Scale as relation: musical metaphors of geographical scale

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Summary  The concept of geographical scale, despite being one of geography’s foundational concepts, has been undertheorized compared to other core concepts such as environment, space and place. Two aspects of the concept of geographical scale (size and level) are relatively well recognized. A third aspect (scale as relation) is not. In this exploratory paper, the implications of the metaphors conventionally used to think and write about scale are considered, and some musical metaphors of geographical scale are used to sketch out the importance of scale as a relation.

The rise of postmodernism in the social sciences has drawn critical attention to the importance of metaphor in representing, analysing and interpreting social and material realities. In particular, we have seen wide adoption and adaptation of spatial metaphors beyond the discipline of geography. Despite its importance, for example in influential metaphors of globalization, geographical scale has remained undertheorized. Since the late 1980s, there have been consistent calls to theorize scale better (eg Smith 1988; Herod 1991; Jonas 1994), and scale is certainly on the agenda for discussion (eg the recent special issue of Political Geography, see Delaney and Leitner 1997; Agnew 1997; Leitner 1997; Herod 1997; Miller 1997; Brenner 1997). This exploratory paper considers how employing new metaphors of geographical scale might lead to new insights into the nature of geographical scale and its utility as an analytical and conceptual tool in constructing applied peoples’ geography (Harvey 1984; Howitt 1993a).

Why metaphors matter

Metaphors shape the way we think about and interact with both the material world and the world of ideas. If we consider the ways in which key new metaphors (or new uses of existing metaphors) shape the way we think, speak and teach about aspects of complex and dynamic geographies, we can glimpse the power of metaphor to illuminate the issues with which we work. Consider, for example, how Doreen Massey’s brilliant ‘layers of investment’ metaphor (Massey 1984, 118) has influenced the way geographers think, speak and teach about historical transformation of industrial localities; or the way in which the musical metaphor of ‘polyphony’ (eg McDowell 1994) has changed how geographers and others deal with issues of representation, difference and diversity.

At some level, all writing, indeed all thinking, relies on metaphors and abstractions to communicate (Ollman 1993). Our representations, even of simple things, can never be the thing itself. When it comes to our representations of complex things—dynamic, multifaceted, complex geographical totalities, for example—our reliance on metaphor to establish, clarify and analyse connections, comparisons and meaning is even greater. It seems, however, that it is easy to lose sight of the metaphorical element in some representations.
The increased importance of spatial metaphors in the social sciences has been noted by several observers (Soja 1989; Barnes and Duncan 1992; Massey 1993; Smith and Katz 1993; Demeritt 1994; Price-Chalita 1994; Gibson-Graham 1995; Silber 1995). Despite this, we rarely find thorough deconstruction of these metaphors, or careful exploration of either the genealogies of the terms used, or the content of the concepts involved. We also find some confusion between abstractions and metaphors in ways that, as Jonas observes, conflate the application of analytical abstractions and metaphorical generalizations (Jonas 1994). In geography, of course, spatial metaphors have long been naturalized as invisible 'master metaphors':

that is, metaphors not simply used to adorn or enliven . . . writing otherwise notorious for its often unpalatable style but actually playing a central role in the shaping and controlling of sociological [and geographical] theory and research (Silber 1995, 324).

The naturalization of metaphors leads to them all but losing their metaphorical value. Metaphors such as 'system', 'market', 'machine', 'organism', 'body', 'field', 'boundary', 'text', 'centre', 'margin' and 'development', for example, have all become naturalized to the point of invisibility as metaphors. Indeed, many of the metaphorical terms used to talk about geographical scale (local, regional, national, global, etc) have become naturalized as categorical givens and are no longer deliberately constructed for a specific analytical or political purpose—if indeed they ever were (Howitt 1993b). They have lost their identity as analytical abstractions and have come to be seen as things in themselves to be dealt with categorically.

Our ability to 'see', and consequently our ability to analyse, the ways in which such naturalized terms are themselves constructed socially (ways which subsequently constrain and construct knowledge) is increasingly restricted. The subtle shift from metaphorical generalizations or abstractions to unthinking applications of naturalized scale labels, disguises a shift to a rather naive and simplistic objectivism, even in those parts of the discipline ostensibly committed to a more 'cultural' or 'humanistic' turn.

