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The year of 2016 has seen reaffirmation of the challenges facing society. For example, the fact that July, August and September were the hottest on record since instruments were used to measure temperature confirms the challenge of climate change. Recent earthquakes in Italy and in Japan in April, Typhoons Haima and Sarika in the NW Pacific and Hurricane Matthew in the Caribbean and Atlantic, were important storms, wildfires in Alberta, Canada and California in the USA, volcanic eruptions in Indonesia, along with severe flood events in southern states of the USA and also in China, in July 2016, all attest to the challenges posed by hazardous events to people. The continuing migration ‘crisis’ in Europe and its associated challenges along with the Brexit vote in the UK provide a different set of issues to be addressed. The recently published Living Planet Index reveals that the number of wild animals living on Earth may fall by two-thirds by 2020, with the biggest cause of decline being destruction of wild areas for farming and logging followed by pollution, attests to the human impact on the environment. Closer to Hong Kong, 2015 saw China end its one-child policy whilst e-commerce is booming in China with online sales expected to reach 5.63 trillion yuan by 2017 (HKMA, 2016): the ‘landscape’ of retailing is changing rapidly. In Hong Kong, housing remains an important issue along with an ageing population and support for the disadvantaged. Geography is relevant to all these challenges and issues facing society. In selecting to study geography you will be well placed to help society meet these challenges, address these issues and adapt to change.

I would also like to use this foreword to record the Department's and my personal appreciation for the work of the GGAS. It has served to support both staff and students in the Department in various ways, for example, through its orientation night and camp along with the Geography Fiesta event and organizing the SSCC. Local field trips, such as that recently organized to Tung Ping Chau, have also been supportive of geography.

Finally, I hope that the Annals provides an interesting read and I also wish every student a rewarding academic year in 2016-17.

Dr. Mervyn R. Peart
Principal Lecturer
Department of Geography
The University of Hong Kong
The publication of Annals has long been a tradition of Geographical, Geological & Archaeological Society SSS HKUSU (the Society). It is indeed my great pleasure to be the editor of Annals (39th Issue) and pass on this well-preceived tradition. We, firstly, sincerely appreciate Dr. Mervyn R. Peart, associate professor of the Department of Geography of the University of Hong Kong (the Department), writing us a foreword concluding the year of 2016.

Aiming at cultivating members’ interest in geography, geology and archaeology, we have strived our best to collect articles from different sources written by teaching staff members and scholars. This year, we are very thankful to have received an article about tree-rings in relation with the history of Yellow River in China written by Dr. Jinbao Li, a geospatial technology-related article co-written by Ms. Wong and Dr. Low, and an article, concerning children’s independent mobility nowadays, co-written by Mr. Leung and Prof. Loo.

Since Annals (38th issue) has not been officially published, we would also present an article co-written by Dr. David Wadley from the University of Queensland and his student Ms. Isabel Ceron, along with a paper done by Dr. Jame Wang and Mr. Timo Heinonen from the Department about aero-politics in East Asia. Hereby, we express our sincere apology for this.

Tree-Rings Reveal 1,200 Years Yellow River Flow History
By Jinbao Li

This article investigates the fluctuations in the long run, recent anomalies, important forcing and likely future changes by building a basin-wide tree-ring network and utilising tree-ring chronologies to reconstruct the middle Yellow River flow for the past 1,200 years.

Use of Geospatial Technologies in Bringing Awareness about Conservation: A Case of the Chi Fu Valley
By Wong Paulina & Low Chien-Tat

This article uncovers past settings and chronological changes through the utilization of geospatial technologies near a deserted dairy farm site on Hong Kong Island. To facilitate public engagement, the mapped results have been gathered into a mobile application and posted online.
The paper focuses on the current situation of the children in Hong Kong, who have much busier lives than in their parents’ generation. Children’s tight activity schedule has an effect on their independent mobility and road-crossing ability. Their travel characteristic is further investigated in this paper.

In this article, the authors appeal to a heard science tradition by proposing an alternative conceptual framework in the form of five theorems, which they present as being testable. Each theorem is expounded in its own section of the paper, followed by conclusions.

This article analyses the endogenous factors that influence the development of aero politics with a mixed methods approach to unveil the relationships between factors related to institutional organisation and polity size as well as aero politics. The authors argued that economic institutions have a direct impact on the development of aero politics, whereas political institutions set the boundaries within which economic institutions operate.

To facilitate communication between the Society and members, we also include the reviews of the functions held by the Society and Joint School Geography Association (JSGA) in the past year. Moreover, there is personal sharing of the cabinet members of this session.

On behalf of the Society, I would like to express my sincere gratitude to all the contributors of Annals (39th Issue) for all your contributions giving new insights to our readers. Acknowledgement must be given to the associate editors for offering much help in preparing this Annals.

I hope all of you find reading Annals (39th Issue) enjoyable and continue to support the Society’s functions in future.

Tsang Cheuk Lung, Leo
Chief Editor
TREE-RING
Reveal 1,200 Years
Yellow River Flow History

Dr. Jinbao Li
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The University of Hong Kong
The Yellow River originates from the northeastern part of the Tibetan Plateau, flows 5,464 kilometers through the dry northern China from west to east, and empties itself into the Bohai Sea (Fig. 1). It is the second-longest river in China, third-longest in Asia, and the sixth-longest in the world (Pietz 2015). Archeological studies indicate that the Yellow River basin is a key birthplace of ancient Chinese culture and civilization (Gernet 1996; Pietz 2015). As a result, it is emotionally referred to as China’s Mother River and the cradle of Chinese civilization.

The Yellow River flow is crucial to natural environment and human society in the watershed. Nowadays, it supplies water to over 150 million people and 15% of China’s cropland (Immerzeel et al. 2010; Chen et al. 2012). However, the Yellow River flow is extremely prone to natural and human disturbances, as its watershed is characterized by highly variable precipitation and fine-grained loess soil that is subject to easy erosion (Xu and Cheng, 2002; Chen et al. 2012). Historical records indicate that the river flooded more than 1,500 times, shifted its course 26 times noticeably and seven times severely during the past three millennia, with at least five flooding events that caused the death of more than half a million people (Conservancy Commission 2001). The deadliest was the 1332-33 flood that probably killed seven million people, making it ranked as one of the worst natural disasters in history. Therefore, the Yellow River is also referred to as “China’s Sorrow”.

In recent decades, flooding of the Yellow River has been largely under control, thanks to modern hydrological infrastructure. Meanwhile, the river flow decreased substantially, leading to frequent downstream zero flow events and widespread concern on regional water supply (Piao et al. 2010).

In particular, the shortage of river flow caused panic in the populous northern China in the 1990s-2000s, which became a major reason for the implementation of the massive South-to-North Water Diversion Project that aims to transfer water from the Yangtze River system to dry northern China (He et al. 2005). The cause of the Yellow River flow reduction is not fully understood. Although climate change and human disruption are commonly claimed as the two major causes of recent flow reduction, their relative contribution remains elusive. Some scholars argue that climate change has played a dominant role, while some others attribute recent flow reduction to human interruption (Piao et al. 2010; Miao et al. 2011;
Another major uncertainty is how the river flow may change under future warming (Piao et al. 2010; Su et al. 2016).

A solid understanding of the Yellow River flow history and the relative contribution of various forcing on flow anomalies requires long hydrological records. However, modern Yellow River gauge records are short, with most observations from the 1950s onward. To complicate the issue, dams have been constructed along the river since the 1960s, making the gauge records heavily disturbed and incapable of reflecting natural flow variability. As a result, we are unable to fully understand the Yellow River flow variability, particularly when considering defining its current status and identifying possible trends and forcing mechanisms. Also we cannot assess quantitatively natural and human impact on recent flow anomalies.

Tree-rings have been widely used to reconstruct past climate, owing to the precise dating, extensive spatial availability, and high climatological sensitivity (Fritts 1976). Similarly, tree-rings have been used to reconstruct historical river flow, as both tree growth and river discharge are controlled by climate, in particular precipitation in the watershed. The fidelity of tree-ring records to flow reconstructions has been well demonstrated by numerous studies (e.g., Meko and Graybill 1995; Cleaveland 2000; Woodhouse et al. 2006). In this study, we build a basin-wide tree-ring network to reconstruct the middle Yellow River flow for the past 1,200 years, and assess its long-term fluctuations, recent anomalies, major forcing and possible future change.

We utilized 68 moisture sensitive tree-ring chronologies from the upper and middle watershed of the Yellow River to reconstruct the middle reach, mainstream flow variability at the Shanxian gauge station (Fig. 1). The tree-ring chronologies range from 204 to 2012 years, with a median length of 566 years. To account for the decrease in the number of chronologies back in time, a nested principal components regression was used to reconstruct the Shanxian flow records of a hydrological year from prior October to current September, which means all the regressions were spliced together, with their mean and variance adjusted to that of the most replicated nest. The final reconstruction spans 800-2010 (Fig. 3a), and accounts for 76.0% of instrumental flow variance during the full calibration period 1920-1968 (Fig. 2).

Our reconstruction agrees well with the gauged Shanxian flow records during 1920-1968 when the river ran freely (Fig. 2), although they depart markedly thereafter when the flow was heavily disturbed by upstream dam construction. Because of catastrophic impacts of river flooding, China has precise records of the Yellow River levee breach and flooding during the past two millennia (Conservancy Commission 2001). We used historical flooding records to verify the tree-ring based reconstruction.

![Figure 2 Observed (black line) and estimated (blue line) Yellow River flow at Shanxian station during 1920-2010. Horizontal line denotes the mean flow during 800-2010.](image)
In so doing we calculated the frequency of river flooding in the middle and lower reaches of the river during 800-1949, and found it agrees well with our flow reconstruction at multi-decadal timescales (Fig. 3b). Their only major disagreement occurred during the 1130s-1260s, a wartime period during which the river diverged its main course southward without an embankment system (Chen et al. 2012). Nonetheless, the overall agreements are remarkable in light of the independent nature of the proxies, highly suggestive of fidelity of our tree-ring based flow reconstruction.

Our reconstruction reveals for the first time natural middle Yellow River flow variability over the past twelve centuries. As shown in Fig.3a, the reconstructed flow displays marked interannual variability superposed on multi-decadal to centennial mean state swings. Spectral analysis revealed that the mean state swings have two significant quasi-regular cycles at 50-60-yr and 130-220-yr band, respectively. Furthermore, we found that the multi-decadal to centennial flow fluctuations matched well the Tibetan Plateau temperature anomalies as represented by three ice core oxygen isotopic (δ18O) records over the northern TP (Fig. 3c; Thompson et al. 2006). These coherent variations suggest that the Yellow River flow generally increased during periods of high temperature and decreased during periods of low temperature on the Tibetan Plateau.

Our reconstruction also provides a means to assess the relationship between the Yellow River flooding and the outbreak of wars in north China (Zhang et al. 2007). As shown in Fig. 4, north China war frequency generally increased during periods of high flow. Such a relationship suggests that the Yellow River flooding was a major threat to societal stability in northern China, as it could cause a total damage to food and properties in a short period of time. If without adequate economic resources and remedial measures to recover afterwards, social unrest may arise. Meanwhile, persistent droughts could be another major factor that triggered social unrest, as what happened in the 1120s-40s and 1630s-50s.

Our reconstruction of 1,200 years of the Yellow River flow provides a long-term background
to assess its recent anomalies. Our reconstruction indicates that the flow should have increased in recent decades if without human disruption, and that recent flow should be generally above the long-term mean (Fig. 2). Compared to the reconstruction, the actual flow has been 44.5% less since 1969, and in particular, the flow reduction is about 56.7% during the dry epoch of 1991-2010, indicating that human disruption is the primary cause of the Yellow River flow reduction in recent decades.

Our study implies that the Yellow River flow will likely increase in a future warmer climate, consistent with the most up-to-date model projections (Su et al. 2016). Despite that, decadal flow reduction due to natural climate forcing will inevitably re-emerge, analogous to the warming pause observed for global temperature in recent decades (Kosaka and Xie 2012). Our study underlines the dire need of sustainable water management in the Yellow River basin and beyond. Given that frequent zero flow events occurred in the 1990s-2000s when the flow reduction was far less pronounced than many dry epochs during the past 1,200 years (Fig. 3a), future water shortage due to flow reduction could be more devastating than what happened recently in terms of duration and severity. Equally worrying is the possibility of more extreme flow variability, as our study indicates that the flow amplitude generally increases during wet periods of the river. Mitigation strategies need to count the risks of both extreme flooding and drought, an escalated challenge for water management in the populous Yellow River basin and northern China.

References


Pietz, D. A. The Yellow River: The Problem of Water In Modern China (Harvard Univ. Press, 2015).

Use of GEOSPATIAL TECHNOLOGIES in Bringing Awareness about Conservation: A Case of the Chi Fu Valley

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&

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Abstract

This article demonstrates the utilization of geospatial technologies to present a field survey near a deserted dairy farm site at the Chi Fu Valley on Hong Kong Island. With the aid of official historical topographic maps, aerial photographs, and other documents, the project attempted to uncover past settings and chronological changes that took place in the region. The mapped outcomes have been compiled into a mobile application and posted online for public scrutiny and to encourage public comments about the development direction of the area. The aim of this project was to utilize geospatial technologies to consolidate and unify data in bits and pieces onto a single platform such that the public can have a complete picture of past development and the rich ecosystem within the Chi Fu Valley. This mapping platform not only empowers local residents with key facts about the natural biodiversity and heritage values of the site but also facilitates public engagement to enhance local planning through evidence-informed decision making.

Keywords

Conservation; Chi Fu Valley; Dairy farm; Natural biodiversity

Introduction

Geospatial technologies, including the global positioning system (GPS) and geographical information system (GIS), have provided surveyors and scientists alike convenient and economical means of collecting and managing geographic data. Mobile application tools have also helped disseminate maps and share map data across the Internet. The combination offers quick and easy solutions to overcome financial and temporal constraints of a project without compromising spatial data quality and scientific integrity.
This paper describes an application of geospatial technologies on the Chi Fu Valley community project. GPS and GIS were utilized to collect data about the ecosystems and heritage remains of the area and to make a historical account of the changes. By integrating and mapping all features from the field survey and verifying their locations against historical maps and registers, we were able to provide local residents with a full picture of their community resources and their spatial distribution. This integrated database can be shared online and can encourage open discussion because all stakeholders have equal access to the same data which were previously inaccessible and scattered.

**Method**

**Background and Study Area**

The Hong Kong Government announced in 2014 a plan to redevelop the region south of Pok Fu Lam on the south-western part of the Hong Kong Island for public housing. This proposal included future redevelopment of the Wah Fu Estate aiming to provide about 11,900 additional residential units under the public rental housing and home ownership schemes. The redevelopment plan also embraced three plots of lands in close proximity to Chi Fu Fa Yuen: (a) the Kei Lung Wan wooded green belt zone, (b) an area bordering the Chi Fu Road lush valley, and (c) the Wah Fu North temporary car park (collectively referred to as the “Chi Fu Valley”).

