Asian Students, Critical Thinking and English as an Academic *Lingua Franca*

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ABSTRACT: *A number of scholars such as Kutlieh and Egege (2003), Atkinson (1997) and Fox (1994) have argued that critical thinking is incompatible with Asian cultural attitudes. Others have disagreed, arguing from different perspectives that critical thinking is not the preserve of Western culture and that the comparative lack of 'critical' quality in the academic work of Asian international students in universities where English is the medium of instruction is due to the difficulties of study in the context of edge of knowledge discourse in a second, third or fourth language (Kumaravadivelu, 2003; Paton, 2005; and Lun, 2009). In this context interviews were undertaken with both postgraduate and undergraduate students in three major universities in China and one in India to find their perceptions of critical thinking and English as an academic lingua franca. Their responses are discussed from the perspective of history and philosophy of science.*

Introduction

My two decades experience of teaching English for academic purposes and my research into the history and philosophy of science in China has given me some insight into Asian cultural attitudes to knowledge. Thus, when I heard at the Seventh Pacific Rim First Year in Higher Education Conference Kutlieh and Egege (2003) assert that critical thinking is specifically a Western approach to knowledge claims and that the challenge for transition programs for international Asian students in Australia is the incorporation of critical thinking into first year programs without taking either an assimilationist or a deficit approach, I appreciated the researchers sentiments but disagreed with the premise of their argument. My experience and research had shown me that critical thinking is not the preserve of Western culture and that the comparative lack of 'critical' quality in the academic work of Asian international students in universities where English is the medium of instruction is mainly due to the difficulties of study in the context of edge of knowledge discourse in a second, third or fourth language. The research of other scholars, such as that of Kumaravadivelu (2003) and Lun et al. (2010) has reinforced this idea of the medium of instruction being the issue with critical thinking rather than it being the preserve of one cultural attitude. However, little research has been undertaken as to the opinion of Asian students themselves on this issue in their own countries. Thus, interviews were undertaken with both postgraduate and undergraduate students in three major universities in China and a research institute in India to discover their perceptions of critical thinking and English as an academic *lingua franca*. The following paper considers the results of these interviews from the perspective of history and philosophy of science.

Definitions

Critical Thinking

The definition of critical thinking is important if we are to decide whether it is incompatible with Asian cultural attitudes. More general definitions include those of Ennis (1989: 10): "reasonable reflective thinking that is focused on deciding what to believe or do"; Halpern (1997): "the use of those cognitive skills or strategies that increase the probability of a desirable outcome"; and Paul and Elder (2000): "self-directed, self-disciplined, self-monitored and self-corrective thinking."

More nuanced definitions of critical thinking include the concept of analysis. The Delphi Report (1990) states that critical thinking is "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, and contextual considerations upon which that judgment is based. . ." (Facione, 1990, p. 3). The National Council for Excellence in Critical Thinking Instruction says that critical thinking is "the intellectually disciplined process of actively and skilfully conceptualising, applying, analysing, synthesising or evaluating information gathered from or generated by, observation, experience, reflection, reasoning, or communication as a guide to belief or action" (Scriven and Paul, 2003). Sievers (2001), moreover, states that it is "the process of analysing, evaluating and synthesising information in order to increase our understanding and knowledge of reality." In fact, Sternberg (2003:5) equates critical thinking with analytical thinking but in doing so separates critical thinking from creative and practical thinking. Paul (2009), in addition, traces critical thinking and its integral relationship back to Socrates, but argues that until recently this concept has been 'buried' without an explicit expression to capture it. Similarly, Egege and Kutlieh (2004:6), citing Lloyd (1996), argue that critical thinking comes from Western philosophy stemming from Socrates, Plato and Aristotle and the traditional Greek method of argumentation.

