
COMPARATIVE COUNTRY STUDIES

REDESIGNING AREA/COUNTRY STUDIES

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Area/country studies like Turkology, Iranology, Indology, Sinology, Koreanology and Japanology are fundamentally flawed. They have an explanandum, but do not have a distinctive explanans. On the one hand, the practitioners of this kind of study tacitly claim to be knowledgeable about anything concerning the area or country of their interest (after all, Sinology is the study of China, just as sociology is the study of society). On the other hand, they reluctantly admit that it is impossible to be an expert on, say, the economy, polity and society of the country, given the prodigious amount of information available about these domains, the conflicting schools of thought, and the increasing awareness of the complexity of the world. The premises of this paper, meant to be also foundational to IR/Global Studies, are: (a) proper understanding of a country is only possible if a truly interdisciplinary approach is taken, and (b) the insights of computer, network and complex systems scientists could be profitably used in doing so. Rethinking area/country studies in a global context, the author concludes that the subject, being of great importance for international peace and security, should be high on the agenda of the higher-education discussion.

Keywords: *area/country studies, scientific collaboration, computer science, systems science, higher education.*

Introduction

The School of Oriental and African Studies (SOAS), in London, the Leiden University Institute for Area Studies (LIAS), the National Institute for Oriental Languages and Civilizations (INALCO), in Paris, the German Institute of Global and Area Studies (GIGA), in Hamburg, the Institute of Oriental Studies (IOS) of the Russian Academy of Sciences (RAS), in Moscow, and the Japan Consortium for Area Studies (JCAS), in Tokyo, are some of the institutions solely devoted to area/country studies. Since 1952, Brill publishes the *Handbook of Oriental Studies* ('oriental' smacks of the era of colonialism and European expansion). From its inception in 1998, the International Convention of Asia Scholars (ICAS) has become the largest gathering of its kind in the world. ICAS 10, organized in July 2017, brought together more than 1,300 'experts in the field of Asian Studies' ('Asian studies' is an ambiguous term). In 2016, the three-year research project *Rethinking Asian Studies in a Global Context*, funded by the Andrew W. Mellon Foundation, in New York, and coordinated by the International Institute for Asian Studies (IIAS), in Leiden, was 'successfully completed', but there had been no *fundamental* rethinking.

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Over the past few decades, there has been heated debate about area studies and single-country analysis.¹ In our view, the critical participants in the discussion have not been critical enough and the defendants have (deliberately?) ignored the elephant in the room. Neither party has gone to the heart of the matter. Neither the plaintiffs nor the defendants have seen the crucial difference between *explanandum* (the thing, *i.e.* the area or country to be explained) and *explanans* (the thing, *i.e.* the theory that does the explaining), and, remarkably, none of them has acknowledged the enormous potential of computer and systems science to realize genuine scientific collaboration. Rather than address the multiple issues discussed, or engage with the many arguments found, in the literature (which would require the writing of a book), we restrict ourselves to going right to the crux of the whole issue. In this paper, *we try* to break new ground in a field of academic study where social scientists are rubbing shoulders with human scientists but fail to find a common ground, not only with each other but also with those considering themselves to be area/country experts. Whether we succeed in doing so is of course up to the unbiased reader to judge.

The Enduring Confusion

‘Area study’ refers to a field of scholarship pertaining to a particular geographical, national, or cultural region. Actually, the term is a general description of many fields of research. It tends to be overlooked or glossed over, but ‘area/country experts’ such as Africanists, Americanists, Arabists, Hispanists, and Mongolists have the ingrained habit of trespassing on fields of study belonging to social or other kinds of science. Area/country study programs in (mainly) Europe cover a bit of geography, demography, history, language, literature, art, religion, politics, law, economics, sociology, anthropology, archaeology, psychology, education, science and technology, and philosophy, inasmuch as the subjects of these disciplines are thought to be relevant to the region or the country. Such programs lead to the graduate being ‘*un touche à tout sans profondeur*’, for the courses are targeted at students who do not want to be disciplined in a specific scientific, or philosophical, domain, but seek to be knowledgeable about everything concerning the area or country of their predilection, *i.e.* at the student who does not want to become expert in anything whatsoever, and yet – after graduation – likes to be considered a country connoisseur or area expert.

In the USA, Canada and Australia – where higher education authorities, realizing the harmful consequences of blurring academic boundaries, and stressing the advantages of labor division, are critical of the policies pursued by their European counterparts – enrolling students interested in a particular country are required to narrow down their interest and to make a discipline choice. However, graduated in – say – economics, and publicly asked about their opinion on the country, they are generally quick to leave their home turf (in the present case, to relinquish their job of testing economic theories on, or applying them critically to, the country's economy) and trespass on somebody else's property, without being arrested by the interviewer. Doing so, the expert, whose scope of inquiry is restricted and thus not comprehensive, becomes a dabbler, the professional and amateur. At American, Canadian and Australian universities, there are many experts in all kinds of fields of research, but there are no *country* ex-

perts, let alone *area* specialists. Whoever consents to being introduced as such is shamelessly wearing no clothes. *Sapienti sat!*

Area/country studies have been strongly influenced by, but shall not be confused with, cultural studies, a very broad, extremely varied and highly contested field of research recently tied up with Global Studies and World history, the practitioners of which are brave enough to take the whole shebang into account.² Cultural studies cast a much wider net than cultural anthropology or sociology. Area/country studies are akin to anthropology but, whereas anthropology (composed of more than ten sub-disciplines) is the disciplined study of men (asking the big question: what does it mean to be human?), area/country studies also account for the location and place/territory where people live, thereby sitting close to **g**eography and **d**emography. Though they of course differ in the areas or countries being studied, area/country studies such as Central-Asian Studies, Indonesian Studies, Middle-Eastern Studies and Russian Studies are *not* disciplined. History, defined as study of the past as described in *documents*, and differentiated in more than a dozen subfields, is typically concerned with things, events, persons, or actions *sub specie temporis* (whereas historians temporalize, geographers spatialize). In contrast, area/country studies do not adopt a characteristic approach to their subject matter. 'Area study' and 'country study' are container concepts, not referring to any science whatsoever, not referring to a defining scientific model, analytical point of view, 'research program' (Imre Lakatos) or 'research tradition' (Larry Laudan).³ To drive this crucial point home, suffice it to give two examples.

There is much confusing talk about the problems of population growth or massive immigration. Demography, however, is the statistical study of human populations. It encompasses the study not only of their size and composition but also of their dynamics, their changes in response to birth, migration and death. In recent decades, there has been a rapid development of demographic models and methods and an explosive growth in a variety of applications of population analysis. Though demography is at the crossroads of disciplines such as biology, sociology, economics, politics, anthropology and epidemiology, it offers the tools to approach a wide range of population issues. Acknowledging that both the determinants and the effects of demographics are ultimately to be explained by other disciplines, demographers have a clear and distinct analytical point of view, a unique disciplinary matrix, a scientifically distinctive sound. Similar statements can be made on geography, the core business of which is studying, in close cooperation with geology, biology and the social sciences, the surface of (a part of) the Earth, that is, *the spatial distribution* of its physical or human characteristics.

A mature science consists of sub-disciplines. The workers in these vineyards occupy themselves with a part without losing sight of the whole.⁴ Biology, for example, deals with living things at different levels in the biosphere. The growth of the discipline was triggered by a division of labor. Zoologists are interested in animals, ethologists in the behavior of these creatures, botanists in plants, mycologists in fungi, phycologists in algae, and microbiologists in bacteria and viruses. Here, the ramifying does not stop. When we restrict ourselves to the animal kingdom, mammalogists are concerned with mammals,⁵ entomologists with insects, carcinologists with crustaceans, arachnologists with spiders and their relatives, ornithologists with birds, ichthyologists with fishes, malacologists with molluscs, and herpetologists with reptiles and amphibians. Despite their differ-

ences, all the divisions and subdivisions are interrelated; mother, daughters and grand-daughters belong to a family. The splitting of biology into specialisms has been guided by the same principles. The dialects are different, but the language spoken is the language of biologists, 'cell' being the key concept. *Mutatis mutandis*, the same goes for geology, ecology, psychology, sociology, anthropology, archaeology, pedagogy, medicine, economics, politics, law, and musicology.

