

REVIEW

Decolonizing Geography and Access to Powerful Disciplinary Knowledge

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ABSTRACT

This article engages with and aims to advance the debate about Decolonizing geography, examining its approach to knowledge and its implications for the discipline. Decolonizers draw heavily upon social constructivist and historically-rooted notions of knowledge which emphasize its embeddedness in power relations. While shedding light on the social and political conditions under which knowledge is produced is valuable, its context-dependent view of knowledge limits its scope to account for disciplinary knowledge. Taking a particularistic epistemology which conflates knowledge with experience is insufficient to explain the historical evolution of theoretical and disciplinary frameworks. Denying the potential for and even the desirability of context-independent (theoretical) knowledge Decolonizing geography can be read as post-disciplinary and post-universal, potentially denying that geography can offer all students, regardless of their background, access to powerful knowledge and insights. Here, social realism is proposed as an alternative approach to knowledge which accounts for both the social context of knowledge production and its distinctive epistemic qualities. An epistemological framework for geography is examined which demonstrates the relationship between propositional (conceptual), contextual and procedural knowledge, and why all three are essential for the student of geography.

1. Introduction

The 2017 RGS/IBG annual conference theme was “Decolonizing Geographical Knowledges – opening the discipline out to the world”. In special conference-editions of *Transactions of the Institute of British Geographers* and *Area*, as well as at the conference itself, Decolonizing the discipline was presented by Jazeel as an “imperative” for all geographers to consider^[1]. What is meant by Decolonizing disciplinary knowledge?

Making reference to what they call “the shine and shadow of powerful knowledge”, Rudolph, Sriprakash and Gerrard propose that “Both the production and use of knowledge (disciplinary and non-disciplinary) have been implicated by these colonial and racial violences”, adding that epistemic violence has resulted from “ordering, classification and naming that occurs through the practices of colonialism”^[2]. Hence, they call for closer scrutiny of the historical circumstances in which knowledge was produced, which they suggest equates with the global North.

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Writing in *Transactions*, Jazeel himself finds the very process of abstraction and theory-making within the discipline of geography problematic:

What I want to stress therefore is that we must remain continually vigilant against the authoritative prescription of any “correct theoretical practice” (Spivak 1985, 346) for Decolonizing geographical knowledge, because it is precisely the representational containment of geography’s theoretical orthodoxies that battens the hatches against the outside, the minor, the excluded. In other words, post-colonial geography must itself be situated within the political economy of academic knowledge production ^[3].

For Jazeel, geographical theory has become something that potentially excludes those outside of the discipline rather than something from which they might learn.

Yet, it is worth pausing and reflecting on where this well-intentioned, “themed intervention” might take our discipline before geographers head too far down this path. At one level, the call to diversify geographical knowledge, to open the discipline to a wider audience and to move away from a Western-centric narrative sounds progressive and common sense. Yet, at the same time, why is it that in 2017-18, decades after colonialism was discredited, that some academics are asserting the need to “Decolonize” disciplinary knowledge? And, why is Decolonizing geography presented as an “imperative” for changing the discipline, and how it is taught, rather than as a topic for analysis and debate about the way knowledge is produced and in which settings?

2. Objectives and Method

This article takes a theoretical and interpretivist approach to examine the debate about Decolonizing geography. I begin by analysing its particularistic approach to epistemology as well as its origins. I will show how the imperative to Decolonize the curriculum grows out of and extrapolates previous assumptions about knowledge, especially its political and socially-rooted nature. Indeed, advocates for Decolonizing geography claim that they are expanding ideas from “postcolonial and subaltern studies, black studies and critical Indigenous theory, queer and feminist theory” ^[4], although some assumptions are shared across other social sciences. While this field has added new insights, experiences and stories to light which were insufficiently represented in geography, its particularistic approach is unable to distinguish between context-dependent and context-independent knowledge, and hence offer a theory of disciplinary knowledge.