Universality of Critical Thinking

The problem with such an approach is that it equates critical thinking with only one intellectual tradition. The thinking of all cultures would certainly be deemed to be critical using the initial definitions above which do not include analysis. An example from the history of science can be seen in relation to swimming. The first book in a European language on swimming was written by an Italian by the name of Wynman. In this, he called breaststroke the modern scientific method of swimming. Nevertheless, in the1880s a Solomon Islander came to Sydney, Australia, and taught the locals how to swim through surf, a stroke which then became known as the Australian crawl and is now known as Freestyle. Thus, we can see that the critical thinking of what many then would have deemed to be a 'backward' culture, especially in the European intellectual climate of the late nineteenth century, has added very much to the knowledge of the world. (Colwin, 2002; Osmond & Phillips, 2004) A further example of this addition to present day science by traditional knowledge systems is the development of processed rubber by Mesoamerica Indians as early as 1600 BCE (Hosler *et al.* 1999).

Moreover, in terms of more civilized cultural traditions outside of the Western paradigm, he argument of Lloyd (1996) that traditional Chinese thought is merely analogous and circular is somewhat over-simplified. For example, the traditional philosopher, Mozi, and the Mohist School that developed from his ideas were very similar to the Classical Greeks in seeing reason as the answer to the problems of humanity. In fact, Mohism had a strong sense of the *a priori*. The Mohists divided knowledge into four categories: discourse or the knowledge of how to connect names and objects; ethics or the knowledge of how to act; science or the knowledge of objects; and argumentation or the disputation of the converse (Graham, 1989). The concept of disputation of the converse gives an idea of the amount of critical thought inherent in Mohist philosophy. Graham (1989), in fact, likens some of Mohist thought as very much a precursor to modern social science as the later Mohist Canons used every day examples such as money and prices and their effect on demand and supply.

In addition, the conception that analysis is purely based on the Classical Greek tradition is somewhat flawed if one considers some of the components of Classical Chinese cosmology. Binary theory, the basis of much of present day information technology, can be traced through Leibnitz, as he himself argued, to the Chinese concepts of *yin* and *yang* (Ryan, 1996). Moreover, the analytical framework of the Chinese Five Phases (*wu xing*) more readily capture the modern understanding of the relationship between entities than do the traditional Greek elements in that the Five Phases describe the continuum of the relationship between entities over time and space. In fact, the research of Nisbett *et al.* (2001) into the information processing of present day Asian students reinforces the traditional conceptions of the Five Phases and yin/yang and the holistic nature of traditional Chinese science in that the study found that such information processing was based on the ideas that reality is dynamic and changeable, opposing propositions may exist in the same object or event and everything in life and nature is interconnected.

Furthermore, besides Classical Greek and Chinese thought, other cultural intelligences have informed the present idea of critical analysis. One wonders for example where our present day analytical framework would be without the concept of zero, which comes from the Indian intellectual tradition, as the Greeks were too enmeshed in philosophical arguments on how zero could exist (Bourbaki, 1998). Thus, I argue that what we now consider to be the basis of our knowledge systems, critical analysis, is an amalgam of various intellectual traditions. In fact, critical thinking not only "discerns an indivisible solidarity between the world and man" (Freire, 1972, p.53) but also discerns an indivisible solidarity between the various strands of humanity.

Critical Thinking Equals Scientific Thinking?

Critical theory in both its literary and sociological strands is basically a theory of communication, and Habermas' understanding of rationality particularly captures the sense of critical thinking of the definitions outlined above because he sees rationality as being "epistemic, practical and intersubjective" (Bohman & Rehg, 2009). These three strands can be seen in Paul's (1992) division of critical thinking into a weak and strong sense. Paul argues that weak sense critical thinking is argument analysis, synthesis and evaluation, that is, the epistemic and practical. Intersubjectivity is found in Paul's strong sense critical thinking, which he argues is the ethical sense of fair-mindedness to negate any ego-centrism.