After World War II, area/country studies started to diversify, first in the USA, anxious to consolidate its power in the world. By any stretch of the imagination, though, we cannot see how anyone of them, together with its subgroups, forms a family. There is no intellectual kinship, no scientific lineage or academic genealogy. For example, post-war 'China-experts' have – scientifically – nothing in common.⁶ They still have no command of a network of basic notions related to the *study* of China. There is an endless stream of books and articles about China, and the situation in, or development of, the country is the subject of many private or public discussions, but there is no *Sinological* debate, no *Sinological* perspective, no *Sinological* research method, no *Sinological* body of knowledge, no *Sinological* way of formulation and presentation. Sure enough, Sinologists do have a domain; they have an *explanandum*, a thing to be explained (China). The obfuscation is that they do not have a distinctive *explanans*, a theory of their own that does the explaining.⁷ So, having mentally broken up their *explanandum*, they cannot do anything but borrowing from (one of) the social or human sciences. Clearly, aware of the fundamental problem they are beset with, they have dealt with it half-heartedly. They have split up Sinology into Chinese Studies, but have no common, scientific language. That is why Jon Huntsman, who served as ambassador of the United States to China, used to refer to China-experts as 'kind of imbeciles'.

There are no schools of *Sinological* thought (comparable to the schools of thought in e.g., political science, law, psychology, sociology, linguistics, literary theory, or economics), simply because there is no *Sinological* language other than the undisciplined speaking or writing about the country. Inasmuch as the state of affairs in other area or country studies is the same, the claimed post-war split of these studies is a case of deceptive appearances. The basic weakness, indeed the Achilles' heel of so-called area/country experts was and still is: they have an *explanandum sine explanans*. It is for this reason that they are not qualified to wear the sacred mantle of science (*sensu stricto* or *sensu lato*).

Whoever believes that the all-rounders in respect of an area or country are dead and gone is mistaken. The proverbial jack-of-all-trades-but-master-of-none (or: only-one) is still alive and kicking. Some of these all-purpose scholars do not even shrink from predicting the future of the area/country, apparently unaware of the nonlinear-science revolution of the 1970s that emphasized the certainty of uncertainty and led to a redefinition of causality.⁸ If pretending to be, or making no objection to being introduced as, an expert on some aspect of, say, the Middle East or Russia, without holding a degree in the discipline concerned, is reprehensible, downright unforgivable is it to make no bones about changing bonnets and to masquerade as connoisseur of the area/country *tout court*. Those who are guilty of doing so corroborate the words of Alexander Pope ('Fools rush in where angels fear to tread') and those who lend these pseudoscientists an ear should be more critical.

The mistake is often made that those who are (believed to be!) fluent in, for example, Chinese are also experts on the Chinese language (classical/literary or Mandarin Chinese) and have a special knowledge of the Chinese literature (traditional or modern) or anything else related to China, as if, say, a Dutchman fluent in English could deliver a scientific lecture on the (old or new rules of) English grammar or the English literature, and could be reliably consulted about, say, the economic, financial, social, educational, political, juridical or military situation in the United Kingdom or the United States.

The Concept of Country

‘Area’ is a vague concept, referring to a country (*e.g.*, Israel, Mexico, Russia, or South Africa), to a region of a country (*e.g.*, the Midwest, Southeast Brazil, Northeast China, Scotland), to a region of the world (*e.g.*, [sub-Saharan] Africa, the Middle East, [Southeast] Asia, [Middle] America),⁹ to a civilization (*e.g.*, the Roman, Egyptian, Indian, Chinese civilization), to a part of a house, hotel, or city (*e.g.*, kitchen, dining, non-smoking, no-go area), or to a domain of study (*e.g.*, terrorism, the Pitcairn islands marine reserve, feminism, Pushkin's poetry of the lyceum period, climate change, the colophon in medieval Hebrew manuscripts). In contrast, ‘country’ (as distinct from ‘countryside’) stands colloquially for a nation-state, where passport holders belong to and what may be one's mother – or fatherland.¹⁰ A country is a bordered stretch of land with a politically organized people sharing a history. It may be plagued by anomalies, dissent, strife, class or power struggle, rebellion, or civil war, but as long as it is a sovereign state, a country is a country. Studies of international relations (not to be confounded with Global Studies) are studies not pertaining to countries but to the relations between them. These relations can have direct bearings on a country's internal affairs, and vice versa. Countries can be classified by dozens of criteria.

Often relying on the advice given or the information provided by ‘area/country experts’, heads of state or government, after lengthy discussions of burning issues (behind closed doors, where native languages are not always spoken), sign important documents, thereby determining the fate of tens or hundreds of millions of people. However, looking at official group-photos taken on the occasion of international meetings, one wonders whether each stern-looking or big-smiling figure on the pecking order picture really understands his/her colleague's country, the complexity and uniqueness of it. For example, at the historic Yalta Conference, in 1945, to what extent were Franklin Roosevelt, Joseph Stalin and Winston Churchill knowledgeable about each other's country? During the sovereign debt crisis faced by Greece in the aftermath of the financial crisis of 2007–08, what did the ‘troika’ (made up by representatives of the European Commission, the International Monetary Fund and the European Central Bank) really know about the history and culture of Greece, where the cradle of Western civilization stood and ‘The Great Conversation’ began?¹¹ When the American and Russian or Chinese President sit down and talk face-to-face with each other, via interpreters (*traduttore traditore!*), do they only exchange views, each one thinking he's right and doggedly trying to defeat the other in the ‘friendly’ debate? Or do they engage in a genuine dialogue, each one being ready to bracket his (country's) interests and ‘the facts’,¹² and opening his mind, *i.e.* actively and respectfully listening to the other? Is there an honest disa-

greement, each one fairly acknowledging that the other may have good reasons to disagree, each one not only able to convince but also willing to be convinced in a free, untrammelled conversation about – say – the desirability and shortcomings of democracy?

A country is a complexity of complexities delineated by its boundaries, borders or frontiers and surrounded by other (foreign) countries. It is not an aggregate (*Gesamtheit*) but a holon, composed of other holons, a unity-and-diversity driven by its evolution, an intricately-structured, history-mold, culture-soaked, goal-directed whole (*Ganzheit*), a set (*ensemble*) consisting of a multitude of interdependent subsets, which in turn consist of interconnected subsets *etc.* Distinctively structured, its population is both cognitively and emotionally bonded together, has a sense of belonging, is proud of her way of life and – perhaps vaguely but fundamentally – aware of the outside (versus the inside) world. With emergent properties, that are somehow irreducible to the properties of its constituent components,¹³ each country is characterized by top-down and bottom-up forces. At the same time, it exerts, and is affected by, various influences. Like a living organism, not isolated from its environment, a country is adaptive and constantly changing. In its innermost core, a country is held together by information, which is mysteriously related to energy.¹⁴

A country is an entity to be investigated interdisciplinarily at different though linked levels. It is a dynamic system of dynamic systems (geological, ecological, demographic, political, legal, military, economic, financial, social, educational, medical, literary, linguistic, or cultural in character) to be carefully compared with other dynamic systems (countries) so that its differences and similarities (*i.e.*, identity) can be discerned.¹⁵ All these systems constitute the supra-system or world-system, euphemistically called the ‘Family of Nations’ (UN). If the ambition is to comprehend a country, *i.e.* to (be able to) present an adequate summary, a *Zusammenfassung* of the different accounts or visions of it, we need scientists with profound knowledge in particular disciplines and proficiency in communicating with neighboring, ‘T-shaped’ experts, for no country student can be master of all pertinent sciences. Each and every country is like a person, is somebody to be respected. It is an *individuum*, something that cannot be divided without losing its identity. Like the elaborate pattern of a carpet that cannot be perceived by the ant, the convoluted pattern of a country cannot be seen by the political, military, legal, or literary scientist, the linguist, economist, sociologist, ecologist, or other scientist, looking through a stovepipe, working at what is nothing but a faculty, school or department.¹⁶ A joint and concerted effort, well-managed scientific collaboration is needed. Here, the insights of the burgeoning science of complex adaptive systems and the new science of networks may be useful,¹⁷ for these are the sciences that lay stress on the pervasiveness of connectedness (as the ancient Indians and Chinese did all along!) and have the tools for handling it.

