Massive Open Online Courses (MOOCS) representing a further and more recent extension. As the field of MOOCs expands in education, there's also accompanying diversification in its implementation. This diversification posts a challenge to higher education within the “landscape of educational provision” (Czerniewicz, 2014; Weller, 2017).

The balancing of the forces of individualism and collectivism is best accomplished through the individual’s conscious appropriation of tradition, where tradition may be seen as the accumulated responses and patterns of the collective and conscious appropriation may be seen in the ability to individually respond to tradition as a dimension of objective reality. Based on an understanding of the mimesis at the basis of cultural transmission and development (Girard 1977), it may be seen that the formation of the individual is at the same time the individual’s appropriation of culture. Education thus needs to have a definite historical and cultural content which is subjected to a hermeneutic retrieval (Gadamer, 2013) which will be explored further in

this chapter. Quality education must offer the understanding of tradition which was espoused by the liberal arts together with the capacity for a critical reception. This capacity to receive culture and give it a personal meaning is a central aspect of meaningful creative living (Winnicott 2005/1971). This necessity for creative cultural transmission indicates that the content and practice of quality university education necessarily involves cultural sources that are not arbitrarily chosen but historical. The process of opening minds is also the process of becoming cultured within a specific historical situation, and debates about culture and multiculturalism are at the heart of education as a meaningful enterprise.

Two further recent developments in university education pertain to the implications of this perspective on the opened mind. The first is the inclusion of increasing numbers of students in universities to the point that it became necessary to focus on preparing students for specific careers. Societies cannot support leisure classes of an unlimited size and the university is now perceived as much as a path to employment as a place for self-development. While an older system of higher education served the needs of the aristocracy, Simon Marginson has described higher education in terms of a national status competition in which students and institutions co-produce social status (Marginson, 2004). According to Marginson, this national status competition continues to be a key factor for understanding how higher education is conducted, with lower-status institutions more likely to become determined by economic market competition or eventually a fully capitalist development. It should be noted here that our argument begins from what Marginson calls “the pre-market world of lived educational practices” (2004, p. 182), although the model of status markets and economic markets in higher education could be used to describe delimitations on the activity of education from the side of the collective. It should also be noted here that open education cannot be reconciled with a status

market insofar as the status market is premised precisely on a limit to the number of high-status positions, a point which Marginson makes effectively throughout his argument. Insofar as education is part of a national status market, the economic empowerment of the individual is circumscribed within the roles afforded within the system. Thus, the balancing of individual and collective is repeated in terms of employment and economic roles, where the individual seeks both empowerment and self-development through knowledge with economic implications.

The second, still more recent development, is the rate of change in technologies associated with attention formation. Donald (2001) defined attention formation as the abstraction of components of event percepts and the isolation of common features of those percepts noting:

Given our invisible habits of shared attention, and some cultural control over how experience is processed, a common language will allow us to share mind better, by defining a common representational framework. This gives us a new cultural domain, a stock exchange of the mind, where ideas and impressions can be traded, tested, and recombined at will. (pp. 294-295)

Attention formation is both a collective and an individual activity. If the rise of the educated individual is the formation of the capacity for attention, these dynamics may be heightened or curtailed by new technologies that are addressed specifically to attention. Weller (2017) predicted that technical and cultural changes could significantly impact the new domain of higher education over the next decade with implications for cognition. Stiegler (2010/2008) thematised that a number of technologies must be of concern without ascertaining the status of any technology as “poison” or “cure.” Among the new technologies that catch his interest are television and websites targeted to youth and children, technological developments in marketing, video games, and “universities with global outreach.”

Self-Reflexivity and Curricular Content

The desire for openness, economic development, technological development, and the process of democratization lead to increasing rates of participation in university education. This may be understood as increasing openness provided the activity of mindful cultural transmission is being meaningfully achieved. Were these educational institutions to focus on career preparation without developing those qualities of mind essential for reasoned thinking skills, there would be little overall gain in openness as it relates to what we have described as the historic project of education. Reasoned thinking skills are grounded in self-knowledge and the ability to understand new perspectives. While the self may be constructed through the unconscious appropriation of cultural sources (Damon & Hart, 1988; Harter, 2012; Robertson, 2014), making this appropriation conscious along with its cultural and historical antecedents increases the capacity of the individual to make meaningful decisions.