If we take Harvey's notion of an applied peoples' geography (1984) as a reference point for evaluating geographers' efforts to understand and intervene in the world, the categories and concepts we use to describe, analyse and affect material, social and cultural realities should be empowering, and provide a basis for social action. Following Ollman's suggestion that we should refuse to 'take the boundaries that organize our world as given and natural' (Ollman 1993, 38), an applied peoples' geography would aim to construct concepts and abstractions that cast new light on the relationships and processes that produce unjust, unsustainable and inequitable realities, in which diversity and difference are subsumed by privileged discourses of power and meaning (eg Howitt 1995; Rushdie 1991; Morrison 1992). In this task, challenging dominant metaphors and exploring new ones is an important part of geographers' conceptual toolkits. Doing this in relation to the rather chaotic concept of scale is long overdue. It is to be hoped that such work might help to unsettle the dominant binaries and master narratives that constrain the way in which geographical 'problems' are understood, and may open up new spaces for understanding and action. In terms of the agenda implied in Harvey's manifesto for the discipline, there is an urgent need for empowering, spatialized politics of scale in the context of globalization in all its diverse forms.

Music has previously been alluded to as a source of metaphor for work on geographical scale (Bird's use of 'scale modulation' 1993, 42). The serendipitous homonym for both geographical and musical scales provides a starting point, but there is, as yet, no thorough discussion of how musical metaphors might provide new insights into geographical scale.

Geographical scale and geographical totalities

Scale has played a pivotal role in the development of geography as an academic discipline, and it is appropriate to consider it as one of geography's foundational concepts. Harvey (1996, 7) identifies space, time and nature as foundational concepts, but acknowledges (1996, 41) that spatial scale has been a source of central confusion for the discipline of geography. Horvath, in contrast, suggests environment, place, space and scale (Horvath 1996). While the completeness of this list might be debated, it provides a useful reference point for discussing how the discipline has dealt with scale. Following Horvath, we could characterize the emergence of descriptive regional geography as a shift from emphasis on 'environment' to an emphasis on 'place', and the subsequent positivist quantitative
Three facets of scale: size, level and relation

In this brief discussion of scale as having aspects of size, level and relation, only the latter will be considered in depth.

Scale as size: map scale as a metaphor of geographical scale
Dealing with scale as an analogue of size has been one of the principal metaphors used in dealing with geographical scale. The genealogy of this approach is outlined by Haggett (1965, 263–5). While this approach has proved productive in tackling issues of description, representation and analysis, it risks a reductionist problem when the metaphorical element and partial nature of size as an analogue of scale is naturalized. The summary table (Table 1), for example, provides a useful reminder of the powerful influence of reductionist metaphors such as map scale, which reduce geographical scale to an issue of size and a hierarchy of size-specific labels.

Scale as level: a pyramid metaphor for geographical scale
Previous approaches to scale have also emphasized scale as level. This has often referred to a level of complexity, or more simply to a level in a hierarchy. One of the more interesting recent efforts to deal with scale as level is Edwards’ paper on environmental security (Edwards 1996), which explores a
geometric metaphor of scale using pyramids in which a multi-faceted web of relations between various systems of security—military systems, economic systems, political systems, societal systems and environmental systems—constructs a distinct set of issues, processes and relationships, which Edwards represents as a pyramid, at specific scales. While this geometric metaphor does provide valuable insights into the relationship(s) between environmental security and other aspects of security at various scales, the reliance on an implicit nested hierarchy ultimately restricts the efficacy of the metaphor, in which interscalar links are difficult to represent or analyse, and in which the ‘individual’ scale nesting beneath the last of the Russian doll-style pyramids is an inadequate representation of the multiple individuals who in fact provide a source for developing these systems. Reliance on such nested hierarchies to represent the complexity of interscalar relations has been considered elsewhere (Howitt 1993b, 38–9) and does not need to be revisited here.

Scale as relation: an underemphasized facet of scale

Building on the assertion (Howitt 1993b, 38) that scale is better understood dialectically than hierarchically, it is argued here that, in addition to aspects of size and level, we should think of geographical scale as also having an important facet of relation. While this paper explores musical metaphors to illustrate this point, let me first spell out what is meant in more conventional terms.