However, in this context it could be argued that critical thinking is neither more nor less than scientific thinking. Crombie (1994) showed that scientific thinking involved postulational, experimental, modeling, taxonomic, historical derivation, and probabilistic thought, and these as a whole could be equated to Paul's weak sense critical thinking. Moreover, the subjectivity of observation, as pointed out by the sociologists of science, could be understood in relation to Paul's strong sense critical thinking. If this relationship between scientific and critical thinking is accepted, then it is interesting to note in terms of the present discussion that traditional Chinese science displayed all of the various forms of scientific thinking as outlined by Crombie except probabilistic thought, and even probabilistic thinking was implied if not overtly discussed. (Elvin, 2004)

English as an Academic *Lingua Franca*

The Chinese Government is sending its scholars and bureaucrats to major academic institutions around the world as part of the People's Republic of China '211'initiative. For example, the Faculties of Education and Science at the University of Sydney were jointly contracted for a number of years to train eminent visiting Chinese academic scientists of various disciplines from top level universities in a series of one semester courses of study in the teaching of science in English because their institutions in China had decided to teach science with English as a major medium (King, 2003). This project at the University of Sydney was a part of a much broader systematic attempt by the Chinese Government commencing in 1999 to transform higher education in China as a reflection of its commitment to higher economic growth (Li *et al.*, 2008). This is merely one example of English becoming an international academic *lingua franca*.

There are many conceptions of a *lingua franca*. Crystal (1995:454) defines it as "a medium of communication for people who speak different first languages." Modiano (2001a:170) argues further that a *lingua franca* is "a mode of communication which allows people to interact with others without aligning themselves to ideological positioning indicative of specific mother-tongue speech community." However, these two definitions do not sufficiently encompass the native speakers of the *lingua franca*. Although Elder and Davies (2006:282-3) do extend the concept to include four different areas in which to understand a lingua franca, one of which is "the use of English in an interaction where at least some of the participants are non-native speakers of English," the other three possibilities they put forward do not include native English speakers. Thus, McArthur's (2002) definition of "a language common to, or shared by, many cultures and communities at any or all social and educational levels, and used as an international tool" would seem to be closest to its usage in the sense that English has become an academic *lingua franca* although the tertiary academic level is the focus.

Method

To shed some light on the critical thinking debate and its relationship to English as an academic *lingua franca*, student interviews were undertaken at three top tier Project 211 Universities in China and one research institute in India. The interviews in India were used to help gauge the comparative generality of the students' responses in China. A total of fifty seven students were interviewed, fifty in China and seven in India. The students comprised both undergraduate and postgraduate with majors in science, engineering, finance, economics and English. The students were interviewed in English with some prompting in Mandarin Chinese when necessary in groups ranging in size from three to seven members. This focus group technique was used because it was considered that the groups could capture a greater understanding of critical thinking and English as an academic *lingua franca* than could the sum of each student individually. An example of this will be given at the end of this section as evidence for this decision.

The interviews were recorded in note form, and these notes were written up immediately on completion of the interviews to ensure that the nuances of the responses were captured. The research approach adopted was based on grounded theory where the approach 'is a general methodology for developing theory that is grounded in the data systematically gathered and analysed. Theory evolves during actual research, and it does this through continuous interplay between analysis and data collection' (Strauss and Corbin 1994 p. 273). Thus the analytical framework of the discussion is based on the students' responses and was not developed prior to the interviews.

Besides demographic data, such as the number of years English had been studied, the number of academic courses studied in English and major, the interviews comprised two open-ended questions: "Is critical thinking important in university study" and "What do you think of English as the international academic *lingua franca*, i.e. the language of international academic communication"? When necessary, which was not always the case as the students seemed to have a fairly clear understanding of the concept, critical thinking was defined for the students in simple terms as objectively coming to a conclusion after considering all sides of a problem. The fact that most of the students interviewed already had a clear conception of critical thinking causes one to reflect on the emphasis that Egege and Kutlieh (2004) place on the paucity of clear guidelines to students in Australia as to what critical thinking might entail.

Moreover, the concept of an academic *lingua franca* was explained in terms of the 11th International Conference on the History of Science in China in Harbin, which I had attended as a plenary speaker. The interviewees were told that even though the topic of the conference was China and its location was in China, the official language of the conference was English, i.e. English was, ironically in this case, the academic *lingua franca*.

As a final note on the method, as mentioned previously, an example of the power of the group interaction in capturing the students' conception of critical thinking can be seen below in the interaction between the members of one group in answer to the question: Is critical thinking important in university study?