Here, I draw on the sociological theory of social realism to propose an alternative way to conceptualise knowledge, one that seeks to account for both con-

text-dependent and context-independent knowledge. Social realism aims to differentiate between knowledge types, such as personal, everyday knowledge and theoretical, scientific knowledge. And, it seeks to account for how knowledge is produced, the procedures and methods of verification that are specific to a disciplinary community. Next, I apply social realism to the discipline of geography and examine its evolution and traditions. I show that the distinction between the study of phenomena in one *place* versus their *form* originated in the nineteenth century and has persisted to present day geography. Here, I suggest that geography does have its own epistemology and knowledge structure which is danger of being overlooked in Decolonizing narratives. Finally, I show why induction into this disciplinary framework and modes of reasoning is necessary if education is to be a powerful, transcendental experience.

3. Does Geography need Decolonizing?

“The geographical discipline has also been exposed as a handmaiden of empire, providing its experts, maps and institutions,” reports Legg ^[5]. That the evolution of geography and empire in the nineteenth and twentieth century went hand in hand is in little dispute. David Livingston’s *The Geographical Tradition* recounts this story in some detail. Yet, Decolonizers go much further than this, asserting that knowledge in the present is “implicated” by its colonial past: “decolonial scholars argue that the modern episteme is always and intrinsically saturated with coloniality although it is insecure in its reach and depth” suggests Radcliffe ^[6]. Yet, the discipline and the practices of geographers today are very different from the colonial era, an important point that is glossed over in decolonial discourse. While many eighteenth and nineteenth century geographical expeditions were backed by government and/or monarchy, clearly that is not the case today.

Radcliffe also makes reference to “power relations in the colonial present”, which she proposes “permeate all forms of knowing about and understanding the world” ^[7]. Similarly, Collard *et al.* propose that “knowledge production and everyday relations are informed by European colonial modalities of power and propped up by imperial geopolitics and economic arrangements” ^[8]. It would be naïve of academics not to consider the geopolitical and economic arrangements when conducting any given study. However, it is not clear what or where she is referring to by the “colonial present”. Powerful nations like the USA and China may well engage in exploitative practices (economic and political) in many countries around the world, but they are not colonial powers in the sense of a nine-

teenth century Britain or Spain. The difference needs to be made more explicit.

For Decolonizers it is evident that *context is king*. This applies to both the historical context of knowledge production and current social, economic and political context in which knowledge is applied. Rob Moore notes that since the cultural turn of the 1970s the dominant view in the sociology of education, and reflected in social theories of phenomenology, ethnomethodology, postmodernism and post-structuralism, has been that “*knowledge is socially constructed, historically located and intrinsically connected with power*” (author’s italics)^[9]. Indicatively, such theories have taken us away from the very idea and importance of theoretical knowledge, and therefore away from a common basis for understanding the world. Hence, Noxolo arrives at the notion of a “pluriversality of knowledges”^[10], indicating that they have moved away from the notion of a university that generates specialist knowledge, which is potentially accessible to all (i.e. *universal*).

Here, knowledge is embedded in social practice, and hence, Baldwin demands of geography scholars: “an abiding recognition that knowledge, all knowledge, is political”^[11]. Yet, we might want to qualify Baldwin’s proposition. All knowledge is *potentially* political. It depends on the context in which it is used. The knowledge that rivers erode the land and deposit material downstream may have political consequences when applied to a river that crosses a political boundary for instance, but, by itself, is this knowledge political? Once river erosion and deposition have been accepted concepts in a discipline they are used by scholars and students all over the world, giving them a universal quality.

Let us proceed by acknowledging that context matters a lot, especially in a subject like geography. Everything we learn transpires in a particular cultural and social setting. The concepts we use to make sense of and to think about the world around us are learnt through social interaction and by using them in different contexts. When we get them “wrong” – meaning our use of them does not make sense to those around us – we must either modify our understanding of the concept or we are likely to experience a similar type of miscommunication in the future. We learn concepts and they gain meaning for us through social interaction, including when meanings change or new ones are created. This applies to both every day and theoretical concepts. For this reason it is misleading to suggest, as social constructionist sometimes do, that when individuals learn they “construct knowledge”. The student may acquire new *meaning* as they study, but very rarely do they generate new knowledge.

