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Geographer - Starting Again as a Specialist or Generalist?

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Abstract

A geographer states his personal insights on becoming a specialist or generalist with application for the budding scientist. Starting with the hindsight on planning one's retirement plan the insights are on assessing critically your education, reading outside your areas, be prepared to work outside your comfort zone, becoming a good generalist when the occasion arises, and organizing your knowledge. At the end, one can see more opportunities to work as a specialist or generalist.

Keywords: geographer, specialist, generalist.

INTRODUCTION

Generally, in today's fast and modern world, one generally needs to have a proper education and skills to lead a comfortable life. And sometimes one may end up as a specialist, e.g., accountant, zoologist, or as a generalist, e.g., administrator, supervisor. A wide range of disciplines usually provide the educational background. In geography one is exposed to physical and human geography. The subject is generally considered as sitting between the hard sciences and the social sciences. As it deals with both physical and human environments, it serves a useful stepping stone to more specialist aspects of environmental science.

I would like to add some personal insights to these aspects of being a specialist or generalist in geography and the broader aspects for a budding scientist irrespective of one's background or specialty. This is written with the advantage of hindsight and could not happen at the start of my teaching career in the university.

I was in the Arts stream in schools and enjoyed geography mainly because of the field work and maps. At the final stage of university education, I specialized in coastal geomorphology and retired after more than forty years of university service in Singapore. Since retirement I am still active in my field, visiting coasts during conferences and holidays, giving talks, and writing the occasional paper on coast-related issues.

THE RETIREMENT PLAN - USEFUL TO REWIND TO THE BEGINNING

Let us start with the retirement plan. Several months before my retirement, I worked out a plan which includes what to read, activities to be carried out, goals to achieve, and possible pathways (plan A, B and C) to be taken.

Taking reading alone I selected about ten areas of knowledge (examples of subareas) to read and these would not be the same for everyone who plans to retire. The areas included philosophy (black swan thinking, scenarios, non-occidental thinking), past legacy (ancient

myths and civilizations, critical moments in history), human ingenuity (ancient discoveries, human failures, revolutions in research), technology (internet, cyberwar), life sciences (natural adaptation, nanoworld, laws in nature), physical sciences (planetary science, theoretical physics explained), nature and humankind (patterns from nature), climate change, the unusual and unexplained (unexplained phenomena, unknown places), and recreation (magic explained, Victorian English). I wanted two to three dozen good books that would cover these fields. Unfortunately, there are not many that are comprehensive enough and my list of titles is still incomplete.

In compiling this list, I realized that I should have done it 20 or 30 years before my retirement and maybe the reading could have influenced or changed my career path. I am not complaining now that I have not read such books before. I am looking forward to the books that are available. For the budding scientist this is something to think about. Compile your book list, read them and maybe have some serious re-think to remain as a specialist or becoming a generalist. Through reading, at least one becomes more knowledgeable and a better educated person and not just a good specialist.

EDUCATION IN A WORD

To become specialists or scientists we went through various paths in our education. Think of one word that sums up the learning curves or the best of your education. That word can become a major influence on your development and mindset as a specialist or scientist.

“Schema” influences my mind as a geographer and specialist. “Where is your schema?” was the one and only question asked after the submission of the first draft of my doctorate dissertation. From that question I made a fast and steep learning curve. After studying the etymology of that word carefully, I revised the dissertation completely in a month and it came back without any further comment. “Schema” further guided my oral defence of the dissertation. Since then, “schema” has guided much of my thinking and work (Wong, 2020).

For others that single word could be mind-map, three-dimension, out-of-the box, progression, synthesis, or some methodology, principle or concept. Models and modelling are too common in the computer age and one has to be aware of “garbage in, garbage out.” Reality and empiricism are still relevant and it is still important to have a helicopter view when you are in a narrow field.

WORKING OUTSIDE OF YOUR COMFORT ZONE

I was an author in the Intergovernmental Panel on Climate Change (IPCC) for more than 20 years. Although the authors in the IPCC are considered as specialists in their own fields, it is necessary to work outside of one’s comfort zone, i.e., one’s specialty or what you know best. The authors of each chapter cannot cover all the required topics and despite the efforts of contributing authors, they still have to handle topics outside their field. This means reading the published material and making assessments which nearly every scientist is trained to do.

Working outside of your comfort zone definitely increases your knowledge of other specialties and also provides different perspectives, especially if you are dealing with social sciences. It helps to achieve a better sense of balance on a particular topic. Thus, one is encouraged to read

or be informed of the near-related, far-related or non-related areas outside one's specialty as much as possible.

GOOD GENERALIST AFTER BEING A SPECIALIST

Constant working outside of your comfort area in several areas could lead to a good generalist. Usually, each scientist is trained to keep to one's specialty so that one becomes a specialist. But with increasing knowledge of other areas, one can also become a good generalist.