When we talk about the ‘national’ as a geographical scale, it is clear that there is no simple or necessary correspondence between the scale label and elements of either size or level of the geographical totality being referred to. In terms of spatial size, for example, both Singapore and Russia collect and report information at the ‘national’ scale. For the entire twentieth century, Hong Kong has been a ‘national’ scale space—yet it has now disappeared into the territory of the Chinese national space. In addition to the issue of spatial size, other aspects of size (eg population, economic production, military expenditure, etc) also need to be acknowledged. So, despite the efforts of some to quantify scale in terms of relatively simple issues of size, there is clearly something else going on. Although the conventional use of such a label is more likely to be to emphasize scale as level, rather than scale as size, the ‘national scale’ can also be seen to encompass a wide range of organizational arrangements—unitary states, federal states, republics, monarchies, authoritarian governments, democracies and so on. So, clearly, there is no simple or necessary correspondence between the metaphorical label ‘national’ and level, any more than there was in relation to size. So, when we refer to issues involving the ‘national scale’—what is being implied?

By thinking about aspects of scale as relation, we may begin to fill in some of the gaps left by a too-narrow focus on size and level as metaphorical facets of scale. Clearly, when dealing with complex national geographies (geographical totalities analysed at a national scale), we need to consider a number of relations between geopolitics, territory, structure, culture, history, economy, environment, society and so on. Explaining just what makes the term ‘national’ an appropriate scale label in a particular circumstance, therefore, requires us to address these relations precisely. That is, it is these relational, dialectical webs that make the word ‘national’ a sensible metaphorical label for examining certain sorts of geographical totalities. In post-Cold War Europe, for example, the label ‘national’ has intruded to unsettle many aspects of the hegemony of nation states as the locus of ‘national’ issues.

Musical metaphors and scale as relation

I became interested in exploring musical metaphors for geographical issues when I began to recognize the powerful links between particular musics and particular places (or at least particular musical cultures that we so often linked closely to particular places). In terms of scales, for example, one can hear an Indian, Javanese or Arabic scale, even played on a Western keyboard, and recognize its origins. Not only is there the serendipitous homonym for both musical and geographical scales, but there is also a parallel between what I have come to think of as geographical totalities and musical totalities. In music, analytically discrete elements such as scale, tempo, timbre, rhythm, pitch, melody and harmony construct musical totalities that are greater than the sum of their component parts, in much the same way as I suggested earlier that the foundational conceptual elements of environment, space, place and scale underpin geographical totalities that are greater than the sum of these component parts. Some of these parallels can be seen in the history of relations between music, science, nature and cosmological order (eg James 1994).
Table 2 Major scale sequence

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Table 3 C-major scale

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Table 4 Dorian mode

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So, what is it about musical scale that might lead us to a better understanding of ‘scale as relation’ in our discipline? First, let us consider what a scale is in music. Fundamentally, it is a sequence of tones in a specified relationship to each other. The term is derived from the Latin scala (ladder). In Greek, the preferred term is dromo (road). Regardless of the starting point (in terms of pitch), a musical scale provides a predictable sequence of notes. In composing a musical totality, a composer or performer can use a specified scale to limit the range of tones to be included in a composition. A scale by itself, however, does not constitute what a layperson (a non-musicologist) would understand as a composition or musical totality. Rather, it is one of the blocks from which musical totalities, whether musical composition or performance, can be built. Composers and performers draw on skills in many other areas to build musical totalities. But, and this can be seen from the effort that many performers put into mastering their scales, facility with scales is fundamental to realization of musical vision—the enabling of one’s musical imagination.

An introduction to musical scales\(^5\)

Since about 1600 the most prominent scales in mainstream western musical traditions have been diatonic scales (containing two half-tone steps in an octave). For example, in a major scale, the sequence goes as per Table 2. In the case of the major scale starting at the note C, this produces the sequence shown in Table 3. Of course, a whole range of other relationships (other scales) can be constructed—some more ‘musical’ (useful) than others; and some meaning more within a specific musical tradition than others. Medieval Church music, for example, used a system of modes (arbitrarily, but interestingly, named after territorial entities from Ancient Greece) that developed as the foundation of the musical scales that provide the foundations of diatonic tonal music (Karolyi 1965, 39–41). For example, the Dorian mode was produced by starting the sequence of notes used in a C-major scale at D rather than C. That is, the same elements were used, but assembled in a different relationship to produce a different scale (Table 4). In contrast to the familiar eight-tone diatonic scales of western musical traditions, Asian traditions often rely on a pentatonic or five-tone arrangement (equivalent to the black keys on a piano). Arabic music is characterized by a seventeen-tone scale. Indian classical traditions are dominated by scales whose sequence of notes are linked to specific moods, times of the day and ceremonial functions. In the blues, a blend of major scale harmonies and modified minor scale melodies (using the ‘blue’ notes of the root scale) is common. In the first half of the twentieth century, ‘classical’ tonal music was challenged by many composers. The
Table 5  C-major scale; A-minor scale