In the older educational mandate of opening the mind, it was necessary to grapple with traditional sources. This involvement with historical tradition cannot be superseded insofar as the educated individual is formed by conscious appropriation of the historical sources which are received objectively. For this reason, it is of vital importance to discern which cultural content should be transmitted and how it should be appropriated. As all perspectives and materials are historically bounded, the very task of including material, let alone establishing a canon, may become exclusionary. In the worst cases, cultural transmission becomes indoctrination. As for expanding the group that is to be enabled to operate as individuals through employment, the university must also attain a standard in which students are able to advance their lives through education: to be a worker is by no means to achieve emancipation in all cases, as there is also the possibility of being exploited as a worker and even having one's psyche further regimented by a

technological work process that requires further training.ⁱWe contend that the educated individual will have combined career and vocational training with cultural understandings, broadly defined, and cross-cultural awareness. The autonomous individual capable of objectivity and employing the evolutionary advantages of selfhood is compatible with the aims of the collectivity for two reasons: this individual has a prescribed social role within existing power relations where volition may be employed in the cause of the existing order; and, this individual is formed by grappling with tradition and giving plausible expression to its points of continuity. Broadly speaking, liberal arts education in Europe had its roots in educating ruling class youth in the humanities to prepare them for a genteel ruling class life. While early educational initiatives by craft guilds, independent learners, and later trade unions presaged our current debates in open education (Peter & Deimann, 2013), for the most part higher education was controlled by the church or state. The liberal arts component was initially considered to be an important component of an educated citizenry; however, increased enrolments in the universities since the mid-twentieth century coincided with an increase in skills training for specific careers and a decrease in liberal arts programs (Zakaria, 2015; Lind 2006). But if the ability to grapple with and speak on behalf of a tradition is needed for a well-educated citizenry that balances the needs of the individual and the collective, does not the diminution of a liberal arts education represent closure to that ideal? If the long history of the emergence of the individual provides the mandate for the university, liberal arts must remain central as it represents the way in which the individual becomes critically responsible for the collectivity represented by tradition. We would argue that while inclusiveness in the form of increased rates of participation is to be welcomed, what is to be feared is a qualitative change which would defeat the potential of increasing openness through these institutions, and that the democratising potential of this development can only be actualised

if education continues to promote the development of individuals capable of grappling with tradition.

If the development of learners' fullest potential as creators of meaning is viewed as a primary goal, a discussion of openness must include consideration of best practices for the delivery of quality education. In a discussion of the limits of evidence-based practice in education, Gert Biesta (2007) argues the best means for educational interventions should not be allowed to limit the values judgments of educational practitioners. What is characteristic of education is that it is not merely technological, as is a discussion of means, but that the question of ends must be continually negotiated. "A democratic society is precisely one in which the purpose of education is not given but is a constant topic for discussion and deliberation" (Biesta, 2007, p. 18). The negotiation of what is to be valued as the end of the educational practice is not merely central but constitutive, as Biesta writes "values are not simply an element of educational practices, but they are actually *constitutive* of such practices" (Biesta, 2010, p. 501). What may be added is that the end goal of educational practices is the self that reflexively makes meaning from tradition.

Here we are not simply looking at quality as a set of public standards to be set, implemented, and evaluated but we are also exploring its important dimension of cultural transmission and social representation. The sense of meaning is created through a social negotiation rather than through a structured and defined process and for this reason its explication may well require an appreciation of the social environment. As Serge Moscovici (1963, 1973) forwarded in his Social Representation Theory:

Systems of values, ideas and practices with a two-fold function; first, to establish an order which will enable individuals to orientate themselves in their material

and social world and to master it; secondly, to enable communication to take place amongst members of a community by providing them with a code for social exchange and a code for naming and classifying unambiguously the various aspects of their world and their individual and group history. (p. 252)

We may view education as a means of fostering discourse within the social representation framework. According to Masocovici's theory of representation, a network of meaning is woven to form social relationships or collective understanding. This collectivist approach in an individual learner's creation of meaning is significant in advancing intra-group communication to establish constructs within the educational system that respond to specific needs of learners. In the same context, administrators and policy makers, educators or professors, and, most significantly, student representatives, should sit together and discuss curricular content. Citing Vygotsky (1978) and Dewey (1930), Troller and Knight (2000) forwarded that making meaning can be facilitated by the activity systems and community of practice. Here, actions toward change are taken as a social engagement with the world with individuals in distinct roles engaged in the same process of change operating on the basis of shared rules and conventions.