A good generalist is important as the person often plays a significant role in binding specialists together. The ability to see various perspectives and to come out with new perspectives would benefit all. Essentially a good generalist works on analyzing different perspectives and try to achieve some synthesis. A good generalist would be able to work with a broad spectrum of scientists and to increase their contribution to society.

OPPORTUNITIES OUTSIDE THE MAINSTREAM

Always look for opportunities outside your mainstream specialty. This provides further diversity or enrichment of one's work and specialty and can create niche areas. Opportunities arise as one goes outside one's comfort zone and recognizes new areas by applying one's knowledge or new approaches. I can provide several examples from working in Asia.

First, with the loss of natural beaches in Singapore through reclamation and after having done some work on monsoonal beaches in Peninsular Malaysia, I decided to move into coastal tourism. Building on coastal geomorphology, I looked into how coastal geomorphology influences coastal resorts (e.g., resort sites) and how tourism influences the coastal environment (e.g., physical impacts). This was different from the then approach of coastal tourism dealing with its development over time and space, tourist surveys, and the beach hotels. I eventually edited a book (Wong, 1993) which has become a pioneering work in this niche area.

Second, I ventured beyond the usual sandy beaches to study coastal tourism. While studying coastal resorts in Southeast Asia, my attention was drawn to Mactan Island, Philippines, where one travel guide indicated that the resorts were built on imported sand along a rocky coast. From a survey of the resorts, I found some interesting information on how the beach resorts were built and pieced the information into a schematic representation of the modification of the rock coast for resorts on Mactan Island (Wong, 1999).

Third, ten days after the 26 December 2004 Indian Ocean tsunami, I went to Phuket to conduct a field study on its impact on coastal tourism as I had done an earlier work on the impact of tourism on Phuket's coasts. However, as a novice on tsunamis and lacking proper training in geology or geophysics I made up by repeated geomorphological observations in more than one location and one country. In Thailand I went on to study also the tsunami impacts on Phi Phi Island and the Khao Lak area. I managed to accomplish fieldwork in three other countries – Aceh in Indonesia (area of focus because of the severity of impact), Tamil Nadu in India, and Sri Lanka (west coast and south coast as the east coast was not accessible due to a civil war). I later collaborated with others who were studying the tsunami impacts from satellite imagery (Liew et al., 2010).

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Fourth, my interest in mangroves grew after reading and observing the impacts of the December 2004 tsunami on mangroves in the various locations I visited. There was some early controversy on the role of the mangroves in slowing down the tsunami waves but later research shows that mangroves can be a useful buffer (Alongi, 2005). Mangroves can also protect coasts from coastal erosion, are an adaptation to rising sea level and a carbon sink. Having no proper field experience on mangroves, I compiled an identification kit on various species of mangroves in Southeast Asia and went to Bunaken Island, Indonesia, twice to self-teach the various species of mangroves.

In order not to compete with the majority of specialists on mangroves working on tidal flats, I focus on mangroves in non-muddy environments, i.e., sand, gravels, coral flat, limestone pavement, boulders of riprap structures. My interest with mangroves has progressed to the modular planting of mangroves for coastal protection, climate change adaptation, and opportunities for economic development for coastal communities. In 2014 my proposal on mangrove planting was selected a co-winner in the MIT (Massachusetts Institute of Technology) CoLab Climate Change contest in the climate change adaptation category (Climate CoLab).

The above examples show opportunities for expanding beyond one's specialty. At different times in your career as a specialist or generalist, examine the possibility of expanding into other areas to widen your expertise. Start with related areas or when there is an opportunity.

KNOWLEDGE ORGANIZATION

In whatever you specialize, try to organize the knowledge in a framework that you are familiar and can be used readily, e.g., theories, equations, basic facts, sayings/quotations, concepts, etc. At the university I developed very early a framework for the teaching of two courses in human geography, Tourism Development and Coastal Management. The knowledge can be visualized in a form of a triangle with Facts at the broad base, Methodology in the middle and Concepts at the narrow top. This FMC framework makes it easy to teach and to emphasize the relative importance of the knowledge. It also helps students to organize their information. Occasionally, one can add a touch of Philosophy at the apex of the triangle.

As a specialist or generalist, you need to have a ready and up-to-date catalogue of information. Before the age of computers, the information was organized on index cards and stored in shoe-boxes. In the computer age, the information is much easy to search, organize, and catalogue. Initially the bulk of my information was under coasts. As I progress into other areas of work, climate change became the major category. With the occurrence of Covid-19 in 2020, another major category was added. It is therefore important to add, revise and update your information base.

CONCLUSION

To summarize and synthesize, if you assess critically your education, read outside your areas, be prepared to work outside your comfort zone, become a good generalist when the occasion arises, and organize your knowledge, you can see more opportunities to work as a specialist or generalist. This broad pathway provides more excitement and satisfaction and increases your contribution to society than a scientist narrowly defined by mere education and specialty to

earn a livelihood. And at the end of a career, you carry out your retirement plans to keep an active mind and a healthy body.

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