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(tonic) whole tone whole tone half tone whole tone whole tone whole tone half tone (octave)

(C-major scale)

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(tonic) whole tone half tone whole tone whole tone whole tone whole tone half tone (octave)

(ascending melodic A-minor scale—relative minor of C-major; note the tones in common between the two scales)

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(tonic) whole tone whole tone half tone whole tone whole tone half tone whole tone (octave below)

(descending melodic A-minor scale—relative minor of C-major; note that all tones are common between the two scales)

'breakdown of traditional tonality' (Salzman 1967, 7), a shift away from diatonic tonality, can be seen in the music of Debussy, Schoenberg, Stravinsky and others. The adoption of 'twelve-tone' and 'whole-tone' scales signalled a shift from the approach in which the tonal centre becomes the 'global' reference point for framing the resolution of a composition, towards manipulation of simultaneous tonalities, and a more local contextualization of sounds within a composition. In the case of Stravinsky, for example, Salzman suggests that: 'Context ... is everything and it is the context—the new environment—that gives the familiar and conventional gestures a new and powerful inevitability' (Salzman 1967, 51). At the time, the radical shifts in tonality, the rethinking of how scale relationships within a composition might be constructed were seen by musical conservatives to be pushing the boundaries of musicality.

The censorious response to the innovations of twentieth-century composers has been repeated many times in the political history of music. Indeed, in many times and places, certain scales, instruments, compositions and styles have been outlawed as threats to social order (ie threats to patterns of privilege and injustice). The profane Dorian mode was outlawed by Church authorities in medieval Europe, and popular cultural expressions criminalized. In the process, many popular tunes were reconfigured in standardized scales. During English colonization of Ireland, the Irish bagpipe was banned, as was bouzouki, baglama and rembetika music in Greece earlier this century. During the reign of the Colonels in Greece in the 1960s, the popular songs and tunes of Mikis Theodorakis were outlawed. Similarly, authorities in the USA have condemned various musical forms, particularly jazz and rock, in various times. It would not be difficult to draw a parallel between this privileging of certain musical traditions as sacred, authorized and desirable (and the criminalizing of others), and the dominance and authorization of certain approaches to geographical analyses (eg the hegemony of positivist analyses in the late 1960s, or certain sorts of Marxism in economic geography in the 1970s, or the current hegemony of globalization in various discourses). In many ways, hegemonic forces have sought to authorize limits on the range of expression of both the musical and the geographical imaginations.

In most musical forms, it is rare to find a single tonal centre used throughout a composition without alteration. Composers manipulate both scale (the relationship between notes) and key (the specific notes included in a particular scale). Melodies might emphasize notes that are outside the root scale of a composition—as in the use of blue notes in blues, jazz and rock; or the use of complex bends and glissandos in Indian classical music. It is also common to find the use of a harmonic sequence, or a development of scales related to the original tonality (scale and key). For example, a composition might
Table 6  Major scales in the key of C-major and G-major

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(Major scale in the key of C-major)

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(Major scale in the key of G-major, the relative fifth of C-major; note the tones in common between the two scales)

Musical scales and the geographical imagination

In terms of thinking about geographical scale, we can begin to see something very interesting here. In the major scale in the key of C, we find the following notes: C–D–E–F–G–A–B–C’. The same notes are to be found in the descending melodic minor scale in the key of A-minor: A’–G–F–E–D–C–B–A, and most of them are also in the major scale in the key of G: G–A–B–C–D–E–F–G’. In these new scales, however, the role played by any particular note in the sequence—its relationship to the starting point, or tonic note—is quite different to its role in the original scale sequence. In other words, the change of scale has not changed the nature of the notes (their tonality), but has instead changed the relationships between them—it has changed the relationship between the elements being brought together into a musical totality.