The Chi Fu Valley had been a part of the Dairy Farm in Pokfulam for nearly a hundred years. The Dairy Farm Company was established in 1886 as the first ranch in Hong Kong and it was the largest dairy farm in the Far East before World War II [1]. It was closed down in 1983 and the Chi Fu Valley had since become the home of a large number of old trees that sustained a rich ecosystem. However, the dairy farm’s configuration and some of its historical structures such as cattle pots, cowsheds, stone walls, staff quarters and main office building, have remained intact until today. These remains of the dairy farm and its surrounding natural environment have come together to showcase a unique heritage of Hong Kong. Over the years, a few trails have emerged from leisurely strolls by residents and visitors who sought authentic experience about the local heritage and viewing of iconic plant and animal (wild boar, short-legged toad and lesser spiny frog) species.

**Field Survey & Data Validation**

The Chi Fu Fa Yuen Resident Association approached our Department (i.e., Geography at the University of Hong Kong) in February 2015 to join their voluntary action to preserve valuable old trees and green belt areas through the Preservation Campaign. A major problem for the campaign was a lack of credible information on the distribution and conservation status of tree species in the area. A group of volunteers comprising of specialists (including tree experts and GIS professionals) and local residents joined efforts to create an inventory of trees (detailing tree location, species, size, condition, and other observations such as photo images) and ruins (detailing location, structure, construction material, usage, and photo images). Each tree or ruin was assigned a code and a label with essential descriptions was tagged at the respective location on site. Local residents were trained to operate GPS for positioning tree and ruin locations in treed or partially covered landscapes to reduce measurement errors. These surveyed data were coded and typed into an Excel worksheet for incorporation into a GIS.

All collected field data were processed in the GIS Laboratory and the positions of respective features were verified against hand-written surveying field notes. A graphic presentation of the inventory items is illustrated in Figure 1. Preliminary plots were printed and distributed to volunteers to verify relative positions of all trees and ruins in the field.

Besides conducting GPS field surveys, historical topographic maps and aerial photographs of the
Chi Fu Valley were also referenced to verify presence of selected features in different time periods. Figure 2 illustrates a few historical maps (1938, 1952 and 1979) that revealed developmental changes within the region. The historical map of 1938 showed an aerial ropeway connecting the pier along the coast and the dairy farm situated on higher grounds (labeled as A in Figure 2). The ropeway offered a means to transport goods and equipment between the terminals and remained in operation in 1952 but vanished in 1979. Its disappearance was probably due to the development of Chi Fu Fa Yuen, a large private housing estate, in 1978 as well as road network improvements in the area (labeled as C in Figure 2). Furthermore, a possible expansion of the dairy farm was observed from the map of 1952 probably as a result of “economical thriving” after World War II. This observation agreed with that noted by Cameron [2] who documented that the dairy farm business recovered after World War II and became profitable again in 1947. Evidence from historical maps and readings enabled us to add supplementary notes to enrich description of photo images of selected sites.
Online Dissemination

The surveyed results were consolidated and published online using ArcGIS Online, a product of ESRI [3]. This online mapping application allows easy access to the integrated database of trees and ruins in the Chi Fu Valley using any web-enabled mobile devices such as tablets and smartphones (Figure 3). The Chi Fu Valley mapper displays the spatial distribution of trees, ruins and heritage remains. Its user-friendly interface contains tools and functions for users to explore detailed descriptions of the selected feature and its surrounding environment. Users may also use customized functionalities to geotag photo images and synchronize with GPS locations, measure distance, draw on map, add descriptions, and perform simple spatial analysis. The online mapping application permits users to plan their recreational visits and become more aware of natural and cultural heritage resources needing conservation in the Chi Fu Valley.

Discussion and Conclusion

Although a number of the old dairy farm structures had given way to development, the main office building of the former dairy farm, senior staff quarters and dairy farm cowsheds have been well preserved and graded as historic buildings of Hong Kong. However, there are more heritage remains (such as silos, paddocks, water tanks, and staff quarter blocks) that have been discovered and deserving proper conservation. To date, about fifty valuable old trees and twenty stone wall banyans have been identified. Besides the valuable old trees and historical remains, the surrounding landscape is also homes to nearly sixty bird species and endangered toad [4] which warrants urgent attention of safeguarding and preservation.

The application of geospatial technological solutions as demonstrated in this study has a two-fold purpose: (1) to record and integrate locational and
descriptive information about valuable resources into a geographical database to facilitate mapping and visualization; and (2) to enable storytelling and visualizing of high ecological importance of the Chi Fu Valley through an interactive and easy to use online mapping application as a means to increase public awareness of local resources. We believe the Chi Fu Valley is not just the home of a former dairy farm but also a region of extremely high ecological value.

**Postscript**

A formal re-zoning proposal was made on 12 July 2016 to the Town Planning Board to turn the Chi Fu Valley into an eco-heritage park. Further, a formal request was made on 25 July 2016 to the Antiquities Advisory Board, copied to Antiquities & Monuments Office to award the historic Dairy Farm remains as a whole inside the Chi Fu Valley with Grade 1 Historic Building Status to aid in their conservation as an integral cultural landscape.


**Acknowledgement**

The authors would like to thank Professor P.C. Lai for her professional consultation on the project and Mr. Steve Sau and Mr. Joe Lau for collecting field data on valuable old trees and remains. Thanks are also extended to Ms. Katherine Lee and the Chi Fu Fa Yuen Residents' Association and Greenbelt Rezoning Concern Group for leading the preservation campaign and inviting the authors to participate in the project.

**References**


Kao, E. (2015). Abandoned Hong Kong ranch home to 60 bird species and endangered toad ‘should be preserved as ecological heritage park’, 16/09/2015, South China Morning Post, Hong Kong.
Older generations of Hong Kongers often speak of the younger generations as “身在福中不知福”. This Chinese saying roughly translates as “to live in a well-off environment without appreciating it”. This is commonly followed by a string of descriptions about how things were – no television, no tech gadgets, crowded living spaces, poor hygiene, water rationing etc. – in their childhood. It is clear that children in that age lived lives that were tough and full of hardship, lacking in opportunities or enjoyment, having “excessive homework” and “rote learning”, and required to adhere to “high levels of discipline” (Karsten, 2014). However, many still reminisce their childhood, despite not being particularly well off.

There is both a sense of nostalgia and of wistfulness while the older generations talk about “the good old days”, where they played outdoors after school and had fun with simple and/or self-made toys, along with group games with their other children (HKHS, 2015; Lam and Ng, 2016; So, 2011).

Childhood in Hong Kong now, however, is very different from that of past decades. Children’s lives now are far busier than in their parents’ generation; they must juggle many different forms of media (the internet, social media, online/computer gaming, television, etc.) together with school and family pressures such as homework, scheduled activities,
tutorial classes and the like. Physical outdoor play, which is beneficial for children’s development in both physical and psychosocial terms, is more and more pushed aside and neglected by both parents and children (DH, 2014; Karsten, 2014; Lam and Ng, 2016). While sometimes there is some beneficial interaction between the forms of media and various pressures, such as using the internet to do research for homework, the two usually come at odds with one another and are creating burden rather than fun. Few mothers would admit to being “tiger mothers”, but it seems that “enriching” children with a full schedule of activities whether after-school and/or on weekends appears to be increasingly the norm in Hong Kong, in order to “keep up” with other children and to “win on the starting line” (“贏在起跑線上”), so to speak, whether one likes it or not (Ng, 2016).

With media reports abound discussing childhood in Hong Kong, this paper seeks to understand the situation of childhood in Hong Kong now mainly through the lens of the children themselves. It is based on a larger research study on children’s independent mobility and their road-crossing ability. With the tight activity schedules of children and the perceived risk of road trauma, children now have limited chance to move around
independently, even around their homes and schools, and to learn to cross roads safely. These trends can lead to the overprotection of children and declining walking intensity as a kind of physical activity for children. Through an investigation of children’s extracurricular activities, associated travel characteristics and their ratings of how happy they are in different situations they encounter in their daily lives, this paper attempts to shed light on what it is like to be a child in Hong Kong in this day and age. With this knowledge, it is then up to policymakers to commit further actions into improving children’s lives. After all, Hong Kong, as Asia’s world city, should have the ability and commitment to take good care of children living here, and to allow for their healthy and balanced development on both the physical and psychological fronts. The role of parents must also be recognised, as they are key in deciding children’s after-school schedules.

As mentioned above, this paper’s methodology is based on a wider study on children’s mobility (referring, in transport geography, to how easily someone can move from place to place), road-crossing ability and their wellbeing. Children’s mobility in travel can be classified as independent (whether unaccompanied by an adult) and active (whether using non-motorised travel modes). The wider study puts the focus on travel characteristics of children’s journeys to and from school and extracurricular activities, while this paper focuses more on actual extracurricular activities in terms of their number, type and duration. A recent study of Loo and Lam (2015) suggests that 30.4% of the children’s school journeys in Hong Kong were made without adult companions. Moreover, 51% of the school journeys in Hong Kong were made by walking. Notably, “for children engaged in active transport (primarily walking), they were also found to have more independent travel in their school journeys” (Loo and Lam, 2015: 105). To children, independent mobility is most likely to be realized first in walking than in other transport modes like using buses or the metro. However, little is known about the travel characteristics of children related to extracurricular activities. Children’s happiness in different situations they encounter in their daily lives is discussed in the latter part of this paper under the umbrella of “wellbeing”.

Questionnaires were administered by a team of trained research assistants via face-to-face interviews with primary school children. Data discussed in this paper refers to 1) their extracurricular activities and associated travel characteristics and 2) their subjective feelings of happiness and satisfaction in different situations of their daily life. Extracurricular activities are first analysed by number, type, duration and their travel characteristics, which in turn are based upon their reported travel mode and presence of adult accompaniment. Children’s happiness ratings out of 10, from 1 being very unhappy to 10 being very happy, are based on the levels of self-reported happiness for school travel, situations encountered in school, school life in general, and life in general. The collected data corresponds with the major aim of this paper: to provide a better understanding of primary school students’ childhood in Hong Kong.

Primary schools across Hong Kong were selected randomly across two different categories, namely 1) fully government-financed (government and aided) and 2) non-fully government financed (Direct Subsidy Scheme, English Schools Foundation, Private Independent School scheme and private), based on the Education Bureau school database (EDB, 2016). Invitation letters were sent by random batches of 60 schools in each large category. After three batches in category 1) and two batches in category 2), one school from each category positively responded. Fieldwork was carried out over 5 days between November 2015 and January 2016. Invitation letters were sent to the parents of all students in both schools prior to the survey days in order to obtain their consent for their children to participate. The survey was run for 417 students in total across both schools, with approximately 35 students per grade from Year 1 through to Year 6.
surveyed by a team of trained research assistants.

With scheduled activities a common part of Hong Kong children’s daily lives, analysis of the type, number and associated travel of children’s scheduled activities were investigated, along with children’s psychological wellbeing. The extracurricular activities included only those that were scheduled and out-of-home – in other words, the activities where children would need to travel to attend. The associated travel characteristics with the extracurricular activities were self-reported by children. The extracurricular activities and associated travel characteristics were then analysed and further categorised based on the Education Bureau’s (2012) scheduled activity typology, namely “academic, sports, art, interest and social services”, with some examples as follows:

1. Academic: Language classes, tutorial centres, cram schools
2. Sports: Tennis, rugby, taekwondo
3. Art: Piano, recitation, orchestra
4. Interest: Chess, computer, balloon-twisting
5. Service: Red Cross, HK Adventure Corps, Sunday Mass

With reference to the above typology, we try to provide an overall view of the number of activities that primary school respondents of different age and gender groupings, as well as activities participated in with respect to activity type, activity duration and associated travel characteristics, such as travel time and presence of adult accompaniment. Tables 1 to 4 below provide a glimpse of the activities that Hong Kong children participate in, and enable some comparisons between the different types of activities, number of days with activities and durations of activities, across different age and gender groups.

Table 1 shows that over half of all surveyed students had two or less weekly scheduled activities, and only a small minority had 7 or more different activities every week. Younger children are more likely to have fewer scheduled activities, while there is no major difference between boys and girls. While the above figures seem relatively modest and indicative of a relatively decent amount of free time for children, it is important to note that an activity is counted as “one” whether it occurs once a week or five times a week. In other words, an hour-long piano class held once a week counts as one activity, and a three-hour tutorial class held every weekday also counts as one activity. This limitation is addressed below where the number of minutes spent participating in an activity per week is also calculated.

Table 2 provides an overview by the average number of activities as well as days per week and minutes per week spent on scheduled activities. This table provides a more complete understanding of primary school respondents’ scheduled activities as a whole. The surveyed children had 2.61 weekly

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<td>5-6 y.o.</td>
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<tr>
<td>8 y.o.</td>
<td>9.8%</td>
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<tr>
<td>9 y.o.</td>
<td>4.1%</td>
</tr>
<tr>
<td>10 y.o.</td>
<td>2.8%</td>
</tr>
<tr>
<td>11-12 y.o.</td>
<td>0.0%</td>
</tr>
<tr>
<td>Male</td>
<td>9.0%</td>
</tr>
<tr>
<td>Female</td>
<td>6.6%</td>
</tr>
<tr>
<td>Overall</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

Table 1: Overview of number of weekly scheduled activities across age and gender
scheduled activities, with 9- to 12-year-olds averaging at around three per week and 5- and 6-year-olds average at less than two per week. With regard to minutes spent participating in scheduled activities, once again, 9- to 12-year-olds averaged higher than their younger schoolmates, at nearly six hours per week, though 5- to 8-year-olds still spent well over three hours per week participating in scheduled activities. Travel time associated with travel for scheduled activities was longer for older students, and this is reasonable because they should be more capable than their younger counterparts to travel longer distances and be more independent. Similar to Table 1, gender differences across activities seem negligible.

Looking further into scheduled activities classified along the EDB’s suggested categories for Table 2, the number of minutes spent on academic and arts activities generally increases with age, and time spent on sports activities appears to drop somewhat for upper years. This is possibly indicative of upper years having more homework and the increasing need to prepare for pre-secondary school exams, hence the shorter average duration in sport activity participation. Another interesting aspect is gender difference in participation for academic, sports and arts activities. On average per week, girls participated in academic and arts activities for a 27% and 133% longer duration than boys, while boys participated in sports activities for a 65% longer duration than girls. This perhaps is demonstrative of children’s parents in this study arranging activities for their child somewhat in accordance with their child’s gender, perpetuating the well-recognised gender stereotypes of boys participating in more sports and girls participating in more arts activities.