If countries are dynamic, embedded, multi-faceted, poly-dimensional and multi-layered systems constituted by different but related sub-systems, and if the ambition is to comprehend a country (in order to pursue a sound and sensible policy in regard to it), it might be useful to dwell for a while on the concept of context.

‘Context’ (from *contextus* [coherent]) refers to the background, circumstances, conditions, framework, setting, situation or surroundings of a concept, word, proposition, theory, person, action, event or issue. The context can be geographical, historical,

political, legal, economic, military, social, cultural, medical, technical, linguistic, literary, *etc.* The context of an open system, being a system that has external interactions, which can take the form of information, energy or material transfers into or out of the system, cannot be completely described, because the relations of the inherently composite system with its surroundings are constantly changing.

Knowledge (a thorny issue still discussed by epistemologists of various stripes) is relative. No statement is absolutely true or false, for reality, always in flux (πάντα ῥεῖ, οὐδὲν μένει) and forever incomprehensible, is – here and now – perceived differently (from different, possibly scientific points of view), judged about by someone with a different background (family, education, life, age, career) and a different way of thinking (mentality, attitude, vision, worldview), described by someone having different memories and imaginations, and being in a different situation. Features of the situation include not only place and time, but also the role the speaker plays, his relationship to the receiver of the message, the knowledge and experience they share, and what has already been said, in a certain way (stress, loudness, rhythm, intonation, style). Contextualizing a subject means putting it into a certain perspective. The sub-context, being a context within another context, is to be distinguished from the super-context, the context to which sub-contexts belong. Science develops by throwing new light on (old) observations, by seeing things from a different point of view or putting them in another perspective.¹⁸

The lesson to be learned by those who aspire to comprehend a country is this: social and human scientists having an interest in and wanting to test their theories on, or apply these theories critically to, a country should regularly compare notes on current research. They should be looking for a common ground. While collectively reflecting on the whole of the country, they should – within the purview of their discipline – zoom in on a single side or aspect of it, acutely aware, not only of the context of the constituent part they are devoting their professional attention to but also of the context of the country (*e.g.*, its position amidst, and posture towards, other countries). In other words, social and human scientists should communicate; they should focus on one set of things and keep feeling (by zooming out) with colleagues focusing on other sets. They should collaborate scientifically, for the viewpoint of each of them is a necessary, but by itself certainly not a sufficient condition for understanding what has been happening in the country. *L'union fait la force*; the bunching and twisting of different wires makes the strength of a cable.

It is not one-sidedness or partisanship, but the intelligent combination of well-argued viewpoints that finally matters. Never ask for the meaning of a word in isolation, but only in the context of a sentence, this being part of a statement or utterance made in a conversation, which – like waltzing, sweep rowing, or making love – is a joint activity taking place at a certain place, at a certain time, under certain conditions.¹⁹ It is the *Zusammenhang*, not any of the system's subsystems taken separately (out of its context), that counts. Life is possible through the activities of male *and* female. We need two legs to walk, two hands to clap, two jaws to chew our food, two lips to kiss, two cerebral hemispheres to act. We inhale and exhale. It takes two to tango, two people to bargain, two sides to collide (and to compromise). A cook knows what and how to blend. One admires the *architecture* of a building, not the stones of it; the *mosaic*, not

its tesserae; the *fabric*, not its fibers. Thus to really comprehend a country, its dots are to be connected. Components have to be seen as nothing but **components** belonging to a **composition**, as notes making a chord, as the voices of a choir. The context is of overriding importance. No identity without difference.

The system of sciences is not a modular system like a house, consisting of separate modules or units (bathroom, kitchen, bedroom, living room *etc.*). Neither is it a scattered group of islands varying in size or number of inhabitants. The system of sciences is a complex, dynamic, historically evolved system composed of a steadily growing number of subsystems, splitting into specialisms. The borders between the sciences (conventionally divided into natural, biological, social, human, and formal sciences) are porous and permeable, as exemplified by astrophysics, geophysics, biophysics, medical physics, physical geography, physical anthropology, economic geography, biogeography, molecular biology, evolutionary psychology, social psychology, sociolinguistics, psycholinguistics, psychopharmacology, economic anthropology, social anthropology, education economics, political anthropology, political economy, political sociology, economic sociology, population geography, environmental chemistry, political geography, behavioral economics, and mathematical statistics. Science is to be distinguished from philosophy (and religion). Every part of it has become the object of historical and philosophical investigations, both camps of research having spawned a large literature.²⁰ Matured sciences go with the adjective ‘computational’ or ‘mathematical’, computation having mathematical and mathematics having computational aspects.

We believe it is time for **applying the science of systems to the system of sciences** – at any rate inasmuch as these sciences are geared or pertinent to a particular country.²¹ We came to this conclusion by deepening our understanding of two fundamental and interrelated concepts in ancient Chinese thought (*Dào* [process] and *Lǐ* [pattern]), concepts now central to demography, macro-ecology, geopolitics, geology, and astronomy (cosmology). Both process and pattern/structure concerns the arrangement of different things into an order. The cardinal concept of order is related to *ratio* (the intellectual faculty), to the Vedic *Rta* (that which is properly joined), *i.e.* to the Cosmos, which is essentially a system of processes evolving in time. *Fan wu liu xing* (all things are flowing in form) and *li yi fen shu* (the principle/pattern is one, its manifestations are many).

While the problems of mankind are mounting, the struggle for political power is taking place on a global scale and whole civilizations are clashing, the big challenge is: comprehending countries by means of (not: by only and solely relying on) computers, that is, harnessing the power of ever more advanced computers, not only to gather, process and integrate country-related information, but also to organize and manage the growing corpus of country knowledge available in digital libraries. The new kind of country study we envision may cause an earthquake to occur at universities, research institutes and think tanks. The waiting is for the movers and shakers to pick up the idea. Who will push the button? Let's dream big!

The prestigious, Seattle-based, National Bureau of Asian Research (NBR) is one of the knowledge hubs we are thinking of. The organization conducts ‘advanced independent research’ on issues regarding U.S. relations with Asia. Established in 1989 with major grants from the Henry M. Jackson Foundation and Boeing, and ‘engaged in

a demand-driven approach to reach out to the American Congress and cultivate relationships on both sides of the aisle', NBR has committed itself to 'training the next generation of Asia specialists'. We wonder how anybody possibly could be a specialist on an area measuring more than 44 million km², comprising 48 sovereign states and counting more than 4 billion people.

We are also thinking of the much touted, Singapore-based Centre on Asia and Globalization (CAG), established in 2006 and celebrating the 100th issue of its magazine *China-India Brief* in September 2017. CAG 'partners with pre-eminent institutions around the world to produce policy relevant knowledge on the impact of globalization on Asia and Asia's role in governing an integrated world', but has not clearly defined the word 'Asia' and tends to play down the formidable forces that counteract globalization.

Max Planck reportedly said that a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die. Whether this is an accurate description of scientific affairs is debatable, but what cannot be gainsaid is the fact that most academics cling to old beliefs, which are taken for granted and passed down from generation to generation unless they are sufficiently challenged. The aim of this article is to challenge the widespread belief that area/country studies bear comparison with, say, demography, sociology, economy, political science, law, or anthropology. The future will tell if our thesis can be refuted. *Du choc des opinions jaillit la vérité.*

Connecting the Dots

People interested in the state of affairs in countries such as China, India, Japan, Russia and the USA are overloaded with information from various sources which they struggle to filter down to what is essential or relevant, setting aside what is – for the time being – of minor, secondary importance. Indeed, it would be no exaggeration to say that these people face *une mer à boire*. To use another metaphor, whoever engages in reading area/country-books threatens to get stuck in a quicksand of information. We believe he/she can be rescued by separating the chaff from the grain, by skipping, or putting away, the books of authors who habitually veer off to areas outside their expertise. The undeniable fact that all things are related does not imply that everybody could speak/write about everything.

What we advocate is to see the whole *and* its parts, the general *and* the particular, the one *and* the many.²² 'Connect the dots!' is the battle cry that should resound from this article. The dots are the points where the lines in a network cross or join, and the connections, varying in number, can be direct or indirect, linear or nonlinear. Combining – in the spirit of the *Annales* School²³ – the values of scientific disciplines and the virtues of total history, we try to introduce a new idea into the field of academic study that stands no comparison with any of the social or human sciences. Rethinking country studies in a global context, we attempt to redesign, renew and uplift them by stressing the need for interdisciplinary (as distinct but not separated from international) research and by pleading for good use of the latest insights of complex systems and computer scientists.²⁴ The garment of the studies, which have a long pedigree,²⁵ is old-fashioned

and worn-out. Patching and darning will not be sufficient anymore. A complete renewal is urgently needed.