As Vygotsky (1978) believed, community plays a central role in the process of "making meaning," and the role of social interaction among educators is fundamental to the development of the learners' cognition. Reflective practice is not a new concept but rather has ancient roots in Axial Age philosophies; the practice of reflection as a form of contemplation in the search for truth was considered the noblest way to spur wisdom. In education, we become familiar with this concept from the ideas of Piaget (1950), Dewey (1930), Rogers (1961), Kolb (1984), Schön, (1983), Brookfield(2009), and more recently, Larivee (2000) and Mezirow (2000). As reflective practitioners, members of the educational community do not just operate based on knowledge

and skills but rather move to the point where knowledge and skills are internalized to formulate new strategies to fit a specific purpose or educational goal (Larivee, 2000).

Reflective practice is defined here as the recurring process of conscious application of learning from experience so that the quality of our actions is dependent upon the developmental insight we gain from our experiences bringing together theory and practice (Schön, 1983).

Learning to reflect-in-action (RIA) and reflect-on-action (ROA) articulates extracting meaning from experience, and together forming a reflective repetitive process for decision-making and professional development. In the context of institutional processes and curricular enhancement, a cycle of periodic assessment or review is imperative. While curriculum can determine contents and assessment methodology, it cannot control the core processes of imparting those contents and skills (IWA, 2003).

An institution should be grounded on assessing its curricular content, testing it in new learning situations, and transforming it continuously to meet the learner's needs. This process of reflection in and on action paves the way for institutions to look back at what has been implemented in a more objective way involving both critical inquiry and self-reflection (Larivee, 2000). This also builds on Dewey's (1930) notion of a purposive reasoned process to allow reflective judgement; that is, being flexible and not constrained by set of rules, and being ready to implement the necessary changes to ensure quality. In a similar view articulated by Rogers (1961), critical reflections are vital for promoting learning and self-assessment which lead to professional growth.

Key to this reflective practice is ensuring that curricular offerings in institutions help transform learners into individuals who can creatively appropriate tradition. Quality education includes the ideal of the opened mind as a creative generator of meaning embodied in a self-

reflexive individual who understands the value of cultural resources. Universities are not only expected to develop learners' intellects but to also help them to flourish as active citizens who contribute to economic, social, and community development. In ensuring quality of education, universities are expected to equip learners for life in a broader sense (Ashwin, 2015). This commitment to the development of full cognitive potential facilitates democratizing education and helps prepare learners for engaged and participatory citizenship (Cronin, 2017). This transformation² (Kolb, 1984) can reflect educational institutions' commitment to be open and flexible with the goal of continuous improvement.

Cultures Open and Closed

This chapter has outlined a historical process whereby a cultural adaptation related to the structure of the self has led to our self-definition as a rational, thinking species. Although people from all cultures have the capacity for individual volition and the qualities of mind that education aims to foster and support, it would not be correct to say that all cultures are equally endowed to take advantage of modern educational initiatives. Cultures may be outward-looking and capable of encountering a range of influences from other cultures without fear of losing what is essential or positive in their own traditions. However, a culture may also become inward-looking and fearful of losing its essence in the process of assimilating new values, practices and concepts. In this situation, the self may have a capacity for the adoption of new cultural elements that outstrips what is defined, not without difficulty, as the "traditional culture." Here we examine the relationship of the individual to his or her collective culture or cultures.

Culture as defined here is the totality of a group's normative behaviour, artifacts, social structure and socially transmitted learning. Hofstede (2011) said that cultures collectively program the minds of group members for certain normative behaviours such a tolerance for ambig-

ity or it's opposite, avoidance of uncertainty; however, it is equally true that change at the individual level can, staying with the computer analogy, effectively re-program the collective "software." Since normative behaviour can be changed by a volitional self, capable of intentionality; with this paradigm, culture will be expected to change or evolve in tandem with the introduction of new behaviours of those recognized as part of the constituency that constitutes that culture. Earlier, we defined collectivism as a societal response to potential threats to community inherent in individual volition. Allocentrism, defined here as an individual differing to the collective good, may be thought of as a counterbalancing tendency to the individualism inherent in a volitional self and is only possible in societies consisting of individuals capable of making choices based on self-interest. Allocentrism may be understood, therefore, as a learned cultural response to the presence of an ego capable of independent action.