From Figure 1, it is evident that walking and cycling (the majority pedestrians, in excess of 97%) were the main associated travel modes for close to two fifths of the total number of activities, closely followed by private car and taxi at just under a quarter, bus and minibus at 17% and rail at 12%. In this respect, though active travel is only associated with 38% of children’s activities, over three quarters of activities have children (often with their parents) walking or taking public transport.

With respect to accompaniment, Table 4 shows that the vast majority of children’s activities — over four fifths — had associated travel accompanied by an adult, with nearly one half of which being the mother. This reveals that the traditional role of the mother being responsible first and foremost to taking care of their children, in this case with respect to travel for scheduled, out-of-home activities, is still well and truly alive in Hong Kong. This is in line with findings by Karsten’s (2014: 567) small-scale exploratory study of middle-class parents in Hong

<table>
<thead>
<tr>
<th>Description</th>
<th>All activities</th>
<th>Academic</th>
<th>Sports</th>
<th>Arts</th>
<th>Interest</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities per week</td>
<td>Minutes of activities per week</td>
<td>Associated travel time per week</td>
<td>Mins % all</td>
<td>Mins % all</td>
<td>Mins % all</td>
<td>Mins % all</td>
</tr>
<tr>
<td>5-6 y.o.</td>
<td>1.95</td>
<td>215</td>
<td>57</td>
<td>60</td>
<td>27.8%</td>
<td>101</td>
</tr>
<tr>
<td>7 y.o.</td>
<td>2.34</td>
<td>223</td>
<td>81</td>
<td>71</td>
<td>31.9%</td>
<td>82</td>
</tr>
<tr>
<td>8 y.o.</td>
<td>2.72</td>
<td>272</td>
<td>91</td>
<td>99</td>
<td>36.6%</td>
<td>101</td>
</tr>
<tr>
<td>9 y.o.</td>
<td>3.00</td>
<td>340</td>
<td>110</td>
<td>145</td>
<td>42.6%</td>
<td>112</td>
</tr>
<tr>
<td>10 y.o.</td>
<td>2.92</td>
<td>325</td>
<td>120</td>
<td>100</td>
<td>30.7%</td>
<td>125</td>
</tr>
<tr>
<td>11-12 y.o.</td>
<td>2.92</td>
<td>396</td>
<td>105</td>
<td>203</td>
<td>51.3%</td>
<td>79</td>
</tr>
<tr>
<td>Male</td>
<td>2.64</td>
<td>283</td>
<td>91</td>
<td>94</td>
<td>33.1%</td>
<td>124</td>
</tr>
<tr>
<td>Female</td>
<td>2.57</td>
<td>296</td>
<td>96</td>
<td>123</td>
<td>41.5%</td>
<td>77</td>
</tr>
<tr>
<td>Overall</td>
<td>2.61</td>
<td>289</td>
<td>94</td>
<td>107</td>
<td>37.0%</td>
<td>102</td>
</tr>
</tbody>
</table>

Table 2: An overview of children’s scheduled activities categorised by type across different age and gender
Kong, where it was acknowledged that mothers in particular exhibited intensive parenting in “choosing, communicating and supervising extracurricular activities”.

Table 5 shows the busy schedule of one selected child, who reported nine activities in a week. The child, a nine-year-old boy, was accompanied for each activity, usually by his driver in a private car. The child may very well enjoy all these activities and the arrangements, and the survey did not cover reasons for this busy schedule. While this schedule is not representative of all Hong Kong children, it is worth considering: does a child truly need all these activities to fill up his after-school time? Is it truly beneficial for his development?

<table>
<thead>
<tr>
<th>Accompaniment</th>
<th>Children's age</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-6</td>
<td>7</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father only</td>
<td>22</td>
<td>16.4%</td>
</tr>
<tr>
<td>Mother only</td>
<td>54</td>
<td>40.3%</td>
</tr>
<tr>
<td>Helper, grandparent or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>other adult only</td>
<td>29</td>
<td>21.6%</td>
</tr>
<tr>
<td>Two or more adults</td>
<td>28</td>
<td>20.9%</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Table 4: Travel accompaniment for children’s scheduled activities (column sum = 100%)

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Swimming</td>
<td>1h 30m</td>
<td>1h 45m</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>3h 15m</td>
<td>1h</td>
</tr>
<tr>
<td></td>
<td>Art</td>
<td></td>
<td></td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maths</td>
<td></td>
<td></td>
<td>45m</td>
<td>45m</td>
<td>45m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Taekwondo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sunday school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duration</td>
<td>1h 30m</td>
<td>1h 45m</td>
<td>1h</td>
<td>1h</td>
<td>1h</td>
<td>3h 15m</td>
<td>1h</td>
</tr>
<tr>
<td></td>
<td>Travel time</td>
<td>25m</td>
<td>30m</td>
<td>30m</td>
<td>45m</td>
<td>45m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel mode</td>
<td>Car</td>
<td>Car</td>
<td>Car</td>
<td>Car</td>
<td>Car</td>
<td>Walk</td>
<td>Car</td>
</tr>
<tr>
<td></td>
<td>Accompan.</td>
<td>Driver</td>
<td>Driver</td>
<td>Driver</td>
<td>Driver and helper</td>
<td>Driver</td>
<td>Helper</td>
<td>Dad</td>
</tr>
<tr>
<td>2</td>
<td>Activity</td>
<td>Piano</td>
<td>Violin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duration</td>
<td>1h</td>
<td>45m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel time</td>
<td>35m</td>
<td>20m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel mode</td>
<td>Car</td>
<td>Car</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accompan.</td>
<td>Driver</td>
<td>Driver</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5: One selected child's after-school weekly schedule and travel associated with extracurricular activities
With regard to children’s happiness and psychological wellbeing, this study uses self-reported activity data and happiness ratings by children for analysis. The 10-point scale used throughout the wellbeing questions enabled children to determine how they would feel in certain hypothetical situations, via simple vocabulary, the polar opposites of “very happy” and “very unhappy”.

From Figure 2, there was a recurring phenomenon of happiness ratings for 8- or 9-year-olds being slightly lower than children both younger and older than them, such as 8-year-olds in statements (a), (f) and (g), and 9-year-olds in statements (b), (c) and (d). The reason for this would require further investigation to confirm whether this is merely a peculiarity of this particular set of students, or whether this is a wider phenomenon. One conjecture could be that 8- and 9-year-old students, at around Primary 3, are being subjected to Hong Kong’s Territory-wide System Assessment (TSA) preparation and examinations, and as a result, the students rated their “happiness” as lower due to these school pressures. While this is not the foremost focus of this study, it would be helpful for policymakers and educators alike to confirm or deny whether the Primary 3 TSA exams really caused children to be unhappy (the suspension happened after our survey).

With regard to the actual levels of self-reported happiness, all age groups of children were least happy on their journeys to school (a) – with the exception of ages 5 to 6 – which may be indicative of children’s feelings of anxiety and trepidation towards going to school and the pressures it entails. School life (f) was highly rated in relation to other activities for all age groups. Overall, children rated outdoor play (e) and PE class (c) as the two happiest situations, with a happiness rating at above 8. This is at odds with playing on the computer (d), which is consistently lower than (c) and (e), especially in the 9-year-old age group. This appears to indicate that while the internet and tech gadgets continue to grow in popularity, surveyed schoolchildren do still very much enjoy playing outdoors with friends and doing physical activities during PE lesson. This can be considered as a positive sign – children still do value outdoor play and physical activity relatively highly.

From Figure 3, there are considerable gender differences for statements (b), (d) and (e), 0.34, 0.82 and 0.34 higher for boys than for girls. The fact that boys seem to feel happier than girls while playing on computer games with friends are in line with findings in the literature, such as Griffiths and Hunt (1998: 192), who report that British boys are more likely to play and be “dependent” on computer games, and
that those dependent on computer games regarded them as “fun, excitement, a challenge”, and other similar terminology. Similarly boys did appear to enjoy playing outdoors with friends more than girls, which is comparable with findings by Larson et al. (2011: 11) in the USA which found that “more boys than girls went outdoors to just play or hang out”, among other outdoor activities. It may be possible to relate this finding with heightened enjoyment in boys’ travel while departing school, possibly meaning more opportunities for outdoor play and socialising with friends. The above differences, while quite subtle in some statements, do seem to somewhat reinforce long-held gender stereotypes. Encouraging children, especially girls, to play outdoors safely should be put forth as one possible path forward, and evidently there are also numerous benefits of computer use for both boys and girls, though of course not to the point of dependence and addiction (DH, 2014).

To conclude, this study endeavours to understand Hong Kong children’s childhood through the main focus on the children’s scheduled activities based on their number, type, duration, associated travel characteristics and children’s happiness ratings. The results suggest that the surveyed children in Hong Kong had an average of 2.6 scheduled activities per week, with nearly 5 hours a week spent participating and a further 1.5 hours spent on travel associated with these scheduled, out-of-home activities. Over three quarters of the travel attributed to scheduled activities were completed mainly on foot or by public transport, and the vast majority of the journeys were accompanied by adults. There were differences by age and also by gender, with older children and boys tending to travel more independently. Also, boys tended to engage more in sport activities, while girls tended to participate more in art and academic activities. Age differences for children’s happiness ratings were discussed, and there appears to be a dip in “happiness” ratings for participants aged 8 and 9. Children were least happy on their journeys to school and with school life in general, and were happiest while participating in PE class and playing outdoors with friends.

Having studied children’s scheduled activities and the associated travel characteristics, such as transport modes and accompaniment, future studies should include a more comprehensive view encompassing both children’s and parents’ perspectives. Children may very well want to live their lives very differently from what their parents would expect or want. While it is not unexpected that there may be discrepancies between children’s and parents’ views and expectations, it is important to understand each other better in order to find

Figure 3: Overview of children’s self-reported happiness ratings in different situations by gender
ways to pull the two closer together and enable the child to develop healthily in a more balanced, well-rounded life. Children, after all, are the future pillars of our society.

It is understandable that parents and educators alike will continue to try and equip children with the tools they believe necessary for the younger ones to succeed in the increasingly hectic, competitive and fast-paced society that Hong Kong is. The new mobility challenge for children in this generation, especially in view of the restrictions imposed on them, should be clearly linked to their living environment (built or social), family factors, and their own road-crossing ability. However, with little freedom to experience and explore their living environment, to mingle with friends, and with busy schedules akin to that of adults, one needs to ask whether these arrangements will ultimately benefit the children. There is another common Chinese saying of “家家有本難念的經”, which roughly translates as “every family has its own difficulties”. Childcare is difficult enough, but with childcare in this day and age, with so many competing interests, pressures and attractions for both the parents and the children, it is only with enhanced communication and mutual understanding that children can live their lives in Hong Kong a little freer and a little happier than now.

Acknowledgements

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Inviting Philosophy into the Social Sciences: A Look Back to the Origins of the IPAT Identity


In 1971, soon after the release of his landmark book, The Population Bomb, Dr. Paul Ehrlich teamed with John Holdren to produce another key paper. Having become part of the environmental canon, it is well worth a retrospective look today. The ‘Impact of Population Growth’ deals with the link between population growth and the degradation of the environment. Ehrlich and Holdren’s explicit aim is to rebut the notion that a population’s size and growth rate have only a minor or proportional influence on environmental outcomes, as well as other alleged misconceptions surrounding that relationship. Their take on the subject is highly critical of opposing views, which they label as complacent, unjustified and counterproductive. The authors come from, and appeal to, a heard science tradition by proposing an alternative conceptual framework in the form of five theorems, which they present as being testable. Each theorem is expounded in its own section of the paper, followed by conclusions.

The Proposed theorems are (p. 1212):

1. Population Growth causes a disproportionate negative impact on the environment.

2. Problems of population size and growth, resource utilization and depletion, and environmental deterioration must be considered jointly and on a
3. Population density is a poor measure of population pressure.

4. The term, ‘environment’, must be broadly construed to include such things as the physical environment of urban ghettos, the human behavioral environment, and the epidemiological environment.

5. Theoretical solutions to our problems are often not operational and sometimes not solutions.

Relevance of the article

Ehrlich and Holdren’s account is highly relevant to anyone researching the social causes of environmental degradation and how our understanding has evolved over time. It was in this paper that environmental impact was first presented as a function of population and per capita consumption (Impact = Population * Factors affecting per capita impact), an identity that later evolved into the IPAT equation (Impact = Population * Affluence * Technology). The expression is a key reference in scholarly discussions around environmental issues, which it has made
more manageable by identifying a set of significant variables. The Understanding and uses of the IPAT identity have evolved over time, and attracted a degree of criticism, but it has largely held its ground (Chertow 2000; Kates 2000; Waggoner et al. 2002).

From the viewpoint of the philosophy of science, the work has some further interesting facets:

First, it indicates that planners and demographers have long been acquainted with the potential, if not need, to control population growth. As such, it introduces a case that researchers in these fields have under-estimated their duty to care for the environment.

Second, in terms of enunciation, it sets a high standard of intellectual leadership. Since current problems are identified, new directions provided, and an example set through the use of logical rigor. This approach reflects itself with issues that are pressing and has a sense of social obligation, as opposed to ivory tower exercises of distant or diffuse interest.

Use of appropriate literature

At first sight, the bibliography seems to lack references which could place Ehrlich and Holdren’s work within any major scholarly traditions. The listing consists of papers actually being criticised (mostly conference papers and opinion pieces), hard data, a number of empirical case studies providing counter-arguments, and previous supportive publications by the same authors. Upon closer examination, though, the selected literature enhances the main aim, to rebut the notion of minor or proportional population impact, which is supported with varied and convincing arguments. They include the notions of diminishing returns in resource exploitation, the emergence of per capita diseconomies stimulated by population growth, and the threshold effects intrinsic to natural ecosystems. To this end, the selection of literature is both effective and efficient. Also, form a time perspective, the 1970s were the early days of the environmental movement, and many of the keynote addresses were yet to be written. To name a couple, Limits to Growth was published in 1972, and Herman Daly’s Steady-State Economics appeared in 1977. In subscribing to a theoretical tradition, it is likely that elements which would have supported Ehrlich and Holdren’s viewpoints.

Two more remarks are relevant. First is the absence of any reference to Malthus, Malthusianism or the criticism attending this school of thought. The Rev. Thomas Malthus’ (1798) An Essay on the Principle of Population is an obvious precedent to any discussion on the impacts of population growth or birth control. Malthusianism and its logical sequels, however, have been all but banished from serious, popular or academic consideration by the prevailing neo-liberal Zeitgeist (Mayhew 2014).

Population control has become a high-risk, no-go zone for researchers and policy-makers (in the West at least). In 1971, the world’s population amounted to only 3.620 billion. It is now 7.326 billion with the latest United Nations (2015) medium-variant projection suggesting 11.213 billion by 2100. Presumably, at some stage, demographically-driven human demand will run up against the finitude of space and the world’s non-renewable resources. By that stage, it could be too late to recycle the classical insights of the reverend gentleman.