> There are three groups of students: those who have critical thinking and language skills, those who have critical thinking but no language skills and those who have neither.
>
> Critical thinking is character building. It's especially beneficial for women because they can be moody and sentimental, and it can be disastrous if their feelings take over. It's also good for career development. Critical thinking and the dialectic method gives further development and successful research, which leads to a positive career and the right attitude to life.
>
> I have a similar opinion. But critical thinking can't be taught, it can only be cultivated. In work, study and career it's useful. In life it's useful to look at the other side. Bad ideas and habits can be changed to good through critical thinking.

> I don't agree. Critical thinking is easier in the academic field. It's more difficult in everyday life. People follow others too easily.
>
> In postgraduate work it's important. In research we have to look through theories and think about the materials from all aspects. By finding the demerits we find our own opinion.
>
> Critical thinking has its roots in traditional Daoism. It is not only useful in university; it is a view that keeps us rational. And it is the source of our creativity.
>
> I have the same idea as the rest. To sum up, many linguists like Chomsky and Halliday use critical thinking to find new approaches. To become famous you need critical thinking.

Results and Discussion

Critical thinking

There was a general acceptance by the students that critical thinking was extremely important to university study. The comment below captures this general mood:

> Not knowledge but critical thinking is the most important, the teaching style is important, there is no progress unless we change our thinking style, it is important for science to determine the one truth, decisions can only be made after critical thinking, it is important for progress.

There was some tendency, however, particularly by the postgraduate students to see critical thinking as being more important to postgraduate studies as it was thought that undergraduate studies should involve a solid base of learning what is already known.

> It's more important in postgraduate studies. You need to challenge the ideas in theories and research. In empirical study, critical thinking is more efficient. In undergraduate education it's not as important. No need at the beginning. To practice deeper skills it is necessary but only after you learn foundation knowledge.

The stereotype of Asian students being group conformist and dependent on rote learning was somewhat negated by the students' attitudes to critical thinking. A certain level of individualism was certainly evident and there was, moreover, a comparative rejection of the model of rote learning from the textbook that is the typical conception about Asian academic learning and teaching in English speaking countries such as Australia (Vandermensbrugghe, 2004, p. 417).

> It is important that critical thinking is based on your own judgment to give you a better understanding of knowledge. Better study leads to greater creativity and this gives a better society. Similarly if you just follow the textbook and the teacher, it kills creativity, which is bad for both you and the society.

It is noteworthy to compare this statement to that of a Chinese international student, written in a learning journal upon completion of an Australian undergraduate academic course on academic discourse and critical thinking. The similarities are striking:

> The other two important things I have learned from this course are how to critically evaluate the world around me and bring out my own argument to convince others. I have learnt that university is a place to start building up my own value of the world, that things that happen in the world are not simply good or bad. It is important to understand the story and the background of it, so that I can understand why it is happening and the other sides of the story. Challenging professional people is not a wrong thing to do since it is challenge and doubt that help us bring up knowledge. Having my own stance is important

> because it represents a part of me (Paton, 2008, p. 209).

This emphasis on critical thinking beyond the university and on its effect on the individual as well as society was found to be a continuum amongst the students in both China and India. An Indian student, for instance, stated that "A sense of responsibility is tied to critical thinking." In this context of societal and individual effect, the next quote is particularly interesting not only because the student was female but also she pointed to the dialectic method being directly to critical thinking.

> Critical thinking is character building. It's especially beneficial for women because they can be moody and sentimental, and it can be disastrous if their feelings take over. It's also good for career development. Critical thinking and the dialectic method give further development and successful research, which leads to a positive career and the right attitude to life.

This mention of dialectical thinking fits well with Lun et al.'s (2010) psychological research into cultural differences in critical thinking of three hundred and sixty six students in a New Zealand university, which shows that dialectical thinking styles in particular enhance Asian students' critical thinking as compared to students of a European background. Nevertheless, Lun et al. (2010, p.21) demonstrate that "English language ability, but not dialectical thinking, explained the difference" between European and Asian background students, and that "Asian students and Western students are not different from each other in terms of general intellectual functioning."