Second, ideas are powerful and do have serious implications in society – socially, environmentally, economically and politically. It would be foolish to suggest otherwise. It is well-known that nineteenth century colonialism was fed by ideas of racial superiority linked to theories of Social Darwinism. Over time, society questioned and challenged the application of naturalist theories as ill-suited to human nature and were superseded by more egalitarian ideas about our humanity, reveals Malik^[12]. This is one very important reason why we need to be able to distinguish between better and worse ideas (and more/less accurate theories) and to distinguish between different knowledge domains. And, as Jim Butcher^[13] cautions, we need to be careful to distinguish between the production of knowledge and its application in a given political settings. The two are not the same thing. And, just because knowledge is used for immoral acts does not mean the knowledge itself is flawed. Social movements may take a progressive idea and apply it in a harmful way.

The social context of knowledge production also matters – our thoughts, questions and interpretation of findings are all influenced by the cultural setting in which one lives and works. Social constructivist theories have helped us to better understand how context influences knowledge production. It has helped us to gain a deeper appreciation of the role of the human subject in knowledge construction, whereas prior theory tended to treat knowledge as a given. As Jennifer Negal observes, “Knowledge demands some kind of access to a fact on the part of a living subject”^[14]. The role of the human subject in making and accessing knowledge is an important part of epistemology, something we have learnt from the work of Lev Vygotsky among others (see Derry^[15]).

So, context matters for all these reasons. But, this doesn’t mean that we are prisoners of circumstance. As Alexander notes:

Theoretical knowledge can never be anything other than the socially rooted efforts of historical agents. But this social character of knowledge does not negate the possibility of developing either generalised categories or increasingly disciplined, impersonal and critical modes of evaluation^[16].

There are two ways in which it is possible to transcend context: individual reason and procedural knowledge applied in a scholarly community.

As noted above, individuals learn through social interaction. This is how they acquire concepts and meanings that constitute language – both every day language and specialist knowledge. Once mastered, we use these concepts to think – they are tools for making sense of the world around us. Again, Vygotsky’s work provides insight

into the interplay between thought and language. But, as Robert Brandom shows concepts are not necessarily fixed and they do not exist in isolation from other concepts^[17]. As subjective beings we are capable of modifying our understanding of a concept or even rejecting it altogether, if, for example, we were to find a better concept. The same applies to theories. Over time, some theories are superseded by more accurate or sophisticated theories. For instance, convection currents as an explanation for plate movement has recently been challenged by the idea of slab-pull during plate subduction^[18]. In order for new ideas or theories to become accepted theoretical knowledge depends upon acceptance by the disciplinary community. This occurs through a process of reasoned scrutiny by individuals (peer review) and through collective dialogue with a commitment to a seeking better explanations or approximations towards truth^[19].

Disciplines need ways of distinguishing between better and worse knowledge. This is achieved through *procedural knowledge* (explored further below). Disciplines have created tried and tested methods and procedures of verifying the accuracy of new ideas. New findings or theories (like the Anthropocene) should only become accepted after rigorous scrutiny by a disciplinary community. It is through such procedures that ideas are able to transcend the context in which they were produced – demographic transition and Newton’s Laws of Motion being two worthy examples.

This is in no way to dismiss the contribution to knowledge of minorities or “excluded” people Decolonizers seek to highlight. Contextual knowledge has an important role to play in understanding the particular circumstances of people in a given locality, at a given time. However, geography is not an amalgam of millions of unconnected accounts. The point is to learn from them, to identify some common trends, experiences and patterns of interaction. This involves abstracting from context in order to work towards a theory of understanding spatial interactions at the surface of the earth.

Through identification of common experiences and patterns of behaviour, geography explores an aspect of truth about human experiences and planetary interactions. “Knowledge links a subject to truth” finds Nagel^[20] and hence is a means for developing our subjectivity. Social constructivists are mistaken in the assertion that “scientific truths are no more than what scientists at the time say is true” suggests Young^[21], because they have not sufficiently taken account of the relationship between knowledge and the object under analysis. There is a difference between belief and knowledge, which Nagel calls *factivity*: “We can only know facts or true propositions”, whereas, “belief

can easily link a subject to a false proposition”^[22]. Nagel gives a simple example, “Bill thinks his door is locked, but it isn’t”^[23]. Each discipline has developed its own procedures by which knowledge is tested and verified, and thus a basis upon which judgements about the reliability of knowledge are made.