The second issue is the lack of a systematic approach to the development of Theorems 2 to 5. This is a problem of method (discussed next), but also evident in the lack of a substantial body of supporting literature.

Assessment of methodology

The methods employed in the paper come mostly from metatheory or the philosophy of science, namely:

Logic: theorems 1 and 3 are about testing the internal coherence of assumptions around population impact; also, the formation of theorems
and one mathematical identity fall within the realm of Logic;

Methodology: theorems 2 deals with the pertinence of using different units of study (i.e. the globe vs. regions or localities);

Semantics: theorem 4 is built around the meaning of the word or concept, ‘environment’;

Epistemology: theorem 5 discusses the limits of social theory to explain the world; and

Ethnics: ethical reflection is a constant throughout the paper, although more prominent in theorems 2 and 5.

This level of discussion (metatheory) and the use of logical syntax to ground proposed statements are sorely needed in social sciences, particularly for the analysis of urgent issues such as demographic growth (Bunge 1998). By default as much as by design, it is not surprising that the focal paper has come to the social realm from the hands of Ehrlich (a biologist) and Holdren (a physicist). Unfortunately, though, their enterprise is incomplete. The authors (intently or not) avoid openly placing the discussion at the level of philosophy, and thus miss out on a potential powerful aid. Words like logic or epistemology are absent, and besides the use of formal syntax in the impact-population identity, there is little evidence of their awareness of the nature of their methods (philosophical reflection upon existing theory).

Finally, Ehrlich and Holdren devote most of their attention to theorem 1, leaving little to substantiate the formulation of the remaining ones. Specifically:

Theorems 2 to 5 receive significantly less attention, both in length of the discussion and weight of the arguments used, with some recourse to proof by rhetoric (i.e. “It is abundantly clear that … “, p. 1214).

Only theorem 1 is formally, clearly enunciated in logical syntax. The remaining ones are delivered in prose from within the body of text, which reduces their clarity and testability.

Theorems 2, 4 and 5 might not be theorems at all (in the sense of statements that can be proved or disproved), but simply precisions around methodological, semantic, ethical and epistemological approaches to the study of population.

Arguably, this type of criticism could have been pre-empted through deeper, explicit philosophical self-reflection on their own proposed solutions to the population problem (i.e. internal logic and limitations of the theorems), maybe in a somewhat longer treatise. In terms of what was published, the greatest strength lies in inviting logic and metatheory into social sciences and tackling a core issue in human development.

**Results and conclusions supported by data/ methods**

Despite the above criticisms, Ehrlich and Holdren’s contribution remains unparalleled in the fields of ecology and demography. Their impact-population identity and statement of disproportionate impact are both well-supported in the text, and continue to be validated by the findings of current research. Relevant outcomes include the emergence of scientific consensus around anthropogenic climate change [Cook et al 2013], and the coining of the term ‘Anthropocene’ [Stephen et al 2011], as well as the documented and very real impacts of humanity’s adverse impact on the planet.

**Final words**

The impact of Population Growth made a socially-valuable, courageous, and timely contribution to understanding of people’s relationship with the environment. Its attempt to link man-made environment impacts to the
language and realm of formal science goes far beyond anything routinely attempted in the social fields, and therein it has set a benchmark of its own.

Future endeavours in this area of research might similarly benefit from recourse to the tools available in philosophy to separate the grain from the chaff and, overall, to elevate the standards to which we aspire as social researchers. So often, conscious, explicit philosophical reflection is demonstrably the best approach. Demography, the elephant in the room, is at the root of many global problems, for some of which solutions remain elusive. New issues are regularly emerging. There is a place for work which is contrarian and/or radical in scope and pitched at high levels of systemic resolution (i.e. is global in character). Ehrlich and Holdren created an early exemplar of what clear thinking can achieve.

References


Aero Politics in East Asia: an Institutional Approach to Air Transport Liberalization

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&

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Abstract

This article analyses the endogenous factors that influence the development of aero politics on the global scale, in general, and in East Asia, in specific. A mixed methods approach was used to uncover the relationships between factors related to institutional organisation and polity size, on the one hand, and aero politics, on the other. It is argued that, while the direct effects of geographical, demographic, and economic factors remain limited, the importance of the polity-level institutional framework to aero politics cannot be overstated. More precisely, economic institutions have a direct impact on the development of aero politics, whereas political institutions set the boundaries within which economic institutions operate.

Highlights

- We introduce an institutionally based approach to the study of aero politics.
- The effects of polity level variables on aero politics are quantified.
- We discover that politico-economic institutions dictate aero political development.
- The effect of polity size on aero political development remains limited.

Keywords

Aero politics, Liberalisation, Institutionalism, East Asia

Introduction

Air transport is a key instrument of the increasingly global flows of goods, services, and people. Despite the fact that commercial aviation can be seen as a vanguard of globalisation, it remains one of the most tightly regulated and nationally controlled industries in the world. While progressive deregulation has taken place in certain regions, most importantly in North America and Europe, much of the world continues to be dominated by restrictive, state-centric bilateral air service agreements (ASAs). Since the particular institutional and geographical settings of East Asia impede making direct inferences from air transport deregulation in the West, there is a need to develop a better understanding of the air transport environment in the region.

Based on the previous research on air transport in Asia, the region appears to be simultaneously different from and similar to the West. While general trends such as liberalisation and the rise of the low-cost segment can be observed around the world, the implications of these changes differ across world regions. For example, Lawton and Solomko (2005) assert that focusing on the cost-competitive strategy of Western low-cost carriers (LCCs) is not enough to build a successful LCC in Asia. In addition, Forsyth et al. (2006) remind that it may not be possible to draw parallels between air transport liberalisation in Asia and Europe due to regional differences.

This article aims at analysing the endogenous factors that influence the development of aero politics on the global scale, in general, and in East Asia, in specific. A mixed methods approach, combining both qualitative and quantitative tools, was used to uncover the relationship between institutional organisation and polity size, on the one hand, and aero politics, on the other. The first part of the article consists of a quantitative analysis of aero politics on the global scale. This section is followed by three in-depth qualitative case studies, focusing on aero political development in China, Hong Kong, and South Korea, respectively.

Methodology

Theoretically, our research study was motivated
by the institutionalist theory of Acemoglu and Robinson (2012), which is based on the conviction that institutions rather than geographic or cultural factors explain the vast differences in economic, political, and social organisation in today’s world. Although both political and economic institutions develop on a continuum, they can be roughly divided into two categories, inclusive and extractive. The

<table>
<thead>
<tr>
<th></th>
<th>Extractive political</th>
<th>Inclusive political</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extractive economic</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Inclusive economic</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 1: Types of institutional configurations [Source: Acemoglu and Robinson (2012)]

Although our main focus was on the institutional factors that affect the development of air transport regimes, it was considered necessary to also include other spatially sensitive factors to the analysis. As a consequence, a hypothetical input-output model of aeropolitical development was developed (Figure 1). According to the model, air transport regimes are the end results of the interaction between institutional and polity size factors. To verify this hypothesis, we examined air transport regimes but at the worldwide and polity level.

**General trends**

The Pearson product-moment correlation was considered to be the most appropriate tool to examine the potential relationship between polity-level conditions and the development of aeropolitics at the global level. The Pearson correlation coefficient is one of the most simple and commonly used devices in descriptive statistics (Beins and McCarthy, 2012). It examines the connection between two variables that are continuous by nature. While the coefficient cannot prove causality, it can serve as a concise indicator of the strength of linear dependence between different variables. Based on the availability of data on geographical characteristics, political organisation, and aviation
policies, 160 polities (i.e. independent countries and autonomous political units) were included in the analysis.

First, the aero political structure of each polity was quantified using the level of air transport liberalisation as the main variable. The reason for this was two-folded: firstly, liberalisation is arguably the most important recent regulatory development in civil aviation; and, secondly, there exists ample quantitative work on air transport liberalisation across different regions. The Air Liberalization Index (ALI) constructed by the WTO (2006) and the Factor Analysis Index of Air Liberalisation (FAI) by Piermartini and Rousova (2008) were selected to be used in the study due to their availability and comprehensiveness.

The second group of variables was composed of the key indicators of polity size. An adaptation of the Country Size Index developed by Jalan (1982) was used in this section. The original index depicts a weighted average of demographic (population), territorial (arable land), and economic (GDP) factors that affect the size of a country. Each component is measured against the largest value of the sample. The index ranges from 0 to 100, with 0 representing the smallest possible option and 100 the largest.

We deemed Jalan’s original index somewhat problematic for two reasons. First, arable land does not represent a variable that can significantly affect the development of aero politics. Instead, intuitively, the development of civil aviation is more closely related to the territorial size as a whole. Therefore, in this study, territorial size as a whole was used as the measure of territorial size. Accordingly, the following Polity Size Index was developed:

\[
I_i = \frac{100}{3} \left( \frac{\text{Population } i}{\text{Population max}} + \frac{\text{Areal size } i}{\text{Areal size max}} + \frac{\text{GDP } i}{\text{GDP max}} \right)
\]

Where \( I_i \) is the polity size index for individual polity \( i \);
Population \( i \), Areal size \( i \), and GDP \( i \) are the respective figures for polity \( i \);
Population max, Areal size max, and GDP max represent the highest values of population, arable land, and GDP respectively.

The second limitation of the original Country Size Index is, as Alouini and Hubert (2012) note that it allows for linear compensation across different dimensions of size. For example, a polity with a very large territory but a very small population and economy may qualify as a medium size polity. In order to overcome this limitation, the ALI and the FAI were also independently measured against all the components of the Polity Size Index.

The Polity Index by Marshall and Jaggers (2010) provided the proxy for the inclusiveness of the politico-institutional system. The Polity Index is part of the Polity data series, a widely used data series in political science. The data series codes the authority characteristics of states in the world system for purposes of comparative, quantitative analysis. The combined polity score was deemed to be the most appropriate indicator of the politico-institutional organisation across the world.

The economic institutional characteristics were categorised using the Index of Economic Freedom developed by Miller et al. (2013) for the Freedom House. The index scores polities on 10 broad factors of economic freedom. As such, it correlates highly with the definition of inclusive and extractive economic institutions by Acemoglu and Robinson (2012). The index ranges from 0 to 100, with 0 describing the most repressive or extractive system and 100 the freest or the most inclusive one.

In summary, the macro-level analysis of the relationship between different polity level factors and the nature of aero political organisation consisted of a series of correlation experiments that employed the Pearson product-moment correlation. The correlations that were computed are listed in Table 2.
Aero politics in East Asia

While quantitative methods were used to analyse the general trends in aero politics, qualitative methods were considered to be more appropriate to investigate the role of different historically sensitive and spatially bounded conditions for the development of aero politics at the polity-level. More precisely, the case study approach was selected to create analytically rigorous narratives of recent developments in the region. In practice, motivated by the case study design adopted by Chikage (2007) in his study on the effects of air transport liberalisation on the aviation market in Japan, three exploratory studies were undertaken. These case studies enabled us to develop an in depth understanding of the historical background behind the changes in air transport regulation in China, Hong Kong, and South Korea. The key elements of the polity-level exploratory studies were as follows:

1. Geographical review
2. Institutional review
3. Aero political review

Worldwide trends in aero politics

The findings of the correlation analysis are enlisted in the following correlation matrix (Table 3).

According to the findings, polity size as a whole did not have a significant correlation with aero politics or, more precisely, with the level of air transport liberalisation. Having said this, a closer examination of the individual components of the composite index revealed more systematic patterns of relationship. Interestingly, negative, although weak, correlations were identified between population size and the level of air transport liberalisation as well as areal size and the level of air transport liberalisation were weak. On the other hand, a positive, although relatively weak, correlation was identified between GDP (PPP) and the level of air transport liberalisation.

More significant inferences were drawn from the results of the correlation analysis between air transport liberalisation and institutional organisation. According to the original polity score, there is a weak but identifiable correlation between the openness of air transport markets and
the inclusiveness of political institutions. Moreover, according to the revised polity score, this correlation is moderate rather than weak. In other words, more democratic, politically open and competitive, and institutionally strong polities are also likelier to have higher levels of air transport liberalisation.

In a similar vein, an even more significant correlation was found between the openness of air transport markets and the inclusiveness of economic institutions. In other words, polities that provide more secure property rights and freer business and trade environments are also characterised by more open air transport markets. Intuitively, inclusive economic institutions both support and demand for air transport liberalisation. It is generally agreed that economic growth is associated with an increased demand for domestic and international travel and trade (Chin et al., 1999; Ishutkina and Hansman, 2008). That being said, the explanatory power of a static, quantitative analysis remains limited. Therefore, a more detailed, temporal, qualitative analysis is required to verify the above-identified linkages between aero politics and the economic and politico institutional framework under which aero political development takes place.

Aero politics in East Asia

In order to ground the findings of the worldwide quantitative study, three in-depth case studies on aero political development at the polity-level in East Asia over the last half a century were conducted. Based on the differences in their geographical, economic, and institutional attributes, China, Hong Kong, and South Korea emerged as the most intriguing case study subjects.

China

China, the largest country in East Asia, has undergone a series of drastic transformations over the past few decades. These include, but are not limited to, changes in the economic, political, and demographic structure of the country. While the first decades of the People’s Republic’s history were characterised by extractive political and economic institutions that hampered the development of the country, the situation began to change during the economic reform era that began in the turn of the 1980s. That being said, while the economy experienced a drastic transformation and grew remarkably during the period, political changes remained limited.

In the 1990s many of the social problems associated with rapid economic development, such as the challenges of regional inequality and corruption, became more visible (Naughton, 2007). At the same time, the separation of political and military leadership and the restructuring of the state financial management by Premier Zhu Rongji institutionalised the current governing structure and increased the inclusiveness of the political system. At the same time, China took a greater role in the international arena, manifested by the country’s WTO membership in 2011, among other things.

Without a doubt, the above-described changes in the Chinese political and economic system have had profound implications on country’s air transport regime. Table 4 illustrates some of the key junctures in the development of aero politics in China within the past half a century. The developments can be divided into three broad stages: first, a stage of civil aviation under central planning; second, a period of rapid development during the early reform era; and, third, the current stage of on-going deregulation, privatisation, and consolidation of the air transport industry.

Today, after three decades of gradual and progressive aviation reform, the aero political system in China appears more open and liberal than ever before. That being said, aviation reforms are still far from complete, as strong government control and intervention exist at all levels and in various aspects of the air transport industry. As a result, China is placed among the most restrictive aviation regimes.
in the world according to both the ALI and FAI standards. The country ranks 5th on the former and 13th on the latter scale. Even countries as notorious as North Korea and Iran have, in certain aspects, more open aviation systems than China.