Differences in Asian thought patterns were not only spoken of by the students in terms of dialectical methods but also in relation to traditional Asian philosophies. One Chinese student pointed to Daoism as the basis of critical thinking:

> Critical thinking has its roots in traditional Daoism. It is not only useful in university; it is a view that keeps us rational. And it is the source of our creativity.

This harkening back to Daoism aligns very much with the ideas of many historians and philosophers of science in China, who point to Daoism as one of the major bases of the strength of traditional Chinese science (see Needham, 1956 & 1959; Graham, 1989).

Nevertheless there are strong criticisms by students of both the historical lack of critical thinking and the education systems in both China and India. One Chinese student thought that critical thinking was rooted in the historical traditions of the West:

> It's different in the West where it starts from the root and flows to the branches. In China we only learn critical thinking.

Another said:

> Critical thinking doesn't give a good impression. You need to listen to the teacher and receive guidance. You are not used to thinking by yourself. This is the Chinese weak point. We are not accustomed to it. But when you need to take action critical thinking is not that easy.

However, the major blame for the lack of critical thinking in both China and India was laid on the education and particularly examination systems in these countries. An Indian student stated categorically that

> To create one's own approach you must have a critical approach both in university and in life. It should be encouraged but it's missing in the university system here.

Another Indian student was no more sanguine about the Indian education system:

> The education system in India is a problem. The matriculation examination system doesn't reflect critical thinking. There's too much emphasis on textbook learning.

Echoing these thoughts, a Chinese student stated:

> In Chinese exams everything is in patterns, for example IELTS (International English Language Testing System). There's not enough critical thinking.

When asked to explain this statement about the International English Language Testing System (IELTS) further, the student stated that he thought that many students in China just learnt patterns of essays for the IELTS examination to pass the examinations rather than learning English deeply. It is interesting to note that such criticisms are also common in relation to matriculation examinations in Australia such as the Higher School Certificate in New South Wales.

However, in the interviews the one student who was the greatest outlier in relation to all of the groups' conceptions of critical thinking was a first year Chinese female undergraduate student, who did not have much faith in the power of critical thinking for the general undergraduate student population. She stated flatly that:

> Critical thinking is overstressed. University students should be taught to be followers.

When pressed to expound on this ambivalence to critical thinking the student explained that she was a strong believer in Legalism (法家- *fajia*), the philosophy that was the basis for the establishment of the Chinese state by the Qin dynasty of emperor Qin Shihuang in 226 BCE. This philosophy, in opposition to Confucianism, held humanity to be 'bad' at its core and argued that people could only be ruled by the strict observance of draconian laws and the burning of books, much akin to modern day fascism. Even though such a philosophical stance is anathema to the basis of the present general conception of the university as an institution of unfettered debate towards a garnering of truth, the fact that it has solid historical and philosophical foundations indicates that the student in being critical of critical thinking is actually displaying critical thought.

The final important thread to be found in the students' discussions on critical thinking was the idea that ability in critical thinking and language ability were not necessarily linked. One student summarised this general opinion particularly well when he stated:

> There are three groups of students: those who have critical thinking and language skills, those who have critical thinking but no language skills and those who have neither.

English as an Academic *Lingua Franca*

The responses to the question as to what the students thought of English as the international academic *lingua franca*, i.e. the language of international academic communication, can be analysed into four major streams: internationalisation, language as a tool, the economics of a *lingua franca*, and cultural chauvinism.

Many of the students interviewed recognised the need for an academic *lingua franca* in relation to the people of the world needing to communicate knowledge with each other, and saw English in a positive light with comments such as:

> We need one world language,
>
> English is the universal language and we need one,
> English as the *lingua franca* is more positive than negative. Communication is the most important thing.

> 80% of information is transmitted in English, so it's good to speak English internationally.

However, some students were more ambivalent to English being the academic *lingua franca*, seeing it as a merely a useful tool in some circumstances, which nevertheless could outlast its usefulness:

> Knowledge is more important than language; English is just a tool.
>
> It's not strange that English is the *lingua franca*. It's the least effort principle. There's a need for a common language. English is now the international language. If that becomes inconvenient another language will become the *lingua franca*.
>
> It depends on the field. English is ok for science but English can't capture the literature of other languages. There's a problem with the translation of great novels.