It is the deeply-rooted or over-socialised view of knowledge that leads some Decolonizers to question the feasibility of context-independent knowledge. Here, knowledge and the knower become inseparable and there is a risk that knowledge gets reduced to a matter of perspective. Making reference to postmodern approaches to knowledge, Young writes:

[I]n dismissing other theories rather than entering into a dialogue with them, postmodernism precludes the possibility of an alternative theory of knowledge, except one that reduces all knowledge to experiences or statements about knowers^[24].

Young draws on the work of Rob Moore and Johan Muller who identify a drift towards relativism in literature on “voice discourses”. He surmises, “There is no *knowledge* for the voice discourses, only the power of some groups to assert that their experiences should count as knowledge” (author’s italics)^[25]. This view is echoed in the article by Rudolph, Sriprakash and Gerrard^[26] where they surmise that traditional disciplines are ill-equipped to deal with the experiences of gay people, minorities and women, as if the purpose of a discipline were only to articulate the experiences of a particular group in society. Despite their call to “bring history back in”, this is an ahistorical view of what disciplinary knowledge is. Below, I say more about geography’s evolution as a discipline, and who contributed to its development.

This relativist turn in academia is part of a wider rejection of the idea that some knowledge is better than other knowledge, or culture for that matter. Because “better knowledge” or “better culture” (or Culture with a capital “C”) are associated with and often monopolised by elites they have been recast as simply one standpoint next to others, as Moore observes:

The reason why Culture might be confused with the culture of the ruling class is that part of what being a ruling class entails is having privileged access to Culture and the capacity to partially recontextualize it within its culture^[27].

Yet, rather than attempt to change the social and pedagogical access to better knowledge and Culture contemporary social theory has focused on the producers of knowledge, their social context and power relations, while paying insufficient attention to the distinctions between different types of knowledge.

The “imperative” for a Decolonized geography does not offer an epistemological account for disciplinary knowledge. What it lacks is a basis for evaluating what counts as geographical knowledge, how geographical knowledge can be tested and evaluated, and how can it advance. We can begin to see some answers to these questions by drawing upon the sociological theory of social realism. This is introduced below before being applied to geography.

4. Towards a Social Realist Theory of Knowledge

For some time, sociological debates about knowledge have been stuck between two positions: positivism and constructivism. Young and Muller^[28] suggest that neither provides an adequate account of knowledge; both being tied to an ideology and ends extrinsic to knowledge. Positivism is associated with an “under-socialised” view of knowledge where its givenness is assumed rather than explained. This position is often associated with cultural elitism and the defence of tradition, with knowledge, largely unchanging, being handed down from generation to generation. As noted above, social constructivism tends towards an “over-socialised” view of knowledge in which knowledge is treated as simply the expressions of the knower. Here, authority is vested in who produced the knowledge rather than the value of the knowledge itself.

However, in recent years social realism has emerged as a theory to explain how knowledge can be both social and “real” at the same time. By real I mean that knowledge has an objective quality, so is more than just a construct of the author’s imagination and is therefore able to capture some essence of the object under investigation. Here, social realists draw on critical realism and the work of Roy Bhaskar: “Realism is important because of the way in which the principle of ontological realism provides the basis for a non-positivistic (non-empiricist) rebuttal of constructivist relativism” report Maton and Moore^[29]. If the world exists beyond the human imagination then it is through human consciousness that we come to know it. Moore notes the coincidence between critical realism and Marxism in the form of “materialism and the concept of ‘emergence’ both in relation to the characteristics of scientific thought and in terms of the nature of ‘the social’ ”^[30].

Therefore, social realism aims to understand knowledge as produced in a given cultural and social context (emergence), but at the same time aiming to describe something real – be it an aspect of the natural or human world. To better understand knowledge types and the different forms

means “taking seriously” the question of the “internal ordering of symbolic forms”, suggests Moore^[31]. One important aim is to understand the distinctiveness of knowledge types, including academic and vocational knowledge, suggesting that boundaries between disciplines are important and not arbitrary, and also how knowledge changes and advances over time. Social realists are also very interested in how knowledge is “re-contextualised” in curricula, both at university and school levels. Contemporary social realists, including Karl Maton, Rob Moore, Johan Muller, Elizabeth Rata, Michael Young and Leesa Wheelahan, draw on the earlier epistemological work of Émile Durkheim, Lev Vygotsky, Basil Bernstein and Ernst Cassirer.