Although aviation reforms in China have seemingly been affected by the size of the country and its economy, these factors alone do not explain the transformations that have taken place in recent decades. A more fulfilling explanation for the reforms is provided by the institutionalist approach. Based on this approach, aero political development in the country has been affected by the broad trends of liberalisation and privatisation in China. The reforms to date have been at best partial, resulting in “chaotic and unexpected outcomes” (Zhang and Round, 2008). These outcomes can be analysed as the consequences of a three-way interaction between international, national, and individual actors.

The number of civil aviation partners of China has soared in recent decades. Moreover, the accession to the WTO played a key role in the acceleration of China’s liberalisation process. As explained by Williams (2009), the Chinese government was extremely keen to satisfy the legal requirements and provisions that were the condition of a full membership in the WTO, including partial air transport liberalisation. China has also faced encouragement from other organisations and country blocs to further civil aviation reform. Both the countries of the Northeast Asian region and the ASEAN group have introduced region-wide liberalisation initiatives to China (Zhang, 2011).

<table>
<thead>
<tr>
<th>Stage I 1949-1977</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil aviation under central planning</td>
</tr>
<tr>
<td>Total government control</td>
</tr>
<tr>
<td>Paramilitary organisation</td>
</tr>
<tr>
<td>1949</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage II 1978-1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform and open-door policy</td>
</tr>
<tr>
<td>Rapid development</td>
</tr>
<tr>
<td>1979</td>
</tr>
<tr>
<td>1980</td>
</tr>
<tr>
<td>1980</td>
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<tr>
<td>1987</td>
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<tr>
<td>1994</td>
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<tr>
<td>1996</td>
</tr>
<tr>
<td>1996</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage III 1997-2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deregulation, privatisation, and consolidation</td>
</tr>
<tr>
<td>1997</td>
</tr>
<tr>
<td>1997</td>
</tr>
<tr>
<td>2000</td>
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<td>2004</td>
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<tr>
<td>2008</td>
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<tr>
<td>2008</td>
</tr>
</tbody>
</table>

Table 4: China: timeline of aeropolitical development, 1949-2008
[Source: Liu and Luk (2009); Zhang and Round (2008)]
Despite the recognisable importance of international players in the formulation of China’s aviation policy, domestic determinants should not be underestimated either. In fact, Williams (2009) argues that the domestic politico-institutional organisation has played a greater role in the aviation reform in China than in any other country. New policies have been developed in response to the objectives of the national policy framework, such as advancing economic development in the provinces that have not yet enjoyed the rewards of China’s economic growth in full. Accordingly, as discussed by Zhang (2011), the central government pushed through the inclusion of most airports in central, western, and northern provinces in the 2004 and 2007 ASAs with the United States. The inclusion can be seen as a method to further development in these regions through increased international exposure.

The role of industry players cannot be ignored either. Given the relative underdevelopment of China’s aviation industry in comparison to its international counterparts, the industry players have tried to limit the negative consequences of liberalisation. By comparing the clauses of the latest Sino-American ASA with the scheduled passenger traffic between the two countries, it can be seen that, unlike their American counterparts, the designated Chinese carriers have not fully utilised their available traffic rights. This supports the findings of Zhang (2011) that Air China, China Eastern Airlines, China Southern Airlines, and China Cargo have been very reluctant to agree on any kind of relaxation in the restrictions that govern international air traffic to and from China.

While the Chinese carriers have not been in favour of large-scale liberalisation measures, the country’s airports have demonstrated more enthusiasm for the relaxation of government control. Ever since the decentralisation of airport management in the turn of the new millennium, airports have started to become increasingly aware of the opportunities provided by the latent demand (Liu and Luk, 2009). As such, it can be seen that economic incentives have affected the responses of the industry players to the possibility for civil aviation reforms. While airlines can be substituted by other non domestic operators, airports cannot. Therefore, the former predominantly see the entry of foreign players as a threat while the latter consider it as an economic opportunity.

Overall, the Chinese case serves as a manifestation of the intrinsic link between aero politics and the political and economic framework in which air transport policy is developed. Air transport liberalisation in the country has taken place alongside the general trend of liberalisation and privatisation. While both political and economic institutions have affected the development of aero politics, it seems that economic incentives have played the most pivotal role in the process. As the economy has become gradually more inclusive, both domestic and international players have begun to seek opportunities to benefit from the airline business in the country. That being said, the development of economic institutions would not have been possible without certain incremental changes in the political framework.

**Hong Kong**

Hong Kong occupies a unique position in the global arena, both historically and politically. After serving as a British Crown Colony for a more than a century, Hong Kong became a Chinese Special Administrative Region (SAR) in 1997. This cursory division conceals many internal shifts of power and political alignment. To begin with, Hong Kong’s history has always see more or less directly influenced by the political movements on the Chinese mainland. In addition, power shifts in East Asia, including the rise and fall of the British and Japanese empires, have also had profound impacts on Hong Kong. Therefore, an in-depth analysis of Hong Kong’s institutional development should also take these issues into consideration.

In some regards, the British colonial period in
Hong Kong can be regarded as an aberration. In contrast to many other colonial territories, Hong Kong was never a country in its own right but merely a small region within a well-established sovereign state (Hart, 1992). The lack of an autonomous past had profound implications on the emancipator aspirations in the colony. Due to a lack of a historical point of comparison, it was hard to find any justification for the right to autonomy or full independence. In part, this facilitated the development of Hong Kong as an economically prosperous, although politically stagnant, laissez-faire polity.

Indeed, as Koh (1997) asserts, the region’s economic achievements during the colonial period were completely disproportionate to the size of its population. For example, during the final years of the colonial period Hong Kong’s per capita income exceeded that of its former colonial master; there was effectively no unemployment in the region; and the territory boasted one of the world’s largest trading economies, stock exchanges, airports, and container ports. Several analysts, including Hart (1992) and Sida (1994), agree that the economic miracle of Hong Kong was necessitated by the neoliberal policy approach of the colonial government. Throughout most of its colonial past, Hong Kong’s economic institutions were remarkably inclusive.

In contrast to the inclusive economic framework, political institutions remained rather extractive throughout the colonial period. The governor of Hong Kong, the head of the colonial government, was not publically elected or accountable. Instead, he was appointed by the British monarch to whom he was accountable. The governor appointed the members of the Executive Council and most of the members of the Legislative Council. The latter functioned as the cabinet of the colonial government, while the former was the colony’s legislature. In any case, the Legislative Council remained as a predominantly advisory body for most of the colonial period.

The end of the colonial period represented an inevitable disruption to the status quo. Hong Kong celebrated the 15th anniversary of its reversion in 2012. The celebrations were, in any case, marked dissenting opinions of Hong Kong’s political status. One of the key concerns among the general public was that the promise of the Chinese government to provide Hong Kong with full democracy has not been fulfilled. This argument is coupled with the general perception that Hong Kong business elites act in accordance with the wishes of the Central Government in Beijing due to their economic interests in mainland China.

Although maritime transport has traditionally

### Colonial period

**Until 1997**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946</td>
<td>Flights between Hong Kong and China resume after the Second World War</td>
</tr>
<tr>
<td>1946</td>
<td>Cathay Pacific Airways is founded</td>
</tr>
<tr>
<td>1949</td>
<td>Flights between Hong Kong and China are suspended</td>
</tr>
<tr>
<td>1979</td>
<td>Hong Kong and China sign a bilateral air services agreement</td>
</tr>
<tr>
<td>1985</td>
<td>Dragonair is founded</td>
</tr>
<tr>
<td>1989</td>
<td>“Port and Airport Development Scheme” is announced</td>
</tr>
<tr>
<td>1991</td>
<td>“Memorandum of Understanding” for Chep Lap Kok Airport is signed</td>
</tr>
<tr>
<td>1995</td>
<td>Airport Authority is established</td>
</tr>
</tbody>
</table>

### Special Administrative Region

**1997 onwards**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Hong Kong aviation remains autonomous after the handover</td>
</tr>
<tr>
<td>1998</td>
<td>Kai Tak Airport is replaced by Chek Lap Kok Airport</td>
</tr>
<tr>
<td>1999</td>
<td>Chek Lap Kok’s second runway is opened</td>
</tr>
<tr>
<td>2012</td>
<td>Hong Kong government agrees on the expansion of Chek Lap Kok Airport</td>
</tr>
</tbody>
</table>

*Table 5: Hong Kong: timeline of aeropolitical development, 1946-2012*

*Source: Anonymous (1998); Cathay Pacific Airways (2012); Hobson (1995)*
played a key role in the economy of Hong Kong, the importance of air transport has been on the rise in recent decades. As seen in Table 5, Hong Kong has gradually developed into an air transport hub over the past half a century. Although the Second World War left Hong Kong and its Kai Tak Airport lying in ruins, the colony's hub status as already well-established by the turn of the 1970s when Cathay Pacific Airways, Hong Kong's de facto flag carrier, took over the role as the region's leading airline.

The transfer of sovereignty in 1997 had clear-cut implications on civil aviation in Hong Kong. While Hong Kong's mini constitution, the Basic Law, provides the city with a great degree of autonomy in terms of civil aviation, it gives mainland Chinese actors certain privileges over clearly foreign interest holders. Most importantly, the potential entry of mainland Chinese participants in the Hong Kong aviation market is subject to different conditions from other non-local airlines (Constitutional and Mainland Affairs Bureau, 2007).

Despite the somewhat ambiguous aero-political relationship between mainland China and Hong Kong, the territory remains one of the more liberal air transport regimes in the world. According to both the ALI and FAI rankings, Hong Kong belongs to the group of the 50 least restricted aviation regions (Piermartini and Rousova, 2008). In part, this is due to the long-term commitment of the Hong Kong government to promote the territory’s comparative advantage as an interregional and international transport hub.

In general, Hong Kong has been fairly proactive in signing non-restrictive ASAs with other countries. The SAR has ratified ASAs with approximately 80 countries and half a dozen more are waiting to be put in force in the near future (Civil Aviation Department, 2012). Even though these agreements systematically represent the traditional bilateral agreement type, they do depict Hong Kong’s commitment to open its skies to international traffic.

Although the role of the polity-level actors in the development of Hong Kong’s air transport regime should not be underestimated, the atypical international status of the polity sometimes renders it difficult to differentiate between international and domestic determinants. That being said, it is apparent that the aviation policy of the SAR has been developed in response to the objectives of the territory’s policy framework, such as advancing economic development and maintaining the city’s competitive advantage as an entrepôt to the Chinese market and as an international transport hub.

Distinguishing between polity-level official and unofficial players is similarly challenging due to the integral relationship between public and private decision-makers in the political process in Hong Kong. Business interests are oftentimes overrepresented in the “SAR’s nominally democratic political institutions. In other words, private or individual decision-makers exercise strong indirect control over the policy-making process in Hong Kong, including aero politics.

Overall, Hong Kong’s air transport regime serves as a manifestation of the intrinsic link between aero politics and the political and economic framework in which air transport policy is developed. While both political and economic institutions have affected the development of aero politics, it seems that economic incentives have played the most pivotal role in the process. Given the inclusive economic institutional framework of the territory, both domestic and international players have actively sought for opportunities to benefit from Hong Kong’s regional and global air transport hub status and the local civil aviation industry as a whole. Therefore, economic institutions have provided the primary development ground for aero politics in Hong Kong. That being said, political institutions have been instrumental to this development process to the extent that they have allowed the economy to grow relatively freely from any constraints.
South Korea

South Korea has undergone a series of drastic changes within its relatively short history. The country’s history can be divided into alternating periods of democratic and autocratic governance, with the country’s civilian governments typically categorised into six republics. The First Republic, founded in 1948, was initially rather inclusive but became more extractive towards its downfall in the late 1950s. The short-lived Second Republic ruled from 1960 until a military coup in 1961. The military regime was replaced by a nominally civilian government in 1963. The periods of the Third, Fourth, and Fifth Republics between 1963 and 1987 were marked by the development of South Korea’s economic rather than political institutions. Finally, the country began a period of gradual democratic consolidation with the founding of the Sixth Republic in 1987.

A long line of research has sought to discover the reasons behind the successful rise of the Korean economy under authoritarian rule (Diamond and Kim, 2000; Kim, 2003; List-Jensen, 2008). There is a general agreement that the strength of South Korea, both economically and politico-institutionally, can be attributed to a combination of exogenous and endogenous factors. Exogenously, the country’s history, geopolitics, and culture created a path dependent trajectory that helped consolidate authoritarian rule. More precisely, such factors as the legacy of the oppressive colonial rule, the constant threat of North Korea, the economic and martial support by the United States, and the Confucian tradition were all important in the creation of a society that was able to thrive under a combination of extractive political and relatively inclusive economic institutions.

According to the endogenous theory, the South Korean regime could implement effective economic reforms due to the ability of the state to actively formulate and execute suitable and consistent economic policies (Lee and Han, 2006; List-Jensen, 2008; Shin and Chang, 2003). Indeed, the conformity of South Korea’s Confucian society helped state planners dictate economic policies, which were in turn executed by the large family-owned conglomerates known as chaebols. According to List-Jensen (2008), the state was important in all facets of modernisation. First, the government acted as an entrepreneur by planning and investing in new industries and sectors. Second, it deployed short-run stabilisation policies to overcome external shocks and facilitate growth. Lastly, it also protected the continuation of growth through active intervention.

Overall, economic and politico-institutional development in South Korea over the past half a century has given rise to a country that is vastly different from that in the early days of the republic. While it is possible to draw certain parallels between the development of China and South Korea, it is important to also acknowledge the differences between the two cases. While the communists got the upper hand in China, it was the capitalist camp that navigated South Korea through its modernisation process. This division resulted in an institutional drift, which contributed to the initial success of the South Korean economy. The combination of extractive political and inclusive economic institutions in South Korea proved to be unstable, resulting in a transition towards a pluralistic democracy in the turn of the 1990s. In China, on the other hand, this sort of transition is yet to be realised.

Table 6 lists some of the critical junctures in the development of aero politics in South Korea within the period under study. For the convenience of the analysis, the history of civil aviation in the country can be divided into three stages: first, a period of underdeveloped civil aviation dominated by Korean National Airlines (KNA); second, a period of growth under the monopoly of Korean Air Lines (KAL); and, third, the current period of competitive maturation.
After the failures of the short-lived carriers KNA and Air Korea in the mid-1900s, the Korean government designated a public company to develop the country’s air transport industry. The company established Korean Air Lines (KAL) in 1962 to take over the function of KNA as the national flag carrier airline. After a rough start, the government decided to transfer the management of KAL to one of the leading domestic business groups, and, as a result, KAL became a privately-owned, yet monopolistic, company in 1969.