If we shift back to the geographical totalities, the musical metaphor allows us to see that in a geographical totality, many elements will remain consistent in a geographical analysis that spans across different geographical scales. What changes in such analysis is not the elements themselves (the features on a landscape, the sites involved in a production process, the ecological processes affecting a social formation, the cultural practices performed by people), but the relationships that we perceive between them and the ways in which we might emphasize specific elements for analytical attention. What we emphasize at one scale may not be what we emphasize at another. For example, I have been involved at various times in researching different aspects of aluminium production and its implications at a variety scales (see Howitt 1992; 1993a; 1993b; 1993c; 1994; 1995; Howitt and Crough 1996):

- Aboriginal rights and interests in resources of the Weipa area (local scale)
- the economic and social geography of the Weipa locality (local scale)
- the corporate strategies and cultures of Comalco/CRA-RTZ and their investments in various parts of Australia (regional and national scales) and the world (international scale)
- the Australian aluminium industry (national scale)
- the international aluminium industry (global scale)

In each of these studies, the Comalco Ltd bauxite mine at Weipa, on the west coast of Australia’s Cape York Peninsula, is an important element. Its relationship to the particular totality under examination in each case is quite different, in a way that is similar to the way in which we might find a C note in several scales playing quite different roles in the musical totality, even though neither the C note nor the Weipa mine changes as a material phenomenon in these different scale contexts. In other words, what is

' modulate' the keys and scales it uses between a small number of related structures: modulating between a major scale and its relative minor scale (eg between C-major and A-minor), retaining almost all the same notes, but changing the focal point of the music to a new tonic note (from C to A): Table 5. Alternatively, a composition may maintain the scale relationship (eg a diatonic major) but modulate the key to its relative fifth (a major scale built on the fifth of the tonic in the original scale). For example, a composition in C-major may modulate to G-major, producing a change in the tonal focus (from the note C as tonic, to the note of G as tonic), while changing only one tone within the scale (F natural to F sharp): Table 6.
'significant' about the Weipa mine depends on the
scale context in which it is placed—it has a different
significance if one is considering its role in producing
social, cultural and environmental change within the
Weipa locality, than if one is considering its role
within the corporate strategies of CRA-RTZ Ltd, or
the international geopolitics of either bauxite or
aluminium production. None of the possible
representations of this mine in these various scale
contexts can be treated as more 'real' than the
others. In terms of the criteria established by an
applied peoples' geography approach (the strategic
demands of working towards Aboriginal em-
powerment at Weipa), it may be (and indeed
has been) necessary to undertake analyses at all
these scales simultaneously, and to consider the
strategic implications of findings on relations and
processes at each scale of analysis. It would cer-
tainly be inappropriate to assert an automatic pri-
mary of one scale of analysis (eg local impacts or
globalized production issues). The geographical
imagination would be unnecessarily fettered by
such action.

Scale as relation
Adopting a musical metaphor to consider how these
various sorts of and scales of analysis might intersect
and inform each other facilitates a shift in under-
standing of scale from an (over)emphasis on scale
as size and/or scale as level, to include aspects of
scale as relation. This allows us to consider not just
the sorts of connections (relations) that help to
constitute particular geographical scales, but also
to begin to see geographical scale as what Bertell
Ollman calls a 'big-R' Relation—a factor in itself, a
structure, system or unit that can be abstracted from
geographical totalities as having some relatively
autonomous (though never independent) causal
efficacy (Ollman 1976). In other words, this
approach may provide a better way for us to talk
about why scale is a co-equal concept with more theorized notions such as environment, place and
space.

Recognizing scale as a Relation—a factor in the
construction and dynamics of geographical totalities—
rather than simply as a product of geographical
relations (a handmaiden to 'real' causal factors)
or simply as a matter of size and level, is a
first step to recognizing how geographical analy-
sis that is more scale-literate might provide
more powerful insights into the nature and
dynamics of complex geographical totalities, and a
stronger foundation for delivering applied peoples’
geography.

Scale and the politics of applied peoples’
geographies
‘The language of scale is too powerful to be treated
simply as a dimension of spatiality’ (Jonas 1994,
257). Jonas' insight confirms that the reduction of
complex geography to a single dimension such as
space is inadequate. In the real world of geopolitics
(at all geographical scales), where the geographical
imagination makes it possible to envisage more just,
equitable, sustainable and diverse futures, scale is a
foundational element. It is not an element of geo-
ographical totalities to be derived from concepts such
as space, time, environment (or nature) or place, but
is a co-equal (co-dependent) concept at the root of
the geographical imagination. In fact, we can find
many real-world examples of the scale politics of
spatiality, where governments, corporations and
non-government organizations simultaneously con-
struct different identities at different scales using
precisely the same elements (note the parallel here
with the musical example of a major scale and its
relative minor). In Australia, for example, trans-
national corporations such as BHP, Arnotts, Holden
and Comalco have all represented themselves as
having a 'local' (ie national) identity, at the same
time as constructing a powerful 'global' identity from
the same corporate elements, in order to secure global
funds, markets, expertise and resources.