Intellectual walls have to be torn down and academic fences must be removed. After a long period of only fragmentation and academic splitting, it is time for de-compartmentalization (*décloisonnement*) and open-mindedness, time for carefully looking at the parts without losing sight of the whole they belong to, time for mastering and developing an academic discipline without forgetting its place in the ever more sophisticated system of sciences. It is time for learning and practicing the art of flower arrangement (*ikebana*), where the beauty of each individual flower is optimally reflected by prioritizing the whole over the parts. It is time, not for thinking socially, culturally, historically, or spatially, but for *synthesis*, for computationally collecting, combining and processing the data acquired from different sources. It is time for thinking systemically, for gaining providing an integrated perspective. It is time for ‘plectics’,²⁶ time for a new kind of country study, based on network, nexus, structure or system thinking;²⁷ time for studies a) recognizing that each and every country has a unique set of emergent properties, b) taking into account that its polity, judiciary, military, economy, society, demography, ecology, geography, history, technology and philosophy are intimately interconnected, and c) drawing on the recently gained insight that systemics, cybernetics and informatics are mathematically interlinked.²⁸

The kind of country study we have in mind is **radically new**, having profound implications for both the social and the human sciences and consequently for international higher education. It may:

- revolutionize a contested and deeply troubled field of academic research and education by redesigning the field, that is to say, by deepening as well as widening the current study of countries. Being finally able to generalize the approach to one country to the way of studying any country, practitioners of country studies may organize themselves into an international discussion forum and launch a new journal, devoted to the history, theory and practice of their research;
- adjust the work of Western social and human scientists by prompting them to test their theories out on countries that have been lying outside their purview; that is to say, the multi-faceted and poly-dimensional project of modernizing the world and the post-modern reactions to it (the huge project with which Western thought has been bound up with) may be reconsidered when the different developments in non-Western countries (particularly in India and China) are systematically taken into account;
- complement the work of demographers by concretizing their ideas and putting their analyses into comparative country-perspective;
- complement the work of anthropologists by being also concerned with the location and place/territory where men (*ἄνθρωποι*), having a different culture, live;
- complement the work of sociologists by being also concerned with the location and place/territory where people live together and are involved in persistent social interaction;
- complement the work of historians, who primarily and essentially temporalize, whatever the degree of their differentiating, for time is the key organizing principle of history writing. Parenthetically, it should be noted that our critique of **area** (country) studies might as well be applied to **era** studies. Historians have an *explanandum* (some-

thing, *i.e.* an era, or a range of eras, to be explained), but do not have a distinctive *explanans* (a theory of their own that does the explaining). Classical studies encompass all the studies related to the classical era/period and medieval studies encompass all the studies related to the Middle Ages, but no classical scholar or medievalist disposes of a theory about the classical era and the Middle Ages respectively. This topic may be discussed at the next conference of The International Network for Theory of History.²⁹ Visit <http://peterturchin.com>;

- complement the work of geographers, who primarily and essentially spatialize, whatever the degree of their differentiating. Whereas history is nothing but geography in time, geography is only history in space;³⁰

- countervail the work of globalists by asking attention for both the global/international and the local/national, that is, by synthesizing the ‘homogenization thesis’ (defended by Herbert Schiller, Armand Mattelart, George Ritzer, and Todd Gitlin) and the ‘heterogenization thesis’ (defended by Ulf Hannerz, Gayatri Spivak, Homi Bhabha, and Arjun Appadurai);

- promote understanding of the dynamics between nature and culture at country level, and, conversely, help to better understand the human predicament, *i.e.* the complexity of the whole world, a point that should appeal to IAP, the global network ‘committed to making the voice of science heard on issues of crucial importance to the future of humankind’; to CSER, the Cambridge-based, interdisciplinary research center ‘dedicated to the study and mitigation of risks that could lead to human extinction or civilizational collapse’; to IIASA, the International Institute for Applied Systems Analysis in Laxenburg (south of Vienna) that ‘conducts research into the critical issues of global environmental, economic, technological, and social change that we face in the twenty-first century’; and to the team supporting the FuturICT project, the ultimate goal of which is ‘to understand and manage complex, global, socially interactive systems, with a focus on sustainability and resilience’;

- shed new light on floundering world-system(s) research³¹ by warning for sweeping statements and emphasizing the importance of the elements or parts of the system(s), the importance of *the individuality of the countries the world system consists of*;

- affect the study of international relations (IR)³² by urging scholars in this expanding field of research to specify the general concept ‘international’ and to pay due attention to both the individual countries (rather than to the relations between them) and their context, *i.e.* to the sub-divisible subsystem they essentially are and eventually to the world system they inextricably belong to;

- bridge the gap between naturalist positivism and anti-naturalist hermeneutics by elucidating the connectedness between the notions which, while forming the basic structure of everyday cognition and behavior in a country (thus being culture-shaping), are also culture-shaped, hence have to be contextualized;³³

- stimulate the intercultural dialogue and improve mutual understanding among the quarreling, if not fighting, members of the UN; and

- make a valuable contribution to the current debate about higher education.

Here, some critical remarks on today’s higher education may be in place.

Higher education is in the midst of a major, unprecedented crisis resulting from ‘a culture in decay’ (Jacques Barzun) and reflected in the publishing world, where mon-

ey reigns supreme. ‘A cancerous, consumer-driven capitalism has weakened higher education’ (David Wheeler). Knowledge, like sport, art, healthcare and the intimate life, has been commercialized. What counts is not *Bildung (zum Leben)* but *Ausbildung (zum Beruf)*. ‘The age of chivalry is gone; that of sophisters, economists, and calculators has succeeded’, Edmund Burke famously wrote. Nobody seems to take the university-idea of John Henry Newman (‘education for intellectual and spiritual nobility’) seriously. It tends to be forgotten that the French word ‘*élève*’ (pupil, student) is cognate with ‘*élever*’ (to elevate, to educate, to raise). In *Wirtschaft und Gesellschaft*, Max Weber (1864–1920) bemoaned the university output of *Fachleute*, professionals unable to see the bigger picture. In *The Aims of Education* (1929), process philosopher Alfred North Whitehead, who distanced himself from Bertrand Russell (one of the founders of analytic philosophy), struck a similar note, asserting that intellectuals lack balance, seeing this set of circumstances, or that set, but not both sets together.

Criticism (the openness to which Karl Popper declared to be the chief merit of democracy) is tolerated, and even stimulated, but the critic should abide by the sacrosanct rules of the game. Whistleblowers are not welcome. ‘Great refusal’ (Herbert Marcuse) is absolutely forbidden. Pointing at a system error or to a flaw in the fabric is anathema, and whoever dares to do so will be branded as an outlaw, troublemaker, apostate, dissident, traitor or heretic, as for example, Galilei had to experience. Chinese universities are exemplary for this, but they are certainly not exceptional. Don't rock the boat! Never say the emperor is wearing no clothes! *Masters* are always right. Specialization, for the sake of economic growth at the cost of social well-being if need be, is valued everywhere, but a vision of the general direction, the direction of all specializations taken together, is missing. Aboard the *ship of fools*, every sailor fulfills the duty of his/her profession, but the captain is nowhere to be seen and no mariner knows, or seems to care about, where the buoyant watercraft is going to. Some people raise the alarm, but their voice gets lost in the wind.

Overemphasizing the importance of measurement/quantification and overstressing the significance of (multiple choice) tests,³⁴ higher education has ‘impoverished the soul of the students’ (Allan Bloom). Graduates are ideologically straitjacketed by the corrupt institutions they depend on. Unaware of the demise of *Paideia*,³⁵ they have become illiterate about the Great Ideas of the ancients, not to speak of the wisdom of non-Western civilizations. Universities have degenerated into places where the student gets confused by, if not totally lost in, the information being provided; into knowledge factories dangerously detached from the immensely complicated and hugely complex world out there; into intellectual, business-oriented department stores where many things are for sale, at rising prices. Universities have become bastions of power rather than beacons of light.