Other students were even less positive, stressing the unfairness of English as an academic *lingua franca*:

> Language affects understanding and it is unfair to Chinese as compared to native English speakers.

Moreover, one student highlighted one of the major reasons that students go to countries such as Australia to study:

> It takes too long to study in China as compared to if it was studied in a native English speaking country.

Such comments as those above give an insight into the role English plays as an academic *lingua franca* from the perspective of the Chinese students' understanding of internationalisation, but the Indian students were much more positive about the role that English plays. They all saw English as the "best alternative for higher studies," and "a linking language," and they were "more comfortable with it because of colonization." However, unexpectedly, they saw this colonial past as a "positive thing" because it provided "a kind of infrastructure" that was "not a colonial hangover."

These Indian students particularly pointed to the problems of having many different languages in India, and the positive aspects of having English as an external academic language that did not give power to any specific language group. One student pointed to the substandard nature of most economics textbooks in Bengali and said that "our equations are in English, so I have no problems sharing ideas in English."

Economic Imperative

English has become the major language of science and of business. One example, as mentioned previously, is the Chinese Government's 211 project to enable higher economic growth (Li et al., 2008). Thus it can be see that English as an academic lingua franca certainly has an economic aspect.

However, not only economic but also historical and structural aspects were reflected in the student interviews in China and India. As one student stated:

> English as a *lingua franca* has both economic and historical reasons. We need to pick a language and English places more emphasis on logic. There English is more convenient as the *lingua franca*. Or perhaps in the world we could have many languages as the *lingua franca* because of the problem of translation of some words in English. Therefore people should learn other languages. Nothing is forever. The *lingua franca* was Latin before. It depends on what's convenient.

Other students saw English as a "necessary tool", "a bridge" or "the official language." The positive economic outcomes of learning English were very much part of the thinking of the students who considered that "it can

be used for my future," "if I learn it I can get a good job" and "if I practice it gives me greater work skills."

Some students, however, had a more altruistic view of the economic power of English. One student stated that English helps in that "developing countries can learn from developed countries" and another said that English "enables relationship."

Moreover, the importance of the role of English in international business was perceived by a number of students. One stated that:

> With globalization the world is becoming smaller and smaller. We need one language, so English plays a more and more important role. Even in daily life there is no doubt that it's essential, especially in finance.

Another went so far as to argue the merits of English as an academic *lingua franca* in a business context because of its structure. She pointed out that:

> It is good because of the structure of English. You express ideas at the beginning, not at the end, so it is really useful for business.

As put succinctly by one of the Indian students:

> English is quicker to write than Hindi.

This understanding of the usefulness of English as a *lingua franca* in business may point to a major reason for the popularity of university business courses for international students in Australia. As an example of this Australia wide, of the 141,131 international students commencing higher education study in Australia in 2008, 71,382 (just over 50%) were undertaking studies in management and commerce (DEEWR, 2009).

Such an influx of Chinese, however, is not only a recent phenomenon in the relationship between China and Australia. In the nineteenth century from 1849 to 1900 more than 100,000 Chinese came to live in Australia, which became known as the "New Gold Mountain" as compared to California, which was called the "Gold Mountain" (Choi, 1975; Fitzgerald, 2007).

Cultural Chauvinism

There is a tendency for powerful cultures to usurp the knowledge systems of less powerful cultures and claim them as their own. This is akin to both an actual and metaphorical war of more powerful cultures against others. Those who advocate the concept of greater power being equal to intellectual superiority could be considered to be cultural chauvinists (see Paton, 2004).