KAL began to expand its international operations in the 1970s. Among other things, the airline commenced passenger and cargo services to multiple destinations in the United States and Europe over the decade (Korean Air Lines, 2012). In addition, in 1973 KAL introduced its first Boeing 747 airliner, which began transpacific services immediately. This expansion was accompanied by the opening of a new international airport in the proximity of the city of Gimpo on the outskirts of Seoul. In addition to these developments, South Korea took part in enhancing aero political ties in

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Stage I 1948-1961

Underdeveloped civil aviation; Korean National Airlines (KNA) domination

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>1948</td>
<td>Korean National Airlines (KNA) is established</td>
</tr>
<tr>
<td>1949</td>
<td>Northwest Airlines open a route from Seattle via Tokyo to Seoul</td>
</tr>
<tr>
<td>1950</td>
<td>Non-military flights are suspended due to the Korean War</td>
</tr>
<tr>
<td>1953</td>
<td>Domestic flights resume</td>
</tr>
<tr>
<td>1954</td>
<td>KNA opens its first international route to Hong Kong</td>
</tr>
<tr>
<td>1958</td>
<td>Gimpo International Airport is opened</td>
</tr>
<tr>
<td>1961</td>
<td>The new Korean Aviation Law is promulgated</td>
</tr>
<tr>
<td>1961</td>
<td>Air Korea is established in March</td>
</tr>
<tr>
<td>1961</td>
<td>Air Korea suspends operations in July</td>
</tr>
<tr>
<td>1961</td>
<td>KNA suspends operations in August</td>
</tr>
</tbody>
</table>

Stage II 1962-1987

Growing civil aviation; Korean Air Lines (KAL) monopoly

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962</td>
<td>Korean Air Lines (KAL) is established</td>
</tr>
<tr>
<td>1963</td>
<td>An independent Bureau of Civil Aviation is established</td>
</tr>
<tr>
<td>1964</td>
<td>KAL opens its first international routes to Osaka and Fukuoka</td>
</tr>
<tr>
<td>1964</td>
<td>Japan Airlines (JAL) opens a route from Tokyo to Seoul</td>
</tr>
<tr>
<td>1969</td>
<td>Hanjin Transport Co. takes over the management of KAL</td>
</tr>
<tr>
<td>1975</td>
<td>KAL becomes the first Asian airline to operate Airbus aircraft</td>
</tr>
<tr>
<td>1977</td>
<td>KAL flight 902 is shot down by the Soviet Air Force</td>
</tr>
<tr>
<td>1979</td>
<td>A new passenger terminal at Gimpo Airport is completed</td>
</tr>
<tr>
<td>1983</td>
<td>A hijacked Chinese plane is forced to land in South Korea</td>
</tr>
<tr>
<td>1983</td>
<td>Direct flights between China and Japan over South Korea are inaugurated</td>
</tr>
</tbody>
</table>

Stage III 1988-2009

Maturing civil aviation; Competitive market

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>1988</td>
<td>Asiana Airlines is founded as a government effort to initiate competition</td>
</tr>
<tr>
<td>1989</td>
<td>Travel restrictions on overseas travel are lifted</td>
</tr>
<tr>
<td>1991</td>
<td>A new pro-competitive ASA with the USA is revised</td>
</tr>
<tr>
<td>1998</td>
<td>An Open Skies agreement is signed with the USA</td>
</tr>
<tr>
<td>2001</td>
<td>Incheon International Airport is opened</td>
</tr>
<tr>
<td>2004</td>
<td>Hansung Air, the predecessor of T’way Airlines, is founded</td>
</tr>
<tr>
<td>2005</td>
<td>Jeju Air is founded</td>
</tr>
<tr>
<td>2006</td>
<td>A regional Open Skies agreement is established with Shandong, China</td>
</tr>
<tr>
<td>2007</td>
<td>Air Busan is founded</td>
</tr>
<tr>
<td>2008</td>
<td>Jin Air, a low cost subsidiary of KAL, is founded</td>
</tr>
<tr>
<td>2009</td>
<td>Easter Jet is founded</td>
</tr>
<tr>
<td>2009</td>
<td>Regulatory reforms ease the entry conditions into the aviation market</td>
</tr>
</tbody>
</table>

Table 6: South Korea: timeline of aeropolitical development, 1948-2009
Source: Hong (1988); Kim and Lee (2011); Korean Air Lines (2012); Oum and Lee (2002)
the Asia-Pacific region. Overall, the 1970s and the 1980s were characterised by continuous, progressive developments in the country’s civil aviation industry.

The end of the 1980s marked a watershed in the development of the air transport industry in South Korea. As discussed by Oum and Lee (2002), the Korean government diluted KAL’s monopoly power in 1988 by allowing a new entrant, Asiana Airlines, to enter both the country’s domestic and international market. The rationale for the creation of Asiana Airlines was to inject more domestic capacity into the market as well as to increase competition and the market share of Korean-based carriers. In 1989, a year after the establishment of Asiana Airlines, the Korean government lifted overseas travel restrictions, creating even more demand for air travel. All in all, the rapidly rising demand for air travel and the opening of the aviation market to competition contributed to the evolution of the civil aviation industry in South Korea in the end of the 1980s.

The duopoly of KAL and Asiana Airlines was challenged in the early 2000s when LCC sector began its entry into the country’s domestic market. The first LCC in Korea, Hansung Airlines, was established in 2004. The airline later changed its name to T’way Airlines. More newcomers followed quickly, although some of them, such as Yeongnam Air, ceased operations within a short period of time. Some of the more successful LCCs have even expanded their operations to the international market. Recognising their competitive threat, KAL launched its own low-cost subsidiary, Jin Air, in early 2008. This move was followed by Asiana Airlines with the launch of Air Busan less than a year later.

In addition to the increase in the number of Korean-based carriers, the growth of the South Korean civil aviation industry has been manifested by the increase in bilateral and multilateral aeronautical agreements. Although South Korea has unquestionably improved its aero political ties in other regions as well, cross-border integration in the Northeast Asian air transport market can be seen as the most significant development. While the only countries that have full Open Skies agreements with South Korea are the United States and Canada, development towards freer skies over the Yellow Sea has also taken place. A regional version of Open Skies between South Korea and Shandong Province in East China was established in 2006.

The partial liberalisation of civil aviation in South Korea has followed the broad trend of liberalisation that began in the United States in the 1970s. As such, South Korea has faced constraints and difficulties that are somewhat similar to those of the other countries that have taken steps towards more liberal skies. As discussed in Chapter 2, the international air transport industry is confined by a set of rigid rules and conventions that cover issues from market access to airline designation. Arguably the most important factors governing international civil aviation are codified in the ASAs. In view of that, an analysis of the nature of these agreements between South Korea and its counterparts around the world provides the most fulfilling representation of the implications of non domestic players in the country’s air transport policy-making process.

In addition to the moves at the international level, strong domestic determinants have played a role in the development of the South Korean air transport regime. The South Korean government has maintained a strong hold on civil aviation through the Korean Civil Aviation Bureau (KCAB) of the Ministry of Transportation and, to a lesser extent, through the Ministry of Foreign Affairs (MOFA). The extent to which these organisations have controlled the air transport industry has also depended on the general policy-orientation of the government. The KCAB has been more active in establishing aeronautical ties during the periods of relatively liberal and democratic governments, such as in the turn of the 1970s and from the late 1980s onwards.
The role of individual actors cannot be ignored either. Most importantly, individual airlines and their management groups have played a key role in the air transport policy-making process throughout the South Korean history. Until the 1960s, civil aviation in the country was dominated by KNA. Ever since then, KAL has been the main player in the South Korean airline industry. In his research Hong (1988) describes the relationship between the South Korean government and KAL corporatist; more precisely it represents “Korean corporatism with cooperative and autonomous management at the micro-level”. As such, aviation policy-making in South Korea can be seen as a process of three-way interaction among between KCAB, MOFA, and KAL. Although civil aviation reforms from the 1980s onwards have altered the bargaining power of these players, their role remains central in the decision-making process.

Overall, civil aviation in South Korea serves as a manifestation of the intrinsic link between aero politics and the political and economic framework in which air transport policy is developed. Air transport liberalisation in the country has taken place alongside the general trend towards institutional inclusiveness. As such, it can be argued that the dynamics of air transport liberalisation are tied to a complex chain of factors, a virtuous circle that reinforces the demand for inclusiveness in the economy, politics, and aero politics alike.

Conclusion

Overall, our objective was not to produce a universally applicable model of aero political development. Rather, it was to demonstrate the importance of the interplay between various contextually sensitive factors, including political, economic, and geographical forces, on the development of aero politics. Through an investigation of aero politics at the global scale, in general, and in three East Asian polities, in specific, we were able to verify the significance of endogenous factors for the differing development paths of civil aviation around the world. Most importantly, we argued that the importance of the polity-level institutional framework to aero politics cannot be overstated. While economic institutions have a direct impact on the development of aero politics, political institutions set the boundaries within which economic institutions operate.

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活動回顧
FUNCTIONS REVIEW
Staff-Student Consultative Committee Meetings
25/11/2015 & 20/04/2016

本年度，本會在上下學期分別舉辦了一次教師學生聯席會議，會議旨在向地理系教職員反映學生對地理系課程的意見，提供一個溝通平臺予學系和學生，盼望最後同學有一個更優良的學習環境。會議分別於二零一五年十一月二十五日和二零一六年四月二十日成功舉行，席間教職員、年度代表和在座同學踴躍提出及交流意見，豐富了會議的代表性。

Inauguration Ceremony
27/01/2016

就職典禮是本屆首個對外舉行的活動，我們感謝地理學系的教授、本會會員、校內其他學會的幹事和校外有關學會的代表撥冗光臨。是次就職典禮，我們很榮幸邀請了地理學系系主任章典教授和首席講師 Dr. Peart 致辭，亦為是次就職典禮展開了序幕。兩位在言辭中都提及到學系和屬會有很多合作的機會，本會十分感謝學系對本會的支援，亦期待日後有更多的合作。

及後，本屆幹事逐一上台進行就職儀式，然後播放影片，向所有來賓介紹本屆學會幹事以及來年本會將舉辦的活動和出版的刊物。於典禮尾聲，我們向來賓預備了茶點，讓各位可以互相交流，就職典禮不經不覺地在樂也融融的氛圍中結束。

就職典禮的結束並不是完結，反而是提醒我們這只是個開始，來年仍需萬二分的努力，隨著心中的理念，以GGAS之名舉辦不同的活動。
週年賣物會順利於新年前後兩星期舉行。賣物會是GGAS本年度打頭陣的活動，目的是為GGAS來年籌募經費，以維持GGAS的活動開支。賣物會售賣的活動種類繁多，除了包括學會產品、文儀用品和小盆栽外，還有最吸引港大學生的食物——每天限量供應的焦糖燉蛋成功吸引不同人士購買，為是次賣物會主要收入來源之一。

全賴各位莊友付出心血去選擇貨物，犧牲時間看守攤位，使是次活動順利完成。透過派發《地紙》（GeoAddress），售賣學會產品，亦增加同學和教職員對GGAS的認識。

今年地理節以「可持續發展」為題，旨在透過一連串的活動，包括攝影比賽，主題展覽及考察活動來提升港大學生對地理的關注。攝影比賽「城市中的綠洲」於三月順利舉行，題目希望參賽者能重新思考各種土地利用如何能夠在城市中並存。比賽經由李峯助理教授以及透過同學Facebook like的數目，選出兩位優勝者。所有作品亦於會在三月下旬舉辦的地理節中張貼。透過參賽作品作為例子，展覽進一步探討各種城市土地利用模式如何能夠達致可持續發展。

至於地理節另一活動為主題展覽。展覽以「衣食住行」為題，希望藉此讓港大同學探討香港何以從衣食住行各方面達致可持續發展理念，亦留意自己所穿的，所吃的，所住的，所用的是否以環保及可持續發展原則為基準。遺憾地，由於選址問題，是次主題展覽反應未如理想，但本屆幹事藉此作為推動力，於剩下任期積極籌辦其他活動，提升港大學生對地理的關注。
本年度首個考察活動於四月九日順利舉行，並為地理節畫上完美句號！透過參觀元朗城市農莊的一個水耕溫室「專辦尚菜」，同學不但可以了解水耕運作模式，更試食了新鮮農作物、親身體驗落苗及製作盆栽！有幸得到農莊內不同「農友」的支持，同學當日更有機會參觀鄰近的高科技種植場及食蟲植物培植場。是次考察活動讓同學能與本地農夫積極交流，不但使他們對不同形式的農作系統有進一步認識，亦提升了他們對本地農業現況及發展空間的關注。

來到6月，莊友們都努力籌備O-series各項活動，希望能夠為Freshmen帶來最難忘、最快樂的回憶，亦希望他們能認識港大地理，以及認識一班對地理有興趣的朋友。
Reg day我們以「地理士多」為主題，將攤位佈置成60年代士多的樣貌。我們利用綠色色紙和舊海報製作成懷舊格仔地磚，利用紙盒整成鐵皮信箱及日曆，以及設計舊式黑白海報，令士多的佈置呈現現在攤位中。攤位設計成功令不少Freshmen駐足欣賞，更吸引他們報名參加O-series活動。Ocamp的名額在Reg day當天已經爆滿，同時亦有不少新生註冊成為GGAS會員，令我們十分鼓舞！

O-series第一個活動－Orientation Night 迎新夜，是我們第一次與Freshmen交流的日子。起初我們都十分緊張，恐怕冷場會讓他們感到沉悶，又怕與他們開展不到聊天的話題。幸好，透過破冰遊戲、HKU Orientation、小遊戲和營火晚會，我們打破了Freshmen之間的隔膜，亦令他們對港大生活有更多認識。見到他們都玩得笑逐顏開，我們都感到十分滿足，也更期待一個星期後的迎新營能夠為新生帶來更難忘的回憶。
終於來到我們最期待的迎新營。為期三日兩夜的迎新營以「時間旅程」為主題，並於鯉魚門公園及度假村和美荷樓青年旅舍舉行。踏上這次「時間旅程」，我們希望讓新生認識舊香港，亦於活動當中加入不少地理元素，令這個迎新營更有GGAS的特色！

Campfire、HKO、Detective Game等遊戲的氣氛非常良好，Freshmen的反應亦十分熱烈，積極投入參與其中，務求為自己組爭取更多分數。SOCI Game令新生嘗試體驗大學生生活。他們在有限時間中，需要自行選擇適合自己的活動，讓他們明白大學生活自由，但亦須妥善分配好時間，以免忽略某方面發展。第二天晚上，我們帶領Freshmen到嘉頓山頂欣賞九龍的夜景，亦跟他們談談大學生活，互相了解。

此外，我們亦在迎新營加插特別環節－到惜食堂做義工。我們希望Freshmen能夠在迎新營當中反思大學教育的意義，亦希望他們了解到，大學生在社會上有更重要的角色，需要為社群付出更多責任。Freshmen們都很認同我們的理念，也十分投入飯盒預備的工作，為弱勢社群出一分力！