The rot sets in when first-year students have (and are readily willing!) to undergo hazing, that bizarre, silly, humiliating and often dangerous ritual ‘to create an *esprit de corps*’³⁶. In fact, this institution paves the way to flattery, favoritism, conservatism, sexism and traditionalism. It may prove disastrous, not only for the freshmen in question but also for the society in which they might play a prominent role.

The ongoing discussions about the diseases of our universities (like the one launched in the Netherlands, in September 2013)³⁷ are wrongheaded and will remain

fruitless and sterile as long as the bull is not grabbed by the horns. The allocation of scarce resources to increase or improve scientific/academic production can be seriously questioned. There is a tendency towards progressively higher academic grades for work that would have received lower grades in the past (grade inflation). Despite all that has been done to improve the guidance of doctoral studies and dissertation processes, horror stories keep coming. Pre-publication peer review, supposed to be a quality assurance system, is in actual fact anti-innovatory, unable to detect fraud, easily abused, prone to bias, and largely a lottery; it is too often carried out in a hasty, superficial way, and has become a blockage rather than a filter. At the fifth World Conference on Research Integrity, organized in June 2017, all forms of research misconduct were discussed, without, of course, naming and shaming any of the perpetrators present! The current project European Forum for Enhanced Collaboration in Teaching (EFFECT), led by the European University Association, is paying no attention to computer-supported cross-disciplinary collaboration. We are waiting for the first World Conference on the desirability and feasibility of computer-aided/assisted interdisciplinary research not being limited to the natural sciences, because *competence* and *integrity* are the necessary building blocks, indeed the pillars of the trust that was lost and – we hope – will be regained.³⁸

In the age of globalization and ‘sciences-convergence and technologies-break-through’, all we need is computer-supported scientific collaboration that includes the social and the human sciences and is both international and interdisciplinary in character. This, alas, seems to be loathed by ‘area/country connoisseurs’, polymaths who shrink from changing course, refuse to stop pretending tacitly to be all-purpose researchers, and – conveniently forgetting the proverbial cobbler – decline any suggestion to stick either to that humble, yet tremendously important job of translating or to what they might be university-educated and thoroughly trained in, that is, to what they are *really* good at.

Arguing for a new methodology with respect to the study of countries, *i.e.* adopting a critical, *second-order* stance, we do not mean to give anybody a hard time or to raise the hackles of tenured professors. However, doing something nobody has cared to do thus far, we go straight to the belly of the beast and lay bare the fundamental flaw of country studies, believing that the subject is of utmost importance and should be frankly and openly discussed without regard to any personal interest.

On campuses in Europe, the United States of America, and elsewhere, thousands of professors fill the pages of journals, the shelves of libraries, and the minds of students with their ‘theories’ about an area in the world. Their enterprise is deemed a valuable resource and, when important events occur or a crisis looms in regard to the area, these professors are mobbed by the media seeking their opinion. For example, the Federal Government in Washington subsidizes more than a dozen academic centers devoted to the Middle East. Yet for many decades, Middle East institutes in the United States have been schools of error; those associated with them have miserably failed, at a time when understanding the Middle East has become crucial to the West. The academics, blinded by their prejudices and sticking to their ingrained *modus operandi*, have failed to anticipate or explain any of the major developments in the Middle East. Within the field, hardly a voice dares to protest. In an iconoclastic exposé, Martin Seth Kramer surveyed the ruins of Middle Eastern studies, asking how and why they went wrong. His message

has gone unheeded or has been (deliberately) distorted. In the coterie of 'Middle East experts', or in any other club of area/country connoisseurs for that matter, nothing has changed fundamentally. For example, institutes for (South, East, or Southeast) Asian Studies in and outside the USA were and still are 'schools of error'.

Country studies should be planned and executed on project basis.³⁹ Good advice on this can be gotten from the International Centre for Complex Project Management, an organization that seeks to translate research on effective management of complex, dynamic systems into practical solutions in different domains. The planning should be done with the recent developments in *computer-supported cooperative work* (CSCW) in mind. CSCW addresses the question as to 'how collaborative activities and their coordination can be supported by means of computer systems'. It is a design-oriented academic field that is interdisciplinary in nature and brings together economists, organizational theorists, educators, social psychologists, sociologists, anthropologists and computer scientists, among others. The expertise of researchers in various and combined disciplines help researchers identify venues for possible development. Despite the variety of disciplines, CSCW is a research field focused on understanding the characteristics of interdependent group work with the objective of designing adequate computer-based technology to support such cooperative work. Over the years, CSCW researchers have identified a number of core dimensions of cooperative work. The so-called CSCW matrix considers work contexts along two dimensions: first, whether collaboration is co-located or geographically distributed, and second, whether individuals collaborate synchronously or asynchronously. CSCW is related to, but should be distinguished from, *computer-supported collaborative learning* (CSCL), which is a pedagogical approach. With CSCL, learning takes place via social interaction using computers or through the Internet. This kind of learning is characterized by the sharing and construction of knowledge among participants using technology as their primary means of communication or as a common resource. The field of CSCL draws heavily from theories emphasizing that knowledge is the result of learners interacting with each other, sharing knowledge, and building knowledge as a group. *Collaborative information seeking* (CIS) is a field of research that involves studying situations, motivations and methods for people working in collaborative groups for information seeking projects, as well as building systems for supporting such activities. Such projects often involve information searching or information retrieval, information gathering and information sharing. Beyond that, CIS can extend to collaborative information synthesis and collaborative sense-making.

The road ahead may be long, winding, bumpy and slippery, but the panorama will be breathtaking. Surely there is a way, if and when there is a will; if and when 'area/country experts' are willing to kick the bad habit of only shuffling and thumbing through the pages of, say, anthropological, geographical, juridical or economic books/journals; if and when they abstain from trespassing on fields of study belonging to the social or human sciences; if and when they are prepared to dedicate themselves exclusively to their professional job (translating, or practicing the discipline they graduated in); if and when they – should the job be practicing the discipline one is holding an advanced degree in – listen to the loud call to collaborate and team up with each other;⁴⁰ if and when they embark on a cooperative joint venture; if and when they play joyfully

together as a musical ensemble. The stakes are high, higher than many people may care to think.

Alluding to a well-known saying of Karl Marx, we exhort country-oriented experts from whatever discipline to unite. Having tuned up their instruments, different musicians, who are skilled professionals in their own right, play together as one ensemble, performing – under the *bâton* of a **conductor** who takes care of the harmony, tempo, rhythm, loudness, timbre, and melody – not a cacophony (chaos) but a **symphony** (order). If the aim is to arrive at the edge of country cognition, our advice would be: seek out the worldwide most sophisticated, country interested minds from different disciplines, put them in a room together, and have them – skillfully moderated – ask each other the questions they are asking themselves.

Today's digital revolution is not only a matter of technology. It will inescapably transform all sectors of the economy, have an irreversible impact on the polity, and fundamentally change the organization of our society, including the organization/system of sciences. Some say data is the new oil. The question is: what can be distilled out of this 'oil'? Realizing that information about countries is contained in data, we believe that the extracted/mined information can be gathered from different sources/disciplines, computationally processed, and integrated/organized to constitute the knowledge of countries desperately needed for better international understanding. If the complaint would be: 'This is all menu but not a meal', our response will and shall be: 'Nobody can fairly and justifiably require that we, all on our own, serve what, in our view, only a *team of scientists* using the newest technical tools is able to do – in principle, because the team, making steady progress, can only approach its aim (comprehending a country completely) asymptotically'.

Summary and Conclusion

Area/country studies are beset with a fundamental problem their practitioners have not dealt with satisfactorily yet: they have an *explanandum*, but not a distinctive *explanans*.

There are no area experts, because areas or regions such as the Middle East, [sub-Saharan] Africa, [Central, South, East, or Southeast] Asia, [North, Middle, or South] America and [North, East, South, West, or Central] Europe are heterogeneous groups of demarcated, guarded and in many ways different countries only immortals can dream of grasping intellectually. Middle East pundits, for example, (should) know that talking away about an area that encompass Egypt, Iran, Turkey, Saudi Arabia and Israel, among other countries, cannot be taken seriously. Similarly, decision-makers in Washington, Brussels or Tokyo considering the strategy (to be) pursued with regard to the much talked about Eurasian Land-Bridge project are well advised to realize that the interests of many different countries are involved and that absolutely no scholar is fully knowledgeable about them or able to fairly compare all of their interests.