An early example of this in scientific thought can be seen in the musings of Francis Bacon, the 16th- 17th century scientist and philosopher, when he stated that the basis of modern civilisation was paper money, gun powder and the compass, not realising that each of these had been invented in China and used there for over five hundred years (Hobson, 2004). Similarly, even today the standard Western approach to the history of science is that it originated with the ancients Greeks and was then rediscovered and developed further in post-renaissance Europe. This view is contested strongly by authors such as Lal (2009), who argues that such an approach is fabricated in three phases: the Crusades where world-wide science was captured from the Arabs and given a theologically correct Greek origin, the Inquisition when world science was claimed to have been rediscovered by Europeans, and the European colonial period where it was argued that the theologically correct version of science could only be found in Europe. Although such arguments could be seen to be merely a radical response to Western hegemony, it should be noted that what we see as science today is rooted in many cultures. Algebra

is an Arabic word after all. Moreover, as mentioned previously, the concept of zero as a decimal place value system comes from the Jain culture in India (Clarke, 1930), and the binary system comes from Chinese science via Leibnitz's reading of the *Yi Jing*, although the Indian writer Pingala (circa 200 BCE) seemingly developed the first known binary numerical system (Sanchez & Canton, 2007, p. 37). Also, as previously mentioned, even comparatively uncivilized cultures such as those from the Pacific islands have added to the world of science with the development of freestyle swimming, although the English speaking world knew it originally as the Australian crawl and in doing so laid claim to its origins.

I gave a lecture which included the topic of cultural chauvinism in relation to science using the examples above at two of the universities in China where I interviewed the students prior to the interview process, and some of the answers to what the students thought of English as an academic lingua franca reflect this lecture. One student stated:

> I think English, as a *lingua franca* is cultural chauvinism. Europe and the English speaking countries have economic, political and social power and so the language has spread. It's a reflection of financial power. I think Chinese could become the *lingua franca*.

Another said:

> I blame English for being language chauvinists.

In a similar vein, another student opined:

> Ancient languages are disappearing as English takes over. Therefore we should keep our own languages. Us Chinese should speak Chinese.

However, a female student was the most aggressively negative towards English as an academic *lingua franca*. She stated bluntly:

> English is the *lingua franca* because the US and UK are superpowers. We should start a war with them and kill them all and all the people of their colonies and then Chinese can be the *lingua franca*.

This was the same student who criticized the focus on critical thinking because she was a believer in the traditional philosophy of *fa* or Legalism. This student is an example of what are known in China as the *fenqing* (憤青) or "angry youth," which is a shortened form of the Chinese phrase *fennu de qingnian* (憤怒的青年). These are a substantial minority of students in the elite universities in China who are dissatisfied with China's place in the world and hold beliefs much like the fascist youth movements in Europe. Wang (2006) points to the fomenting of a national nihilism in China, which has developed into a magnified empty patriotism amongst such disaffected youth. With this in mind, perhaps the chauvinism in the concept cultural chauvinism is not as metaphorical as first considered.

Conclusion

To conclude, it can be seen from the interviews of Asian students in this study that there is a significant level of understanding of critical thinking and its relationship to English as an academic *lingua franca*. In fact, the depth and variety of thought shown in the students' responses indicate a remarkable level of critical thinking, which would seem to belie the strident claims by those such as Atkinson (1997) that critical thinking is the preserve of Western culture. Even the great outlier of the students, the Chinese undergraduate student who saw critical thinking as being overrated and advocated waging war on the English speakers because of their cultural hegemony, displayed a level of critical thinking. Although her ideas are not those to which most of us prescribe, her opinions had a solid philosophical and historical basis insofar as such a viewpoint was the basis of the devel-

opment of the Chinese nation.

These results reinforce the argument that critical thinking is part of the framework of humanity. The use of English establishes a certain methodology of expression of critical thinking, but this is only a methodology, not the critical thought per se. On the positive side, it is very useful to have an academic *lingua franca* because it gives a medium for the exchange of ideas world-wide. However, we need to be aware of the power relations implicit within the choice of such a *lingua franca*, otherwise we can fall into the trap of cultural chauvinism, which can lead to chauvinism itself. As Elvin (2004) discusses, such a war mongering attitude is the epitome of the "logic of short term advantage," which had a devastating effect on the environment of China. Thus, native English speakers in the academy should be very careful of associating themselves with the mantra, 'I speak English; therefore I know.'

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