想起當初籌備迎新營的各種問題－營位已滿以至要改變營日期和地點、參加者人數太多...幸好有各種的挑戰、解決問題時的各種幸運，各位莊友努力籌備、各個Helper和Freshmen的積極參與，才能令今次迎新營的成功舉行。十分感謝各位的支持和鼓勵！
在整个福利週中，我們有幸獲得不同贊助商贊助，能夠為會員提供不同類别的福利，包括現金劵、試用產品等等。福利週的籌備過程順利，並沒有遇到甚麼大難題。福利週更大的得益是能夠吸納更多會員，同時我們藉著福利週來宣傳機場考察活動和開sem飯，讓更多人認識GGAS。

開sem康樂活動正好是會員互相交流認識的好機會，除了有寫揮春、派過三利是、食乳豬及玩BINGO的經典環節之外，因為此活動正正在中秋節前夕，所以特別加入節日元素，於戶外一邊賞月，一邊玩集體遊戲，然後於室內就一同一享用月餅，每位會員都在濃厚的節日氣氛下及歡笑聲中渡過了一夜。
活動一浪接一浪，本年度第二個考察活動亦於九月二十三日（星期五）順利舉行。活動開首的講座，使同學能了解到機場環保設施及未來發展。其後我們一行40人更走進機場禁區考察，參觀包括機場綜合控制中心等設施。透過是次考察，同學能夠更深入了解機管局不同部門如何協調及管理機場運作，從而更認識本港航空交通設施。

是次考察十分成功，因為我們成功邀得陳龍生教授帶領同學去考察，他使用非常生動的方式去傳授不同地質知識予同學，使他們對東平洲有更深的認識，讓他們以另一角度欣賞東平洲。加上價錢是相當便宜，成功吸引眾多同學參加，令這個考察滿額。值得一提的是，是次考察有不少就讀不同學科的學生參加，顯示是次考察亦達到了將地理推廣給廣大學生的目標。
今年推出了全新刊物 GeoAddress 地紙，是一份有關地理、地質和考古知識的小品。地紙一連三期，其精美設計和有趣的內容成功吸引同學取閱，令本會刊物的讀者受眾得以擴大。

第一期二月號的地紙以製衣業及可持續發展為題，分析快速時裝的製作過程中每一步對環境的影響。希望能鼓勵同學減少消費，謹慎選擇消費品。

第二期四月號的地紙帶同學去考古，一步步揭開郭莊楚墓防盜設計的神祕面紗，分析古代墓穴獨特細心的設計，借此引起同學對於考古的興趣。

最後一期九月號的地紙為讀者介紹美國 The Wave 及澳洲 Hyden Rock 的形成方法，這兩個天然景觀外形跟海浪相似。
聯校地理學會
活動回顧
JSGA FUNCTIONS REVIEW

遊歷山水間

日期：2016年10月2日（星期日）
時間：10:00-13:00
地點：香港仔水塘
講者：Johnny Wong

人文地理考察-「飛」凡機場之旅

日期：2016年4月1日（星期五）
時間：13:15-18:00
地點：香港國際機場
費用：（非會員：每人$25  會員：每人$20）
噢！去石澳睇石噢！

二零一六聯校地理學會的第一個自然野外考察是「噢！去石澳睇石噢！」。石澳位於香港東南面，面向南中國海，有一個長約二百米的沙灘，東西面均由山丘包圍。考察為參加者介紹波浪侵蝕地貌「大頭洲」、波浪沉積地貌「石澳泳灘」、海崖、海蝕平台、海蝕洞、海蝕隙等地貌。參加者可以將書本知識套用到真實環境，同時欣賞大自然的壯麗景觀。香港中文大學地理與資源管理學系副教授伍世良教授帶領參加者踏遍石澳並介紹香港的地質地貌，相信同學獲益良多。

「飛」凡機場之旅

而本屆第一個人文地理考察命名為「飛」凡機場之旅！帶領大、中學生到機場非禁區考察。由機場管理局工作人員為我們介紹機場在未來的中、長期發展。參與者可以透過觀察和講者的講解，了解和多角度思考機場發展為香港帶來的正負影響。另外，我們也參觀了機場的廚餘處理等環保設施。是次考察活動得到不少中學生和家長的支持和踴躍報名，得到空前成功。不少同學更表示未來有意在機場工作呢！
聯校地理學會將於本年4月23日及4月30日參觀三所提供地理學系課程之大學，行程包括參觀及介紹地理學系部門、參加學系相關之博物館導賞團及大學地理學系課程介紹講座等等。是次活動之目的是為了讓同學對三所有提供地理課程的大學有所了解及作出比較，能夠選擇最適合自己的大學，相信三所大學的行程都能讓同學清楚了解各大學的歷史、文化和突出之處。同時，同學亦能結識來自不同中學有志於修讀地理學的朋友。

聯校地理學會將於本年7月27至29日舉辦三日兩夜的聯校地理營。本年度聯校地理營的主題為「GAIA」，各個字母分別代表Geography、Adventure、Investigation及Analysis，目的是將地理、歷險、探究、分析四個元素滲透於營地活動中，並配合本年度聯校地理學會主題「地理探索者」，希望能透過不同的活動引發參加者探索的精神，多角度、多元化認識地理。相信經過三日兩夜，大家都從活動中建立了可貴的友誼。希望各位能夠好好保存是次地理營的美好回憶，並把 GAIA 的概念實踐到生活當中。
香港水資源攝影比賽
「水·魅影」

聯校地理學會「地理節」活動第二擊 - 香港水資源攝影比賽「水·魅影」一張照片勝過千言萬語，希望同學透過尋找靈感及攝影時走過不同地方，反思水資源對人類和生態系統的重要性。同時，同學也可以透過是次比賽培養對攝影和細心觀察周邊事物的習慣。此攝影比賽的對象為全港大、中學生，而主題則為「水資源」。比賽將設有三個獎項，包括：最具意義大獎、最具創意大獎、最受歡迎大獎，是次比賽得到不少中學生參加，並透過在社交平台分享，令更多身邊朋友認識聯校地理學會和珍惜水資源的重要性。

2015-2016出版的會員手冊向各位會員介紹本會今年的主題、發展方向和未來一年計劃的活動。並透過郵寄、電郵和面書等平台向全港學校發放，務求增加學界對聯校地理學會的認識。

本會謹向受影響學校致歉，並承諾及後將謹慎校對所有出版刊物。本會幹事來年將繼續精益求精，恪守本會宗旨，服務一眾會員及學生。衷心感謝各會員一直以來對本會的支持！

Geo-news是本屆第二本刊物，目的回顧本年所舉辦的活動、向公眾介紹有關地理的議題和訪問活動參加者對活動和本會的感受等。本年Geo-news的議題是T.PARK【源•區】，一所污泥處理廠。作為休閑娛樂、教育和自然生態用途的T.PARK，園內有不少設施糅合了環保元素。在本年的Geo-news，本會為各位讀者介紹什麼是污泥、T.PARK在環境上社會的重要性和園內不同的環保元素。如果你想知多一點點，可以去聯校地理學會的面書參看！
幹事感言

2015 年 11 月，我哋渾渾噩噩地踏上呢一年嘅旅程。旅程中雖然經歷顛簸與障礙，但慶幸我哋 7 個人有一致嘅信念同目標，帶領 GGAS 翱翔於天空中。一年後，我哋終於抵達我哋嘅目的地，呢架飛機終於要降落喇！我哋藉此同大家分享旅程中嘅一點一滴，亦藉此回味莊期各個美好嘅時刻。
如果要用一句說話總結一年莊期，我會咁講：「我地七個人用左一年時間，成功實踐上莊之前所訂立的目標，而且得到更多。」

仲記得係決定上唔上莊嘅時侯，大家心底都有一個疑問：「到底上GGAS莊有無意義？」甚至過左 Mock Campaign 仲有動搖緊。如果當初大家無下定決心試一鋪，相信今日一定會後悔無上莊。

回顧過去一年，由一開始搞炸雞Inauguration，大家一股搞好GGAS嘅火一直互相感染。去到七八月，大家O-series團火更加爆發左出來：拍左條痴左線嘅promotion video，整左個地理士多，搞出黎Ocamp都成功實踐當初嘅目標。九月之後嘅一連串活動更加越搞越有火，超額完成。能夠做到咁多野，一直都係因為莊友互相支持。

我覺得自己係一個唔稱職嘅主席，上年sem2可能頹廢過，又有段時間唔係香港，但全靠莊友無放棄我，一直撐住我，將我團火帶返黎同大家一齊並肩作戰。好想藉此感激六位莊友，或者用一個比較老套嘅比喻：我地七人係自動車不同既零件去令GGAS向前駛進，而我呢條車軚就逐一多謝各位呢一年付出既努力：
- 多謝 Eric 分分秒秒mark實resources同check email
- 多謝 Leo 默默為soc利益去 bargain同默默整publication
- 多謝 Billy 每次通宵趕poster deadline，剪片設計soc products
- 多謝 Cony 係大家好frust嘅時候比好好嘅idea，又會整合我地思緒
- 多謝 Taotao 比我地搏盡搵sponsor同professor (同提我地食野)
- 多謝 MTC 管好盤數，幫我地包底，同出盡全力將我地既心縛埋一齊

至於外務方面，做聯校地理學會幹事 (JSGA) 係上莊之前自己嘅一個心願。回顧過去一年，縱使遇到唔少挫折同挑戰，但能夠透過籌備唔同活動將地理推廣比中學生，亦完成左當初上莊時的心願。同時我亦感激JSGA第一代表Cony嘅包容，我地之間嘅互相信任同配合定必係上JSGA莊其中一個美好回憶。同時能夠代表GGAS出席SSSC、CRC亦係難得嘅學習機會。

主席
Chairperson

黃浩軒
Wong Ho Hin, Cyrus
作為主席，我希望藉此機會代表GGAS，感謝本年度每一位對GGAS嘅支持同幫助。首先感謝Tommy一年以來多方面支援，令GGAS活動能夠順利舉行；感謝Dr. Peart一直從旁協助，令我地更有動力於校內推廣地理；亦感謝一眾教授同Department staff一整年來對GGAS嘅支持。最後，當然要多謝會員對我地學會嘅支持。

(As Chairperson, on behalf of GGAS, I would like to take this prestigious opportunity to express my deepest gratitude to everyone who has supported GGAS this year. Dear Tommy, our events would never be this successful without your operational assistance. Dear Dr. Peart, your continual support to GGAS fuelled us in promoting geography in HKU. And fellow professors and staff in the Department of Geography, we are very grateful to have your support throughout the year.)

「到底上GGAS有無意義？」一年之後，我可以好有信心咁答呢個問題：「多謝主席，香港大學學生會社會科學學會地理地質及考古學會2015-2016年度主席黃浩軒，係有嘅。」
一年嘅時光轉眼就過，係呢本Annals出世嘅時候，我哋已經落莊喇。當初同6個素未謀面嘅人一齊上莊，去到而家我哋7個friend過打band，好慶幸我能夠成為GGAS1516嘅一份子！

入到HKU就一心諗住讀地理，上莊嘅原因係為咗識班朋友，係Year1搵啲整自己嘅嘢做，同埋了解多啲HKU GEOG。個陣先發現原來HKU GEOG係好少人讀，莊友嘅數目又寥寥可數，好擔心我哋會浪費咁多嘅時間去搞啲冇乜人參加嘅活動，亦擔心7個人不足夠撐起GGAS。好彩我哋7個人都冇放棄，一齊付出萬二分努力，最終見到參加我哋活動嘅人數越來越多，去到後期活動全部爆滿，我哋知道呢一年嘅心機係冇白費，亦好開心我哋可以完成到上莊嘅目標！

莊期內我PIC嘅活動有Bazaar同埋O-series。我唔係一個好嘅PIC，成日要大家carry同埋chur我做嘢。Bazaar賣焦糖燉蛋真係全HKU絕無僅有，好多謝大家信任我嚟做嘢，我仲好記得你哋一路整一路偷食嘅樣架 B-) 最後Bazaar成功為GGAS籌募足夠嘅經費，維持呢年嘅支出。

O-series呢個大project搞到大家有啲frus，但好多謝大家喺整嘅時候仲耐耐耐係屋企。但好多謝大家喺整嘅時候密密有嘅落實，又係咁好多ideas，成個O-series先可以搞到成功！除咗成功吸引freshman嘅注意，仲令我嘅Ocamp名額即日爆滿，令大家士氣大振！Freshman玩得開心之餘又有啲message俾佢哋拎返屋企，大家嘅努力絕對冇白費到。

透過舉辦唔同類型嘅活動－包括學術活動、康樂活動及迎新活動等等⋯⋯我哋從錯誤中學習，係挑戰中成長。透過上莊，認識到唔同嘅朋友，亦有唔少同外間團體溝通、合作嘅機會。每一次活動由整體到細節、安排到實行，每一步都要諗清楚。莊友嘅付出同貢獻，好似砌拼圖一樣，一塊一塊組合先可以成就一幅圖畫，活動先至可以順利完成。

作為一個IV，好多謝各位莊友嘅supoort，次次搞莊聚都踴躍出席，見到你哋玩得開心我都好滿足，或者我哋可能係最多莊聚嘅一支莊:D 我亦都好感激各位莊友互相信任同鼓勵，有莊友開心嘅時候，我未出動已經有人主動去關心，作為IV嘅我真係覺得好欣慰。我好相信維持良好莊關係喺只係IV嘅責任，而係好需要7個莊友一齊合作，一齊付出！
好開心Year 1 呢年有你哋6個嘅陪伴，令我呢一年過得又充實又滿足。SOAR 寶寶呢一年一齊做
莊務，一齊上堂；一齊食食食，一齊周圍去；一齊同甘共苦，一齊飲飽食醉。最難忘嘅次一定係八
月去汀九宿營，我哋圍埋一齊包餃子、玩房Game同吹水，雖然玩game有啲chur，不過係玩得開心
嘅，期待我哋之後嘅camping啊！

莊期快要完結，失落感雖然慢慢湧現，但同你哋呢一年經歷過嘅嘢、同你哋之間嘅難忘回
憶我絕對唔會忘記。我相信，即使莊期完結，我哋7個嘅友誼會繼續維持落去！有莊務做，我哋就
可以盡情去做唔同嘅嘢，去遊山玩水，唔洗掛住開會做莊務。<3

一年莊期，一世莊友；一日IV，一世IV。我唔介意繼續做你哋嘅人生IV，繼續撐住大家，為大
家搞活動，最緊要你哋都要參加呀！<3
一年容易又過去，話咁快就要落莊，然後寫呢一份落莊感言，突然間就覺得好空虛，好似大學生活突然間無咗一部分咁。雖然我成日個口都提住話想快啲落莊，但原來不知不覺間到真係要落嘅時候，我係會啲唔捨，因為同大家一齊嘅Soc房hea、一齊食吉野家打邊爐、一齊喺落去食糖水與記食炒粉麪飯、好多好多好自然嘅小事，卻令我不禁經常回味，我諗我接住係HKU幾年，都會不停誌起大家。