There are no country experts as long as there is no *explanans* geared to it, so long as there is only borrowing or stealing from a variety of social and human sciences. Area or country pundits, who regularly appear in the media, are to be distrusted, because – taken as *area/country* experts – they do not understand/explain what they are justifiably supposed to understand/explain, the carefully cultivated appearance of the opposite of it notwithstanding.

So-called area/country experts are sorely mistaken in (willfully) forgetting the winged words of Pliny the Younger (*multum, non multa*), in believing that the collection and exposition of things to be known in regard to an area or country make them scientists. Science is not a mass of disconnected information. Science is *organized* knowledge, the *systematic* classification of things that are knowable; it presupposes a refutable theory. Scholarship may lead to fury, to the accusation of being an overturned bookcase, of being ‘deep versed in books, but shallow in himself’ (John Milton). The accumulation of facts is nothing but the piling or juxtaposing of bricks for building a house. ‘A scientist without imagination is a butcher with dull knives and out-worn scales’ (Khalil Gibran). A scientist has a vision; a great scientist has a grand vision.

A new kind of country study is needed. *Computer-supported cross-disciplinary research* is the one and only viable way; ‘viable’ in view of the growing literature on e-science, e-research and human-computer interaction. Scientific collaboration across disciplines means: working jointly rather than independently to accomplish a task, but it must not be confused with consensus. Collaboration does not mean that everyone must agree before any decision can be made. Nor does it mean that there is no room for individual creativity. Computer-supported cross-disciplinary collaboration means collaboration using the increasing power of computers and relying on the infrastructure that consists of all the components or operations that somehow play a role in fast-developing information technology (IT). However, even a team of scientists, aided by computer experts and working diligently together on a country project, will never manage to comprehend a country completely. Only God is said to be omniscient.

Country studies as currently conducted are not only incomplete; their practitioners are also wrong-headed. They tacitly claim to be knowledgeable about a whole area or country. In actual fact, however, they can, at best, only explain a part of it. More significantly, having an *explanandum sine explanans*, country studies are seriously flawed. Our thesis that so-called country experts have no theory of their own and consequently cannot be considered scientists (even if the word scientist is taken in the sense of *Wissenschaftler*) bears the character of a null hypothesis; it is not proved or established but is possibly *disproved*. In other words, the thesis we advance stands as long as it has not been refuted; *pace* Popper, our claim can and shall be upheld so long as it has not been rebutted by mentioning one practitioner of area or country studies who really has a distinctive *explanans* concerning what he or she is justifiably supposed to explain.

In this article, we do not only stress the need of country studies being less incomplete by taking the expertise of the greatest possible variety of scientists into account; we also indicate how country studies could be changed fundamentally, *i.e.* could have an *explanandum cum explanans* by genuine computer-supported collaboration across disciplines. The reader will have noticed that the paper is also foundational to IR/Global Studies, because none of them can be carried out successfully without thoroughly rethinking, and giving due attention to, the study of individual countries, the constituent parts of a particular/specific area and, ultimately, of the whole world-system.

Planning the economic development of countries involves taking natural and human resources, demand and supply, saving and investment, agriculture and industry, government revenue and spending, production and distribution, inflow and outflow of goods, services and capital, and all sorts of institutions into account. Similarly, studying

a country should involve taking its geographic, geological, demographic, political, legal, social, educational, economic, financial, and cultural aspects or dimensions into account. It should involve unifying what seems to be different. Metaphorically, it should involve juggling several objects, arranging planes, aligning lines, and connecting dots. Being able to comprehend a country depends on the level of abstraction one can achieve.

There are two kinds of collaboration, or border-crossing, in academia:

1) **International/cross-national collaboration.** This is fashionable in the era of globalization. Physicists, chemists, cosmologists, geographers, demographers, geologists, biologists, ecologists, political scientists, economists, sociologists, anthropologists, psychologists, linguists, or literary scientists, each group has its international association that publishes a flagship journal, and – at the expense of the university or research institute they happen to be associated with – members of each group travel to, and (actively) participate in, international conferences, colloquia or congresses at touristic places all over the world.

2) **Interdisciplinary/cross-disciplinary collaboration.** This is undoubtedly more difficult and perhaps less glamorous, but considerably cheaper and potentially more profitable. Contrary to popular belief, truly interdisciplinary studies are not a step backward, in the direction of generalizing or speculating; they try to synthesize, to go beyond the dichotomy between the general and the particular, to combine the width and the depth. The barriers to cross-disciplinary research are not insurmountable, as demonstrated by the new climate science. Climate change is now recognized as one of the most urgent societal challenges of our time, demanding the integration of natural, social and human sciences. Indeed, climate science is closely related to, even subsumed under, sustainability science (<https://network.futureearth.org>). However, computer-supported cross-disciplinary research is not only the concern of climate/sustainability scientists. Natural, social and human scientists increasingly realize that interdisciplinary research strengthened by powerful, interconnected computers is required to be able to cope with the wicked problems of our world. Area and country scholars/students do not give the impression that they are aware of this trend. The institutions (*i.e.* the society) funding their academic activities should, therefore, pressure them into facing it.

In October 2016, the International Council for Science (ICSU) and the International Social Science Council (ISSC) agreed to pursue a merger between the two umbrella organizations. A year later, a joint, official announcement was made, saying that in the first half of 2018 the International Science Council, serving as the global voice for science, will be inaugurated. However, the science for which this council is claimed to be serving as the global voice is only a part of the science that encompasses the natural, biological, human, social, and formal sciences. Whereas the *human sciences*, including, but not limited to, widely ramified sciences such as cultural anthropology, linguistics, literary science, art-science, religion-science and criminology, are concerned with the human mind and its manifold manifestations, the *formal sciences*, including, but not limited to, widely ramified sciences such as mathematics, logic, statistics, systems science, network science and theoretical computer science, are concerned with relations and patterns/forms. ICSU and ISSC are to be highly praised for their preparedness to join forces, but they appear to have no intention to follow through. A horse which

jumps the first fence excellently and then starts nibbling the grass is unlikely to win the race. International Science Council writ large should be speaking on behalf of *all* sciences; no human or formal science can be left out by declaring it to be unscientific. If such a merger would be realized, it could be truly momentous for the future study of countries.

Last month, European University Association's secretary general Lesley Wilson gave a keynote speech at the 52th Annual Assembly of the Latin American Council of Management Schools, which took place at California State University, San Bernardino. She reflected on how the wealth of European experiences with inter-university collaboration and internationalization over the past 30 years could help to envisage and develop new models and opportunities for North and Latin American collaboration with European universities. 'One way of addressing the uncertainty of globalization is for universities to further develop partnerships that enable them to internationalize their programs, enhance their research capacity and strive to help students to become truly global citizens', she said. Ms. Wilson, who graduated from the University of Glasgow and the Institute of Higher European Studies at the University of Strasbourg, was right. However, apparently unaware of the groundbreaking work of complexity thinker Edgar Morin (very well known in Latin America!), she forgot to tell her audience that cross-national collaboration will only be fully effective when connected with cross-disciplinary collaboration. For the benefit of the whole world, such a linkage would change universities to what they originally were and should be: not multi- but *universities*.

With libraries becoming increasingly digitized, networked digital technologies emerging, deep learning and computational linguistics making giant strides, human-computer interaction and big data analytics developing fast, and soft computing and high performance computing soaring⁴¹ it should be possible to computationally collect, combine and process information from different sources, that is, to realize the idea of interdisciplinary research without losing the benefits of disciplinary investigation. The technology is, or will sooner or later become, available. Data can already be stored on a single atom and quantum computing, predicted to dwarf conventional computing, is said to be seen on the horizon. What we need is the application of available technology to the collaborative study of countries. It will cause a sea change in and far beyond academia.

Working on the paper, we took a clue from interferometry, an important investigative technique in such fields as astronomy, metrology, oceanography, seismology, spectroscopy, quantum mechanics, particle physics and remote sensing. A modern interferometric radiotelescope processes and integrates the signals received from various types of antennas, enabling astronomers to look deeper into the universe and further back in time. If the knowledge gained and accumulated in different disciplines can be regarded as various *modi sciendi* (ways of knowing), multimodality, being basically a theory about, and technique of, communication, could help digital libraries to achieve the objective of comprehending countries, for multimodality may promote semantic interoperability based on knowledge integration, the process of synthesizing multiple knowledge models into a common model.