Durkheim’s distinction between the *sacred* and the *profane* provides a useful starting point for social realism because he sought to understand that some knowledge was context-independent, while at the same time being a product of social relations. For Durkheim, sacred knowledge existed at a different level and played a different (moral) role in society than profane knowledge. Young^[32] applies this distinction to the difference between every day concepts and the theoretical concepts that make up specialist knowledge. He notes that it is the purpose of schools and universities to induct young people into specialist forms of knowledge and ways of thinking.

But, of course, theoretical knowledge came from somewhere. It has a history and cultural context which should be acknowledged and considered, as the Decolonizing movement is keen to remind us. Lloyd traces the evolution of disciplinary thinking back to Ancient Greece, Rome, China, South Asia, Islamic territories, among other cultural hearths^[33]. While there is qualitative difference between “emergent disciplinary thought” and more modern systematised knowledge which has undergone “scientification” suggests Burke, the one has emerged from the other. In *Disciplines in the Making* Lloyd^[35] details the historical evolution of intellectual thought in different regions of the world, including the diffusion of ideas and texts between regions. For instance, scholarly works from Ancient Greece and Rome were translated into Arabic, where knowledge was advanced in several areas (mathematics, geography, literature and philosophy) during the expansion of the Muslim Empire in the Middle Ages. In mathematical geography, the size and shape of the earth were calculated, as were the solar length of a year and the Precession of the Equinoxes, reported Ziauddin Alavi^[36]. Hydrological studies were conducted of the Nile and the canal systems of Mesopotamia, including the search for “hidden water” in mountains. Al-Mas’udi and al-Idrisi were two prominent

geographers who studied environmental effects on life and the qualities of people in different climate zones. So, when geographers such as Derickson^[37] and Pulido^[38] posit the “unbearable whiteness of geography” they are not acknowledging the contribution of other cultures to the emergence of disciplinary thought, both in the past and present university setting.

Let us now look more closely at how disciplinary knowledge is made or comes into being. Social realism claims that the objectivity of truth claims depends upon (1) their external validity – they explain objects of study in a convincing way, (2) their internal consistency – that they are coherent and follow logic, and (3) their ability to invoke support from a specialist community of experts and with a wider legitimacy.

Starting with their external validity, the concepts that we have created aim to capture an essence or aspect of the particular object of study, in geography’s case - *the surface of the earth*. Social realists such as Wheelahan^[39] call this the *aboutness* of knowledge – the relationship between knowledge and the object being accounted for. In geography, we use concepts that are about both the natural world (rivers, atmosphere, rocks, landscape) and concepts about the human world (settlements, economies, political territories, development).

We have Ernst Cassirer^[40] to thank for depicting how the process of objectification (concept formation) is different for natural concepts and cultural concepts, resulting in different forms of knowledge in the natural sciences and social sciences or humanities. With natural objects the concept can potentially subsume the object and does this through empirical verification. On the other hand, with human constructs (social sciences and humanities) concepts are mediated by other concepts and so the relationship is less direct and potentially less precise. Nevertheless, in both sciences the aim is the same: “achieving the maximum absorption of the object by the concept” and also “the maximum abstraction or objectification possible under the circumstances consistent with the nature of the objects under study”, suggest Young and Muller^[41]. However, as observed by Harstshorne^[42] it is also important to recognise that no concept can capture the complete essence of an object and that disciplines often have unique concepts because they are asking particular questions about their object of study. That said, geographers “borrow” many concepts from other disciplines like meteorology, biology, geology, economics, demography and political science. Yet, we geographers use them in a unique way because we are interested in location, spatial arrangements and human – environment interactions^[43-45].

Of course, concepts do not exist in isolation. Each

concept relates to and is inferred from another concept – referred to by Brandon as inferentialism^[46]. Disciplines themselves are made up of large networks of inter-related concepts with their own internal logic. Understanding the inferential relations of concept formation has significant pedagogical implications for teaching and also for curriculum planning. Already, we can see that the distinctive approach of a discipline will result in the construction of a framework or system of concepts unique to its way of interpreting its object of study. Learning a discipline means entering into the system and comprehending its particular framework of concepts.