In terms of applied peoples' geographies, re-
visioning (and subsequently revising) the nature and
role of geographical scale in this way provides a way
of rethinking the relationship between geographical
research and social action. In the context of in-
creased policy emphasis on the global arena as the
location of opportunity, accountability and pressure,
social action at scales other than the global are at risk
of being misunderstood or marginalized. A better
understanding of the politics of scale (including a
better understanding of the political implications of
scale as relation), provides one way of framing more
effective strategic responses to ostensibly 'global'
pressures. It seems increasingly clear that applied
peoples' geography must urgently tackle the crucial
questions of how to act at multiple scales simul-
taneously; how to think globally and act locally, at
the same time as thinking locally and acting globally
(and at other scales simultaneously).
Notes

1 An earlier version of this paper was presented to the Second Joint Conference of the Institute of Australian Geographers and New Zealand Geographical Society, University of Tasmania, Hobart, 28–31 January 1997. I would like to thank Ron Horvath and Bob Fagan for their continued engagement with me on questions of scale. I would also like to acknowledge Area’s anonymous referees, Rochelle Braaf, Kathie Gibson, Sue Jackson, Andy Jonas, Marcia Langton, Philip O’Neill, David Rich, Sandra Suchet, Liza Tonkin and Jan Turner for their helpful comments on various versions of these ideas.

2 There are some notable exceptions to this. For example, Fraser and Gordon’s detailed deconstruction of ‘dependency’ (1994), and the detailed consideration of the term ‘development’, eg by Escobar (1992) and Sachs (1990; 1992). More generally, see Williams (1976). Both Massey and Smith point out the limited extent to which spatial terms and metaphors have remained ‘unexamined’ (Massey 1993, 142) or ‘require urgent critical scrutiny’ (Smith and Katz 1993, 68).

3 Taylor suggests that some scale labels, such as ‘global’, ‘national’ and ‘local’, are as ‘natural’ (in political geography) as social science’s division of activities into economic, social and political. This spatial organization is simply ‘given’ (1982, 21).

4 At least in the tempered scales that we are familiar with in Western music.

5 This section has benefited greatly from the critical comments of one of Area’s referees on an earlier draft. The intention here is to explore musical scale as a basis for a metaphor of geographical scale, rather than provide a detailed musicological discussion of musical scales. It is hoped that this might also lead to some further dialogue on resonances between musical and geographical imaginations.

6 There is also, perhaps, a parallel to be drawn here with the vigorous objections of some geographers to efforts to develop a new lexicon (often including terminologies and usages that clash with established harmonies), in order to undertake new analyses within the guise of various new ‘isms’. In the music world, the shift towards ‘serialism’ as a compositional technique is a suggestive parallel.

7 In the example below, the melodic minor scale, in which there is a different sequence of notes in the ascending and descending scales, is used. One could also refer to simple (or modal) and harmonic minor scales.

8 Bird (1993, 42–3) refers to modulation in music as a way of shifting between scales of analysis. In contrast to my approach, however, he argues against ‘eclecticism, or synthesis of scales, or a dialectic of scales, or a process of oscillation that may go under such names as reflexivity or recursiveness’. Instead, he argues, ‘we should choose our dominant scale of approach and stick to it, modulating to the other scale only to offset the disadvantages of our approach’.

9 It is worth noting here that the musicological distinction between ‘scale’ and ‘key’ is easily confused by non-musicologists. For instrumentalists, the term ‘scale’ is often used as a shorthand to refer to the particular spatial arrangement of notes (for example on a fretboard) involved in producing melodies in a certain key. My intention is not to use musicological terminology as an analytical tool in geographical analysis. Rather, I simply wish to consider its value as a metaphorical tool. Like all metaphors, its value in casting new light on key issues is diminished by interpreting it literally, or trying to insist on one-to-one correspondence between the substantive and metaphorical issues. That is, of course, the strength and limitation of metaphors.

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