The key question is can software be designed and developed for scientists from various disciplines willing to undertake a collaborative research project on a country? No-

ting the current powerful drive towards mathematical expression of, and solutions to, interdisciplinary problems, and believing that semiotics (the superset of linguistics)⁴² will provide the key to unlock the door to the multi-roomed house to be entered (comprehending countries), our hunch is that such software can, or will soon, be designed by information engineers. ‘*Pour atteindre les limites du possible, il faut rêver l'impossible*’, René Thom said.

A country is a web of webs of nonlinear relationships so complex that each aspect or dimension of the country (geographic, geological, political, legal, military, economic, financial, social, cultural, educational, ecological, demographic, *etc.*) affects, and is affected by, all other aspects/dimensions to an extraordinary degree. No gluing together of partial studies can give a perfect idea of the whole and yet the *whole* country (including its evolving foreign relations) should be studied, however crudely that has to be done. A computer-aided cross-disciplinary country approach is, therefore, needed in a globalizing world of international misunderstandings.

As the beautiful Persian proverb goes, *the ant cannot perceive the pattern of the whole carpet*. ‘Country expert’ and ‘area expert’ are horrible misnomers, because nobody has a poly-ocular vision and each and every one of us is but an ant or, in the words of Zhuangzi (*c.* 369 – *c.* 286 BC), ‘a frog in a well not knowing the ocean’. Whoever lectures on the affairs of a country (not to mention the affairs of an area encompassing a number of countries, or Global/ international affairs) runs the risk of being accused of biting off more than he/she can chew, of not mentioning or realizing how many unknowns are involved,⁴³ of being way too vague about his/her mental model,⁴⁴ or about the key concepts underlying his/her lecture,⁴⁵ in short, of being pretentious.

‘Philosophy’ was once thought to stand for *libido sciendi* (the knowledge drive dwelling in every man); for the desire to have a cosmic, all-embracing view, to gather all information and to organize all knowledge, to unify the results of all sciences (*universitas scientiarum*); for the will to grasp the container of the contained, to see the background of backgrounds, the setting of settings, the context of contexts; for the yearning ‘to know what the world in its innermost core holds together’ (Goethe, *Faust*), to find ‘the hidden connections’ (Fritjof Capra), ‘the hidden pattern’ (Ben Goertzel), or ‘nature's deep design’ (Frank Wilczek), to see the elusive *Unum e Pluribus* – the ever streaming, incredibly complex *Unum* that – strange loop – man is both a part of and apart from.⁴⁵ Though there seems to be a deep chasm between (the sciences of) nature/matter and (the sciences of) culture/mind, we hope that our call will not fall on deaf ears among scholars of an area or country.

NOTES

¹ See, *e.g.*, Miyoshi and Harootunian 2002; Slocum and Thomas 2003; Wesley-Smith and Goss (2010); Schäfer 2010; Franzinetti 2015; Pitman 2015; Pedone and Sagiyama 2016; Kurilla and Zhuravleva 2016; Loschke 2017; and Mielke and Hornidge 2017. See also *Journal of International and Area Studies* (1994ff), *International Area Studies Review* (1997ff), and *International Journal of Area Studies* (2006ff). In addition, see URL: http://hum2.leidenuniv.nl/pdf/lia/where_is_here-leiden_university_institute_for_area_studies_lia_2012.pdf.

² See Barker and Jane 2016. URL: <http://www.culturalstudiesassociation.org>, <https://www.bighistoryproject.com/home>, www.thewha.org, <http://ghc.wp.ehess.fr>, <http://www.sociostudies.org/journal/jogs>, <https://ibha.wildapricot.org>, www.vgws.org and <https://www.timemaps.com>.

³ For the nature/philosophy of science, see Schurz 2014; Curd and Psillos 2014, and Humphreys 2016b. In addition, see URL: <http://www.philsci.org>, <http://www.pitt.edu/~pittentr> and www.poss-rt.net.

⁴ See Lando 2017 and Burkhardt 2017. URL: <https://plato.stanford.edu/entries/mereology> and <http://plato.stanford.edu/entries/types-tokens>. Muddling up parts and wholes (*'pars pro toto'* and *'totus pro parte'*) is often the source of confusion and misunderstanding.

⁵ There are about 5,000 known species of mammals, many of which have been the subject of a special study.

⁶ They may be interested in reading the online article of Hans Kuijper 'The Scandal of Sinology'.

⁷ Posner (2003: 2343–2353) considers the criteria for defining academic disciplines.

⁸ See Scott 2007: ch. 5.

⁹ Hobbs (2016) is an excellent introduction to regional geography.

¹⁰ The literature on the nature, origin, formation, structure and functions of the State, or Nation State (which is a type of State), is large. The discussion of these topics continues unabated. Contrary to what Globalists, or World Federalists, want us to believe, we do not think the (Nation) State will disappear anytime soon.

¹¹ See Goetz 1990 and Melchert 2014. Cf. De Bary 2013. In the age of *mondialisation*, comparison of the Great Conversations about, or Grand Searches for, universal order in the West, India and China is a *desideratum*.

¹² See Putnam 2004, Part I and Marchetti 2017.

¹³ See Scott 2007, Greve and Schnabel 2011, Humphreys 2016a, and Gibb (forthcoming). See URL: <https://plato.stanford.edu/entries/properties-emergent>. Acquaintance with the book series *Emergence, Complexity and Computation* (2013ff) is indispensable.

¹⁴ Information is notoriously difficult to define. Physicists conjecture that it is a basic property of matter; not a thing, but what holds things together. Information science should not be confused with information theory or technology. See Soni and Goodman 2017.

¹⁵ See Kuijper 2016. For comparative literature (an important subfield of comparative research), visit www.aile-icla.org.

¹⁶ Many scientists/scholars have no idea of what the guy or lady next door is doing.

¹⁷ See Miller and Page 2007; Newman 2010; Youngman and Hadzikadic 2014; Barabási 2016, and Masuda and Lambiotte 2016. In addition, visit www.insna.org, <http://iuni.iu.edu>, <http://www.complexnetworks.org>; <https://appliednetsci.springeropen.com> and <http://www.cnn.group.cam.ac.uk>. The journals *Complex Adaptive Systems Modeling* (2013ff) and *Social Networks* (1978ff) are recommended for reading.

¹⁸ Context is a hotly debated semiotic issue. Visit <http://www.iep.utm.edu/contextu>; <https://plato.stanford.edu/entries/contextualism-epistemology> and <http://context17.lip6.fr>. See Mucchielli 2012; Kleineberg 2013, and Ichikawa 2017. The book to be read is Mercier and Sperber 2017. Context should be studied in tandem with aboutness Yablo 2014 and intentionality (URL: <https://plato.stanford.edu/entries/phenomenal-intentionality>). For 'framing' or context/conduct manipulation, an activity many, if not all, people fall victim to (politics is said to be *poly tricks*; 'mass media' has become almost synonymous with 'manipulation'; advertising is essentially the art of framing; and religious leaders know how to [mis]lead their herd), see Goffman 1974, Matthes 2014 and Ekroll 2017.

¹⁹ See Clark 1996 (Part II). Meaning is the concern of semioticians and philosophers of language, just as value is the bone of contention among axiologists. It is unclear how meaning and value are

interrelated, but what is valuable has a meaning. Interestingly, 'axiology' and 'axiom' are cognate words.

²⁰ The history of a discipline should not be confounded with the history of what the discipline has explained or is supposed to explain. Furthermore, history of philosophy is not the same as philosophy of history, history taken as chain of happenings in the past or as inquiry into, story about, or account of these happenings (events or actions).

²¹ See URL: <http://bit.ly/2p51VEc>, <http://isss.org> and <http://iascys.org>. See Willke 2006; Ramage and Shipp 2009; Arnold 2014; Diesner 2015; Mobus and Kalton 2015, and Hofkirchner 2016. See also note 17.

²² The relationship between the one and the many is the central theme of the *Upanishads*, the foundation of Hindu philosophical thought and according to Arthur Schopenhauer '*die belohnendeste und erhebendeste Lektüre*'. Pre-Socratic philosophers also wrestled with the problem. The famous classical violinist Isaac Stern once said: 'Music is the thousandth of a millisecond between one note and another; how you get from one to the other – that's where the music is'. See note 4.