The educational theorist Basil Bernstein^[47] differentiated between knowledge that is hierarchical versus knowledge that is horizontal in structure. Hierarchical knowledge progresses through increased levels of abstraction, as with the natural sciences. Greater levels of abstraction facilitate understanding of relationships, powerful explanations and the establishment of generalisations or laws. With knowledge that demonstrates horizontal structure, knowledge progresses through adding new segments of knowledge that are distinctive, but related, to the previous knowledge, as with the arts, humanities and some social sciences. Geography demonstrates aspects of both hierarchical and horizontal structure because the knowledge is segmented (into sub-disciplines of geomorphology, tourism, economic geography), but hierarchical within segments. It is not being suggested that disciplines fit neatly into Bernstein’s framework. Rather, his analysis provides us with an analytical tool to comprehend how knowledge can progress in different ways.

Finally, disciplines have historically tested and established *procedural knowledge* – methods of enquiry for conducting and scrutinising research, as well as for critique and the verification of findings. This includes the review and communication of research findings through publication. This involves scholars reading and commenting on the *reliability* of the work produced, and its acceptability for distribution within the disciplinary community. Drawing on Karl Popper’s notion of falsification in the sciences, it is the openness to challenge and the processes of *verification* within specialist communities that make knowledge a social product, and gives rise to its reliability^[48]. Again, there are important pedagogical implications if we are aiming to teach students to make judgements between better and weaker knowledge claims.

Drawing on Hannah Arendt, Frank Furedi speaks to the centrality of judgement to scholasticism: “The testing of ideas, the questioning of colleagues’ views, and the pursuit of intellectual clarity require the freedom to judge”^[49]. Importantly, one must remember that what is

being judged, recounts Furedi, is ideas not people. This distinction can get missed in an academic environment that treats people and ideas as one, whereupon the act of judgement can be perceived “*as directed at an individual’s identity and assumes that everything is personal*” (author’s italics) ^[50]. Failure to distinguish between ideas and the person not only avoids the disciplinary framework in which ideas are tested, but also denies the potential for agreement that can arise out of disagreement. In the words of Arendt, “judging is one, if not the most, important activity in which this sharing-of-the-world-with-others comes to pass” ^[51].

While each discipline has its own unique purpose, object of study, conceptual framework, modes of thought and methods for validating and acquiring new knowledge, these are by no means fixed and within the same discipline there often co-exist different approaches, methods and organising concepts or frameworks. And, as noted by Polyani ^[52], in each there is an aspiration for *Truth* – they seek to describe and account for some aspect of reality. The pursuit of truth is not as distant from the social constructivist position as some might think, since it contains within it its own claim to truth, as Rob Moore reveals: “all truth is standpoint relative, except the truth that all truth is standpoint relative” ^[53]. In order to induct young people into disciplinary ways of thinking a robust understanding of the discipline’s epistemic relations is necessary. Students don’t just need knowledge. They need to learn how the discipline works.

5. Geography as Disciplinary Knowledge

Tim Cresswell suggests that two questions underpin the geographical tradition:

“*[W]hat is the connection between the human and physical worlds?*”

And, “how can we account for spatial difference?” ^[58]

Cresswell finds the embryonic form of geographical concepts in the writings of Ptolemy, Eratosthenes, Plato and Aristotle. Plato used the terms *chora* and *topos* in his discussion of the process of becoming. *Chora* refers to the place or setting for becoming and *topos* was the achieved place. However, important to the establishment of the modern discipline was the relationship between the particular and the universal, as Sarah Radcliffe observes: “Geographers have of course engaged, albeit through widely divergent lenses, with the universal and the particular for much of its disciplinary history” ^[54].

This distinction was articulated through the work of nineteenth century geographers including Immanuel Kant, Alexander Humboldt, Karl Ritter and Alfred Hettner. Yet, if we were to “Decolonize geography” and replace it with

a particularistic epistemology with no relationship to theoretical knowledge, then it would cease to be a discipline. What is important to understand, suggest Winch ^[56] is why and how both the universal (theoretical or propositional knowledge) and the particular (contextual or empirical knowledge) work together to achieve epistemic ascent.