Studies involving the concept of allocentrism have failed to demonstrate a clear demarcation between societies labeled as "individualist" or "collectivist." A study of mate preferences in a sample of 414 western European, South Asian, Italian and Chinese post-secondary students found that all subgroups rated congeniality, tradition and status traits in the same preferential order (Lalonde, Cila, Lou, & Giguere, 2013). Although the western European sample demonstrated lower family allocentrism connected to these traits, Italians resembled South Asians with respect to status and the Chinese with respect to tradition. In a study of 727 students from Thailand and the USA (Christopher, D'Souza, Peraza, & Dhaliwal, 2010), Thais were more likely to describe themselves as interdependent compared to the U.S. sample; however, independent self-construal negatively predicted distress in both cultures.

Although all societies provide for both collective and individual responses, the act of defining a culture sets conditions for group membership. For Phinney (2002), acculturation in-

cludes a) identification with the original culture; and, b) adaptation to a dominant, host, or “new” culture. In such a view, a culture may be “lost” with its renewal dependent on education. Abadi-an(2006) warned that such renewal can be “toxic” if the narratives used are disempowering or falsely empowering at the expense of others.

A retrospective study into the experience of Chinese immigrant children in Canada found they were frequently seen by their parents as “too Canadian” with these parents sometimes using harsh discipline to restrict cultural appropriation (Mac, 2006). An anti-colonial movement incorporating the concept of “historic trauma” has urged people aboriginal to North America to reject assimilation (Brave Heart, 2003; Kirmayer, Gone, & Moses, 2014; Robertson, 2015), thus fostering resistance to “western education” (Richards, 2014; White, Spence, & Maxim, 2013).

Widdowson (2013) lamented:

This denial that knowledge develops with technological advancements such as literacy and numeracy is common in current examinations of aboriginal educational policy. This obscures the nature of the educational problems that many aboriginal peoples are currently experiencing. Because hunting and gathering/horticultural societies lack a culture of literacy, incorporating aboriginal traditions will not facilitate the values, skills, and attitudes that aboriginal people will need to obtain a scientific understanding of the world and participate fully in modern societies. (p. 303)

Education has the potential to be transformative (Robertson & Conrad, 2016), but the reification of culture may have the effect of closing minds to new knowledge. If we view all cultures as aggregates evolved from earlier (vertical) and contemporary (horizontal) appropriation, then each participant in the cultural project becomes an authorized speaker capable of investing

in culture in creative ways with applications dependent on context and purpose. The creativity of the individual self engaged in the appropriation and development of culture may be aided or hindered by the collective responses of the culture(s) in which the self is emplaced. Transformative education is an instance of open culture.

The intersection of culture and education was demonstrated in a study of cultural bias in intelligence testing conducted in a western Canadian city (Robertson, 1990). The responses to a USA-normed intelligence test by a random sample of 235 Amerindian, Métis and people whose ancestry was not considered aboriginal to the Americas(non-aboriginal Canadian) public school students were examined using rank order, correlational, and transformed item difficulty techniques. Cultural bias was found to negatively affect Amerindian and non-aboriginal Canadian student scores (although not on the same items or to the same extent); however, this bias was not demonstrated as affecting Métis. It was suggested that the Métis sampled had lived in this urban area for three generations and this coupled with a lack of culturally-enforced European traditions resulted in greater openness to U.S. cultural influence. Following a more recent study on aboriginality in self-construction, Robertson (2014) noted:

Perhaps the original Métis were not concerned with building a distinctive culture, but were simply building communities to survive in their environment. It fell to later generations to conceptualize the beliefs and practices as culturally distinctive, but by the time they did so those beliefs and practices would have necessarily changed. (p. 10)

Historically in Canada, people of mixed ancestry who were raised in Amerindian communities were accepted as Indian by both those communities and the federal government. The Métis were of mixed ancestry who identified with neither the Amerindian communities nor Can-

ada. Métis educational achievement outstrips that of other aboriginal groups (Richards, 2014; Richards & Scott, 2009), and it is a reasonable speculation that openness to appropriating new ideas has contributed to this achievement.