我係七個人入面最遲啲一個，有好多時我都好後悔，如果我早啲話要嚟上莊，早啲同大家一齊籌備試莊果啲活動，咁我地有嘅共同回憶就可以有更多。

最初真係話住搵住(專心地)做好Publicity同Publication就算，但係突然其來嘅重組，令我成為外務副主席。說實話，大家都知譜小弟唔鍾意講嘢，淨係鍾意對住電腦做嘢，係Campaign同AGM我個腦其實係空住啲上莊，有好多啲我都未啲佢去咀嚼，好多時都好Cap，但係大家都唔嫌棄我，仲狂傳紙仔俾我，我真係好多謝大家呢一年啦頂得住唔夠資格同麻煩嘅我。

我地今屆GGAS嘅莊可能係近年較少人啲一屆，但係咩樣反而成為咁我地啲優點，例如我地嘅開會好易齊人、投票好快有結果、我地之間大家啲關係都會好親密。除此之外，我地個個人都係有凹有凸，各有長短，互相補位。我地有可靠嘅事務人Cyrus、莊聚發起人管錢人MTC、熱血陽光地教PS的人Billy、人肉Grammarly
Eric(b)、My buddy with 豬肉獎 Leo、90% PIC + 貪吃變黑的猴子桃、是JSGA主席的兔仔Cony。就係因為我地有唔同長處，搞起活動上都相對上順利。

雖然我地有時會有爭執，有熄咗心入面團火嘅時候，有做到唔想再做嘅時候，但係我地都一一順順利利嘅過咗，終於到完結嘅時候。想講嘅實在太多，我喺GGAS入面識到一班好漂亮嘅一班人，容我以一句話作結。

我愛SOAR！
陸卓文
Luk Cheuk Man, Eric
常務秘書
General Secretary

落莊了，一年既時間就咁過去，諗番呢一年發生過既事，真係好似一個歷險故事咁。2016年11月11日，就係AGM正式落莊既時間。

做fm時去左O day O camp，乜都唔知，係係覺得每個環節都好好玩，組爸媽又好warm，即使係唔同組既groupmate都好密切，對上莊既d概念都有。去到招莊會時，只係純粹為左做單位d朋友，對於推廣地理地質都係好重要嘅。直至去到flow jong、mock campaign同埋campaign時，先知道莊期先係岩岩開始，責任越黎越重。好似SSCC要即時抄教授既評估，要先要set場，整name tag+class announcement先準備，先知道一個睇落輕而易舉嘅活動，係需要背後咁長時間去準備。即使最後在席既hku同學寥寥可數，但係活動完結後，都感到一份無形既喜悅。

當然，自己起成年既活動犯左唔少錯誤，讓莊友有口難言（‘O’）。好似起bazaar果陣，就比hku極度麻煩既booking system搞到頭昏腦脹，結果Billy同Leo就要起落雨時將d好重又無轆既檯+board由FSC搬去Run Run Shaw Podium，bazaar最後都廣受同學歡迎，不少都特意駐足在本booth前，更有不少既貨品一掃而空。所賺取嘅金額可能並不足以應付全年度嘅支出，即使如此，我地都盡量開源節流，用最少既資源將最好的帶給會員。Reg day時大家同心協力既「地理士多」，更令不少soc大吃一驚，不少fm越之若驚，更有超級老鬼特意在2016 campaign時稱讚我們。

一二月係各學會舉辦inaug既日子，尚記得在出席某個時，見到有一學會有上莊7人，下莊12人齊齊。正當二月起起訣緊既時候，八月時reg day報o series既人數就超出預期，o camp做「組爸」時見到成村「組仔女」，我頌緊張過佢地，玩遊戲時完全hang曬機，差d比佢地carry番我轉頭。好彩最尾都順利完成，大家都熱愛GGAS；而到了firm 1617莊時，有12個人，個個能力都咁高（特別係2個正下莊），見到佢地mock campaign對答時既表現，不禁暗湧慚愧之感。對於下莊，只能夠講，黎緊一年都係充滿挑戰，實在有太多的未知之數，唯一既方法就係twelve people as one。(Eric ABC ^^)

起打緊落莊感言之際，12個月既回憶逐格逐格浮在腦海裏，自己對於莊既付出可謂微乎其
微，但係我覺得上(GGAS)莊係一個獲益良多的學習過程。莊友的學習、辦事效率奇高，時間分配超好，對於每個細節都做得無微不至，突發情況完全考唔起，起唔一方面真係佩服得五體投地。做Gen Sec時，對文書的敏感程度就如密集恐懼症一樣，記deadline既能力亦随之而提高。要感激既，不單止是上莊既提醒，還有不同既人物，例如department既Tommy、Map Librarian、SU office+amenities centre既staff，同埋IT哥哥既詳盡意見。另外，莊友既適時鼓勵，就係效力最高既強心針。

有人會話，少人既莊一定係頹，但係我想講，少人既莊需要既係緊密的合作，點樣可以用盡大家既力量成就最多既結果。過程中無可避免會有爭執，但係去到最後見到參加者流露出滿意之情，自己都不禁感到大家喺幾個月既成果沒有白費。GGAS將踏進第62年，謹祝下(X^n)n莊可以承傳上(X^n)n莊既成果，打開新既一頁。不湊GGAS會成為一個「chur」、「champ」，或者街知巷聞既soc，只希望下(X^n)n莊可以快樂地上莊，快樂地下莊。畢竟時間來也匆匆，去也匆匆。

最後，quote番Leo起mock campaign講過既說話：「『一年莊友』係因，『一世朋友』係果。」識左好多好正既莊友，盡在不言中。但願每年既mock campaign大家都可以一聚，回想起2015年我地一齊經歷過既時間。

寫在2016年11月6日晚
一年莊期，轉眼就過。雖然講過好多次，但我真係好想講，得到的比失去的多很多。

在這年既一年莊期，我得到一班好好嘅知己，一班會聆聽我心事嘅知己。仲記得第一次係智華開會，戰戰兢兢同大家打招呼，介紹自己，個時邊個打邊個都唔記得。大家仲記得個日開會講左啲咩？之後慢慢嚟The Curve開會，慢慢熟，亦都慶幸之後「餐桌鹽」嘅加入。到依家，我地完成咗多個活動、經歷左啲嘅開心同低谷，搞左多嘅莊聚，大家都成為左我大學生活中最重要嘅一環。希望我地會成為一世嘅朋友，我唔會忘記大食嘅李子陶、好嘅鍾鳴慧，「餐桌鹽」嘅陸卓文、車軚人黃浩軒，師奶麥芷菁，仲有最煩嘅方卓賢，大家都要記得我，曾卓龍！過近落莊，人就愈感性，會不停回想同大家一齊相處嘅回憶，讓我容後再同大家細訴。

一年莊期，我突破了自己。要用一個詞語來形容GGAS，我會用「突破」。除了要增加考察活動數目之外，另一個大改革係係由原本嘅GeoNews改成GeoAddress地紙。我起初連Microsoft Word都唔識用，但就膽粗粗揀左做Pubtion，都唔知自己哪來嘅勇氣，但係大家都相信我可以勝任，希望有負大家嘅期望。不過正正就因為青春嘅衝撞，先可以迫自己學得更多，令GGAS變得更好，由第一期地紙到第三期，多謝大家正面嘅回應，但同時更感激讀者們真心嘅意見，好讓我可以不斷進
坦白說，現在的我恨不得回收所有的地紙，好讓我修正幾次再重新出版。刊物好似有股魔力，一開始會有無限的滿足感，但之後再回顧，就會有無限的後悔，旁人可能不會發現錯處，但係對我黎講，每一期係完美嘅，每一期都係有可以改善嘅地方。

一年莊期，給了我無數個意外收穫。不得不提嘅係迎新委員會，唔係委員會嘅話，會有無數個嘅考慮因素，會動用咗咁多嘅人力物力，各個團體緊密合作真係令人佩服。另外，我也意外獲得與其他學術學會嘅友情，今個年度，友Soc關係應該係最好嘅啦。希望下莊都可以同其他學術學會和睦共處！

一年莊期，我重新認識自己。一年同莊友嘅相處，難免有磨擦，就是這些磨擦，好讓我看清自己，發掘自己的缺點。我知道我並非一個盡責嘅人，又成日冇記性，開會又會跟唔到，脾氣又唔好，老套講句，要多謝大家對我嘅包容。

一年莊期，一世莊友。我深信。
仲有一個月都無我就要落莊啦！過去依年嘅莊期讓我有好多體會同經歷，帶左俾我一個難忘和與別不同嘅yr1。

究竟上莊為左咩？整靚cv？做啲大學五件事？識朋友同揾志同道合嘅啲人？

當初嚟嘅ocamp時，連上莊係咩都未知。到後來招莊嘅時候，先大概知道係咩一回事。整個過程嘅過程純粹試試先嘅味道嘅問題，咁啱啱又識到班啲校友，一齊上應該會開心。但係我地個莊決心一直都唔係咁堅定。始終，地理唔係一個好受歡迎嘅範疇，就算有興趣都未必會讀，所以令當初我地擔心究竟啲活動搞埋會唔會有人參加，值唔值得上莊。當我地真係決定上莊嘅時候，我地希望真係可以令GGAS嘅認受性更高。

但係去到mock camp嘅時候，我又開始諗係咪真係要上莊，因為要通宵，加上係我第一次通宵。真係好難頂，全程處於好似半昏迷狀態啲，後期都唔知自己幾時醒來。我個莊嘅辛苦，好唔會上莊輕易。末後我就可以好舒服地係hea，同埋係好似半昏迷狀態啲，令我上莊嘅決心再度受影響，但係我地決定了繼續上莊。

其實上莊真係一件易事，因為要搞一年嘅活動，仲要搞好多丫節，例如物資，推廣，同埋同外界溝通等等。又要諗啲吸引人參加，啲人系度講個活動係搞埋成功。

我記得GGAS第一個event係staff-student consultative committee meeting，而且係我第一個pic，所以真係好愛搞埋啲活動，會有好多係熟，事前工作包括要不時同Dr Peart溝通下，仲有整合份year rep同我寫報告報告仲有教授，但其實到最後都係我個個錯誤，但係從而我知道我要比以前更小心謹慎，如果唔係會影響個soc。

到我第二個pic fiesta嘅時候，就真係一個大難題。我地用”衣食住行”做主題，希望同更多人講香港，預備啲活動細節，我地仲搞左個扔彩虹嘅攤位遊戲，希望令同學認識依個世界更多，但係反應唔太
好。始終，人文地理本身得小數唔人有興趣（噯呀agger!），而且興趣係好個人同主觀嘅事，如果
本身對地理係無興趣，好少人會主動去睇展覽。不過同時，其實我係推廣方面仍然有改善空間。

咁多個field trip之中，我最滿足係能夠搞到去東平州field trip。初頭搞嘅時候諗住最多得三十
幾人參加，無諗過最後會爆曬，依個已經完全消除我地之前怕無人參加嘅擔憂。雖然當中其實我有
好多不足，需要莊友不停地carry，真係唔知要講幾多句次多謝先得。（由此可見自然地理係受歡迎啲
^3^）

其實我知道我俾支莊嘅時間係俾其他莊友少，因為我同時要兼顧rowing。尤其是係暑假嘅時
候，會miss好多開會同活動嘅預備工作。加上係開會我會比較少啲意見，所以好似係好多活動
都好需要莊友carry我。

雖然我成日俾班莊友笑，但同佢地一齊係開心。多得iv成日搞莊聚，大家先可以變得好熟。所
以，上莊帶左俾我一個好難忘啲yr1& 2頭半！
鍾鳴慧
Chung Ming Wai, Cony
外務秘書
External Secretary

一年莊期話甘快就完啦！對GGAS的認識同接觸源自於year 1個時報既ocamp。入到黎HKU先發現原來地理係無咩港大同學會留意既，對於一心黎HKU誌住讀地理既我梗係有D失望啦！於是，我地7個人就萌生左想令港大學生更加認識地理既念頭，成為左SOAR呢支莊。

上莊，好多人視為識朋友既一個途徑。或者SOAR為上莊帶來更深一層既意義，我地係帶住清晰明確既目標－推廣地理。

SOAR只有7個exco，大家為左上呢支莊都唔介意一人分身多角，負起更大既責任。過去呢一年，大家為左GGAS放棄左好多，包括同屋企人朋友相處、讀書、玩樂同運動既時間，特別係Chair，因為咁而肥左一個圈，不停橫向發展。但我相信大家都無後悔上呢支莊，因為你得到的比失去到的多。

上莊既必然階段，當然係Mock Campaign同Campaign啦！Mock camp係我人生第一次通宵，同六個莊友傳紙仔一齊解決問題既情景到依家都好深刻。有人會質疑，Mock Campaign既意義何在，除左令到我地成年活動更流暢外，可能就係可以令大家團結一致，信任彼此。「地紙」係我地用黎宣傳港大地理既一個重要途徑，但我地出版前都遇到唔小考驗。例如：應該出中文定英文版本、應唔應該係大學校園派等等。經過重重難關後，三期「地紙」終於出世啦！希望呢張「地紙」會令大家對地理知多一點點啦！

搞過甘多個活動，相信對我黎講最深刻既係O camp，初時我地都好擔心只有幾個Freshmen報名，點知去到Reg day個日，可能各位Freshmen都比我地既熱情感染到，報名人數出乎意料地多，令地我又驚又喜。開心既係今年多左Freshmen對地理有興趣同時亦被我地Promotion video吸引到，但我地亦擔心自己能唔能夠成功喼呢三日兩夜帶動氣氛。O camp對大部分Freshmen黎講只係一個識朋友既途徑，而今年我地希望為呢個O camp添上新一層既意義，希望Fm透過O camp做啲同其他遊 戲環節反思一下作為大學生應有既角色同大學四年既規劃路向。好多謝呢個各位fm甘支持呢個非主流既ocamp，而呢個意念亦得到下莊既支持，有意承傳下去。
至於係外務方向，作為External sec我成日比人問係咪GGAS潑出去既水，答案就係唔係啦！
聯校地理學會(JSGA)同GGAS兩個學會之間係互相回饋，我係JSGA得到既經驗可以同GGAS既莊友分享，而GGAS既朋友仔又可以參加JSGA既活動，或者成為Helpers，相互支持。

最後，我希望下屆幹事們可以係GGAS面搵到自己既角色同定位，同時為GGAS帶來一點點改變，能成功達成你地上莊前訂立既三個目標啦！SOAR 會睇住ARETE登上屬於你地既高峰，過一個無悔無憾既莊期。
"A STRONG FRIENDSHIP DOESN'T NEED DAILY CONVERSATION OR BEING TOGETHER. AS LONG AS THE RELATIONSHIP LIVES IN THE HEART, TRUE FRIEND NEVER PART."

#GGAS1516
#SoarGGAS1516
#SOAR
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