Kant lectured in physical geography for 30 years at Königsberg (now Kaliningrad). Finding the subject disorganised and lacking direction he proposed two ways of classifying empirical data: in accordance with their nature or in relation to their position in time and place. The former being a *logical classification* is a precondition for studying the spatial variation of particular geographical “layers” or phenomena (systematic geography / propositional knowledge). The latter is a *physical classification* and provides the basis for the study of the interaction of phenomena in given places and regions (regional geography / contextual knowledge). For Kant, between them history and geography were able to fill the total span of scientific knowledge – history being the study of time and geography the study of space.

Humboldt (1769-1859) and Ritter (1779-1859) also conceived of geography as the study of the inter-relationship between phenomena in a given locale. However, Hartshorne ^[57] suggests that only later did they become aware of Kant’s work and that they may well have arrived at a similar conception independently. They also developed a scientific method for geography, taking an empirical approach to their studies of Central America (Humboldt) and Central Asia (Ritter). Through extensive fieldwork and data collection Humboldt and Ritter went beyond description in their quest for identifying patterns and relationships through a comparative method. Humboldt called his scientific approach *physikalische* (not to be confused with physical geography) through which he sought to establish relations between the flora, fauna, humankind, and conditions of landscape and climate. The concept of *Landshaft* (a small regional unit) became popular amongst German geographers who were seeking to find unity and purpose in the landscape (a similar tradition evolved in France with *pays* identified by Vidal de La Blache in his (1908) *Tableau de la Géographie de la France*). For Ritter this unity was god given, while Humboldt leaned towards aesthetic interpretation.

So, while Humboldt and Ritter were very interested in the particularities of small regional units through their nomothetic approach they were also looking for generalisations. What would later be known as systematic geography involved the creation of concepts, models, theories and principles about how things are spatially related (*propositional or conceptual knowledge*). Geographers do this by

examining one geographical phenomenon (e.g. glaciation or population) at a time – how it varies in space and how it is influenced by other phenomena. Systematic geographical knowledge has evolved as a series of sub-disciplines (geomorphology, climatology, urban geography, political geography, feminist geography) each of which is related to its own branch of science (geology, meteorology, planning/urban studies, political science, feminist social theory). Geographers draw from these individual sciences using the concepts constructed for the study of its specific object (lithosphere, atmosphere, settlements, political ideas/institutions, social categories). However, the geographer utilises these concepts for a different purpose: to comprehend spatial relationships and patterns. Because geographers are interested in how objects are associated with other objects they may modify generic concepts or invent new ones (e.g. sphere of influence).

The value of nomothetic science is that by abstracting from the real world we can begin to see patterns of behaviour and relationship that are not apparent at a more concrete level. With the systematic approach geographers are seeking explanations of the behaviour and patterns of phenomena. Its knowledge structure is often hierarchical – aiming for greater precision, certainty and truth^[58].

When constructing *propositional knowledge* the danger is that the theory becomes too removed from the real world and unable to explain the behaviour of the phenomena in question. Sciences often experience a tension between the need for universal laws and the facts and circumstances of particular cases. Therefore, disciplines need *contextual (empirical) knowledge* – the facts, data and observations of human and physical features of the earth's surface. By its very nature contextual knowledge cannot be abstract, although it may be interpreted with the help of generic concepts or theories. In contrast to propositional knowledge, it is horizontal in structure; so that studying new places and regions adds to existing knowledge – but sideways rather than hierarchically.

However, regional geography is more than the compilation of facts about a locale. Rather, Frances Slater suggests the regional geographer asks: “What are the inter-relationships among phenomena that produce this particular set of features?”^[59] This task requires *synthesising knowledge* from geography's sub-disciplines, notes Gilbert:

Cultural, political and economic processes together shape and structure the specific regions under investigation and it is only through the study of their interrelationships that the regional specificity can be retraced. Such a study involves a process of synthesis, a process that takes the results of analysis, the detailed studies of particular aspects of society and draws out the web of relationships

that generates and binds them to produce spatial differentiation.^[60]

This means that places and regions are a product of a complex web of interactions, which presents a challenge of selecting the geographical criteria to study and also the starting point. Hartshorne suggests that no geographical phenomena should be discounted if one is aiming to depict something whole. However, not all geographical phenomena are equally significant in shaping the character of a region. The character of regions can be strongly influenced by topography, proximity to oceans, climate, resources, flora and fauna, culture, population, political and economic history, and more. The selection of features and aspects to study is subjective, but purposeful: exploring the relationships that together give rise to particular characteristics or patterns.