A relativist position that all cultural tenets are of equal truth or value nullifies the cognitive revolution; however, the capacity to take an objective stance can be applied to the interpretive understanding of textual and oral tradition. We hold that it is possible to be inclusive of cultures even if their basic texts are contradictory, provided the process is of being challenged by tradition and working to adopt it in the manner appropriate to one's own historical circumstance and in preparation for the pluralistic situation of living with other people. All groups appropriate cultural knowledge innovatively; but as Hofstede (2011) observed, "there is no reason why economic and technological evolution should suppress other cultural variety" (p. 4). To receive culture in order to use it for creative living is the basic human condition which should be further developed through education. If the encounter with culture has been rigorously undertaken, there is much more that is available for the adoptive process of creative living. The group that is undertaking the cultural project should themselves be involved in the assessment of this rigor, as it is their process of creative appropriation which is driving it.

International students inevitably appropriate elements of the host cultures, often leading to difficulties on returning to their home country. Arthur (2003) noted that such changes, particularly for women coming from countries where women's roles are restricted, may lead to social isolation and censorship. The effects of this acculturation may be uneven. For example, one study found that Filipino immigrants living in San Francisco had lower levels of ethnic identity and higher levels of psychological distress and alcohol dependence than those Filipinos living in Hawaii (Gong, Takeuchi, Agbayani-Siewert, & Tacata, 2002).

The evolved self requires a sense of stability to the extent that the person we are today is in some important sense the same person we were in the past and will be in future. This self-stability requires cultural validation (Chandler & Lalonde, 1998; Ishiyama, 1995; Kwiatkowska, 1990). In fulfilling its mandate to develop the mind, education is a process of community self-change (Conrad, 2005; Robertson, 2011b). Effective education must therefore meet the twin objectives of self-validation and self-growth. Such identity construction necessarily includes self-examination and reinterpretation of successes and failures, particularly for those events related to meaningful work, learning, community and leisure activities (Johnson, Thomas, & Krochak, 1998). From a memetic perspective, openness is enhanced by a multicultural education that maximizes the number of memes students may appropriate to their selves. Cultures that are open to such change serve their members well.

D.W. Winnicott and the Transmission of Cultural Meaning as a Measure of Openness

“The place where cultural experience is located is in the *potential space* between the individual and the environment (originally the object). The same can be said of playing. Cultural experience begins with creative living first manifested in play” (Winnicott, (2005/1971, p. 135).

Opening the mind to its potential can be approached playfully with the student experimenting with different interpretations of cultural meaning. When Winnicott defines play in a manner that expands to include all cultural experience, he provides a model for the approach that hermeneutics and the project of education should take to cultural meaning. With memes and cultural evolution, we are given a content that does not have any meaning unless it is culturally transmitted and individually appropriated. The notion of cultural memes is, one may say, atomistic, with units of cultural transmission that are so small that they do not constitute any meaningful whole. Meaning is nonetheless achieved in the attribution of meaning that is shared

between individuals. Thus, cultural meaning may be achieved across generations. This is the basis of Gadamer's (2013/1960) hermeneutic of retrieval, which seeks to provide a fresh understanding of ancient texts that allows the reader to be challenged by the text. The reader is able to ask, "What would this historical source mean for me"; and thereby also increase the range of the answer to the question, "Who am I"? The creative activity of culture is an ability to encounter historical sources along with other people in a way which keeps meaning in play and developing. The focus on traditional sources is by no means conservative, as Gadamer is interested in a mutual questioning between the source and its reception in a way that unfolds their mutual meaning towards the future. It is contended here that this model of self-development as creative dialogue with tradition and other people is an ideal for both the opened mind and open education.