²³ See Burguière 2006.

²⁴ See Hey and Pápay 2015; Merritt 2016; and Copeland 2017. Complex systems science is an outgrowth of systems theory. See above, note 21. See also Montuori 2015, Preiser 2016, and Thurner 2017. In addition, see URL: http://www.art-sciencefactory.com/complexity-map_feb09.html; <http://complexitylabs.io/courses>; <https://www.santafe.edu>; <http://lsa.umich.edu/cscs>; <http://necsi.edu>; <http://www.complexity.ecs.soton.ac.uk>; and <http://csh.ac.at>. The journal *Complex Systems* (1987ff) and the book series *Understanding Complex Systems* (2004ff), *Primers in Complex Systems* (2010ff) and *Complexity Science* (2011ff) should also be mentioned.

²⁵ It is conveniently forgotten that area/country studies started to grow in the era of discoveries/explorations that relates to the rise of States in Europe (see above, note 10) and – via colonialism and imperialism – has led to the age of globalization, currently the subject of heated debate.

²⁶ Murray Gell-Mann, Nobel laureate in physics, coined the term 'plectics', emphasizing the importance of taking 'a crude look at the whole' in scientific research, and underlining the essence of category theory, the study of things and the mappings between them.

²⁷ The new kind of country study we advocate is to be distinguished from Stephen Wolfram's new kind of science (URL: <https://backchannel.com/a-new-kind-of-science-a-15-year-view-4f5668abe54f>).

²⁸ <http://www.iiisci.org/journal/sci/home.asp>. Morin (2008) draws heavily on systemics, cybernetics and informatics. He founded *L'Association pour la Pensée Complexe* (<http://www.intelligence-complexite.org>).

²⁹ Visit <http://peterturchin.com>

³⁰ All social and human sciences have a geographical and historical dimension.

³¹ See Martinez-Vela (2001). See <http://irows.ucr.edu>. See also note 2.

³² See Reus-Smit and Snidal 2010; and Sauer and Masala 2017.

³³ See Matsumoto and Juang (2017). See URL: <https://plato.stanford.edu/entries/culture-cogsci>; <http://www.flfi.ut.ee/en/department-semiotics>.

³⁴ For metrology, the science of measurement, see Bucher 2012; Göbel and Siegner 2015, and Schweiker *et al.* 2017. See URL: <http://www.cim2017.com>. Whether measuring is knowing (Dutch: *meten is weten*) is a moot point. Einstein reputedly said: 'Not everything that counts can be counted, and not everything that can be counted counts'.

³⁵ Few are those who read Werner Jaeger's *Paideia: Die Formung des griechischen Menschen*, 3 volumes, 1933–1947.

³⁶ URL: <https://www.insidehazing.com>, <http://www.hanknuwer.com/articles/hazing-deaths>.

³⁷ URL: <http://www.scienceintransition.nl>. See also <http://www.hepi.ac.uk/2017/09/19/current-higher-education-debate-aiming-wrong-target>.

³⁸ See URL: <http://www.academicintegrity.org>; <https://plato.stanford.edu/entries/integrity>; and http://www.diplomatie.gouv.fr/IMG/pdf/TR_Fagot-Largeault_Anne_SICNFU.pdf. The literature on higher education is very large and still growing. For a first orientation, see URL: <http://www.echer.org> (> journals list). In addition, see *The Chronicle of Higher Education* (1966ff), *Times Higher Education* (1971ff), *Forum for the Future of Higher Education* (founded in 1984), *International Higher Education* (1995ff), *Quality in Higher Education* (1995ff), *Journal of Studies in International Education* (1997ff), *Higher Education Dynamics* (2002ff), *Higher Education Studies* (2011ff), *International Journal of Higher Education* (2012ff) and *Higher Education for the Future* (2014ff). Altbach (2016), Teixeira *et al.* (forthcoming), and the Springer book series *Higher Education: Handbook of Theory and Research* (1985ff) and *The Changing Academy* (2011ff) deserve special mention. The Boston College Center for International Higher Education has created a map of more than 200 higher education research centers/institutes around the world.

³⁹ A project is a carefully planned piece of *teamwork* based on multiple decisions taken concertedly. Wikipedia provides an impressive list of megaprojects. For project management, see URL: <http://www.ipma.world>, <https://iccpm.com>; and <https://www.wrike.com/project-management-guide>.

⁴⁰ See Everett 2010; Brüggemann and d'Amato 2012; Bammer 2013; Barry and Born 2013; Thompson Klein 2015; *Interdisciplinarity* (the online Survey Report for the Global Research Council 2016 Annual Meeting); Nadin 2016; Frickel 2016; Repko and Szostak 2017; and Burgin and Hofkirchner 2017. See also the special issue of *Synthese* on 'Philosophy of and as Interdisciplinarity' (Vol. 190, July 2013, Nr. 11). See URL: <http://www.intrepid-cost.eu>, <http://www.mdpi.com/2079-8954/5/1/15>, <http://www.forschungsverbundmanagement.net>, <https://www.mpg.de/9753837/big-data>. For the related subject of unity of science, see URL: <https://plato.stanford.edu/entries/scientific-unity> and <http://uci.fc.ul.pt>. Read Schurz 2014 and see the book series *Logic, Epistemology, and the Unity of Science* (2004ff). The reader may also be interested in the discussion started by C.P. Snow in the lecture (The Two Cultures and the Scientific Revolution) he delivered in 1959, or in the opposition between *Erklären* and *Verstehen* posed by Wilhelm Dilthey (1833–1911).

⁴¹ A fairly complete list of digital library projects can be found at Wikipedia. See Bhardwaj (2017) and also see URL: <https://www.diglib.org>, <http://ircdl2017.unimore.it> and <http://www.tpd1.eu/tpd12017>. For networked digital technologies, see *Journal of Emerging Technologies in Web Intelligence* (Vol. 5, No. 1, February 2013), Zappa 2014, URL: <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/future-and-emerging-technologies>. For more details see Goodfellow 2016. For computational linguistics, see Hausser 2014, URL: <https://www.aclweb.org>; and <http://www.cicling.org>. For human-computer interaction, see Weyers 2017, URL: <https://tochi.acm.org>, www.hci.international. For big data analytics, see Kulkarni 2016, Hwang and Chen 2017, URL: <http://www.dcs.bbk.ac.uk/bicod17>. For soft computing, see *Soft Computing* (1997ff). For high performance computing (HPC), see Arora 2016 and URL: <https://www.nextplatform.com> (> HPC).

⁴² See Posner 2003 and Trifonas 2015, Part IV-VI. For a semiotics encyclopedia, explore <https://semioticon.com>. 'Semiotics Bridging Nature and Culture' was the main theme of the 6th Congress of the International Association for Semiotic Studies, in Guadalajara, Mexico, in July 1997. In contemporary semiotics, studies of nature and culture are integrated. See URL: <http://cybersemiot.ics.com> and <http://iass-ais.org>. Some anthropologists also attempt to go beyond the dichotomy between nature and culture (see Descola 2005).

⁴³ The questions 'How did life emerge from matter?' and 'How did mind emerge from life?' are among the greatest open problems of science. Wikipedia provides a list of lists of unsolved problems.

⁴⁴ See Magnani and Bertolotti (2017); see <http://context17.lip6.fr>. Models are to be distinguished from hypotheses or theories. Models are simplifying iconic, analog, or symbolic representations of systems or processes. Models can be empirical, theoretical, static, dynamic, discrete, continuous, descriptive, prescriptive, explicative, predictive, definitional, behavioral, deterministic, and stochastic. For models of models, see URL: <http://technav.ieee.org/tag/7288/metamodeling>.

⁴⁵ See URL: <http://www.iep.utm.edu/concepts> and <https://plato.stanford.edu/entries/concepts> (see also Margolis and Laurence 2015).

⁴⁶ Chinese philosophers have conceived of the *Unum* or Great Interdependence as the grand-scale *Dào lǐ* (process-pattern, flowing order/network, dynamic structure/system), visualizing this magnificent concept in the famous, infinity and nonlinearity suggesting *yin-yang* symbol, that – remarkably – featured on the coat of arms of Niels Bohr.

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