It should now be clear that the discipline of geography depends upon both theoretical and contextual knowledge. As Phil Gersmahl notes, students of geography must study both systematic and regional knowledge because, “The interplay between topical and regional perspectives is what stimulates thought”^[61].

If geographical generalisations, models and principles are of value they must necessarily explain aspects of the real world. This can be done by testing or applying them in different contexts. This does not mean that models will perfectly predict patterns and behaviour on the surface of the earth. However, in order to say something meaningful about spatial arrangements we should be able to find evidence of their principles at work. In the course of applying generic models and principles the geographer may well discover imperfections and errors, forcing them to go away and refine their ideas and models. The process of hypothesising, testing, analysis and verification of knowledge comes from *procedural knowledge*. So, while the reliability and value of generic concepts and theories are dependent upon their application in different contexts Hartshorne found that “regional geography in itself is sterile; without the continuous fertilisation of generic concepts and principles from systematic geography it could not advance to higher degrees of accuracy and certainty in interpretation of its findings”^[62].

We can surmise that geography is an integrative discipline. While knowledge in its sub-disciplines may be organised hierarchically, what matters to the geographer is the ability to understand the connections across areas of systematic knowledge and apply these to explain spatial patterns and places.

6. Conclusion

In conclusion we can see two very different visions of

education and the individual emerging between a particularistic and a universalist approach to epistemology. Furedi^[63] reminds us that historically the role of the university was to enable the individual to transcend the limitations of their personal experience and background. This was possible because of the transformative potential of knowledge or we can say that disciplinary knowledge is “powerful”^[64].

There are three ways in which disciplinary knowledge is powerful. First, from knowledge comes understanding. While learning involves posing questions and wondering at the way things are in the world, as we come to understand and gain clarity of insight. Here, our wonder about things has been replaced by a wonder at them, “to amazement at the structure of things and our capacity to grasp this structure”, surmises Kronman^[65]. The idea of *threshold concepts* has been theorised by Meyer and Land^[66] as a way to denote the transformative impact that learning has on the way a student sees the world. Once a student has stepped over a particular educational threshold to a higher or more sophisticated level of comprehension they will forever see things differently.

Here, we can see the transformative potential of knowledge. Not only does it transform understanding, but it also transforms the individual because it develops their critical faculties (a second sense of power). In geography, Lambert^[67] notes how the acquisition of deep and explanatory knowledge develops the relational thinking that underpins geographical thought and a propensity to apply the analysis of alternative social, economic and environmental futures to particular places contexts. Similarly, Alaric Maude surmises that disciplinary knowledge in geography provides students with “new ways of thinking about the world”, “powerful ways of analysing, explaining and understanding”, “power over their own knowledge” and it “enables young people to follow and participate in debates on significant local, national and global issues”^[68].

Maude’s final point takes us to the third sense in which knowledge is powerful: it transforms their capacity to act in and contribute to society. This point is echoed by Wheelahan who suggests that class divisions are likely to be reinforced because “unless students have access to the generative principles of disciplinary knowledge, they are not able to transcend the particular context”^[69]. Similarly, Rata also finds such generative principles and the ability to transcend context as essential to the social contract that underpins liberal democracies, because “one is the condition for the other”^[70].

Rata’s observation is prescient because it highlights how education (schools and universities) and society work together to foster progressive ideals. However,

the reverse is also true. The contemporary movement to Decolonize geography, and the curriculum more broadly, arises out of very different social conditions: a movement away from a common understanding of the human condition towards a form of cultural and biological determinism (a university replaced by a pluriversity). Thus, Furedi worries that “where cultural politics has become so prominent in higher education” there is the potential that “its values directly contradict those of the university”^[71]. Hence, the transformative potential of disciplinary knowledge could potentially be undermined if the “fossilisation of identity accomplished through reducing students to the workings of their culture dispossesses people of their individual agency and capacity for moral autonomy”^[72].

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