This view is embraced by Bernard Stiegler (2010/2013, 2008/2010), who also draws our attention to specific contemporary challenges which may be identified once we have seen the link between creativity and meaning. Using Stiegler's terms, we may characterize the continual formation of the individual self as attention formation. The capacity to remember, the ability to perceive oneself in a unified way over time, the ability to live in such a way that there is something about oneself which is essential which is represented and preserved after one is gone – these are all historical accomplishments. What Stiegler adds is that they are always technologically mediated, for example, by writing. It may not be sufficient to say that attention formation is aided by technologies such as books; attention formation may only be possible by way of cultural memory systems. Such an observation may cause us to look once again in a new way at open universities and the technological systems that they presuppose and propose to profitably exploit. However, in *What Makes Life Worth Living* (2010/2013), Stiegler is also concerned with the

“short circuiting” of attention formation which happens with technologies such as radio, television, the Internet, and smart phones. He reminds us of what is very much on the surface of our advanced technological society that the advertising industry proposes to capture and sell attention. The media environment is such that attention is continually divided; and, if anything, the current technologies may be undoing the attainments in attention formation of previous times. We may ask if traditional culture is liquidated and nullified by this weakening of attention, and if the university should, as Stiegler (2008/2010) claims, participate in a battle of and for intelligence.³

If education is truly to be directed toward the opening of minds, the capacity must be formed to retain and be attentive to traditional sources and the historical dialogues which have developed around them. The ability to read canonical texts and respond to them in considered writing and speech has been a basic technique for the formation of individuals from beginnings which well predate the modern university. This by no means is to suggest that any canon should be closed, as the purpose of a canon is to assemble the texts most able to challenge their readers and inspire thinking on a deep enough level to question the canon. However, it is incumbent upon universities to retain sources which allow students to wrestle with ongoing traditions with the intensity that allows for self-formation and genuine dialogic openness with both tradition and other selves. These basic objectives should be accounted for at the core of quality assurance in higher education. Openness may only be achieved when a self is produced that is capable of wrestling with tradition and investing it with creative meaning.

Conclusion

It has been contended here that the historical emergence of the volitional self gave rise to educational institutions as both an aid in self-formation and as a means of structuring it in the

collective interest, and that the extension of this knowledge to greater numbers of people is a process of democratization. The volitional self with its implied individuality predicts consequences of potential actions on the basis that there is an objective reality against which to measure possibilities. It was argued that the process of democratization includes both increasing the availability of education to greater numbers of people and releasing the educated individual from constraints to knowledge seeking. From this paradigm, the post-Enlightenment scientific revolution was an advance in humanity's quest for openness.

The self was described as having subjectively felt attributes of volition, uniqueness and continuity. An open education includes expanding the horizon of possibilities from which historically grounded self-construction evolves and was thus described as transformative. The Internet and other information technologies have given rise to a generalized fragmentation of attention and this was described as potentially detrimental to the process of attention formation. Considering the arguments of Winnicott, Gadamer, and Stiegler, it is our opinion that educational institutions must continue to pursue the project of attention formation with a creative, hermeneutic engagement with traditional sources. Using the technologies available today, the inhabitants of the university must form themselves and each other as individuals capable of being questioned by the most question-worthy historical sources. This is the hermeneutic process of self-formation which should be at the core of our understanding of both openness – and quality – in higher education.

The concept of openness is meaningful insofar as an individual is formed that is capable of meaning. Meaning is developed in a creative appropriation of culture, in the process whereby an individual obtains a sense of self as a response to objective reality that includes the traditions of the collective. If the process of education that has been operating for 3000 years has now

reached a moment for a dramatic increase in inclusiveness, this can only be actualised if these qualities of selfhood are indeed enhanced. Everything that has been achieved in tradition that retains the capacity to challenge a self capable of questions should be considered for inclusion in the canons which engage and enhance the self. We recommend that universities be open cultures, where vertical and horizontal appropriations are enabled to allow individuals to form a rich texture of creative living. An evolving canon should be formed which is open to any cultural source which in turn promotes the opened mind. While the parameters of such a canon and program of education cannot be delimited in advance, what can be stated on the basis of the present argument is that the contents of education should be precisely those materials that allow the self to enhance its self-reflectivity.

End Notes

¹Functional magnetic resonance imaging or functional MRI measures brain activity by detecting changes associated with blood flow.

²The details of Kolb's dialectic and cyclical process consisting of four stages can be found in his book *Experiential Learning: Experience as the Source of Learning and Development*.

³For Stiegler's initial thoughts on the role of the university in the "battle of and for intelligence" see: Stiegler 2008/2010, p.30, pp. 63-71.

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