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Beyond rhythmanalysis: towards a territorialology of rhythms and melodies in everyday spatial activities

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Abstract

The recent, rich scholarship on rhythms, following in the wake of Lefebvre's book *Éléments de rythmanalyse* (1992), proves that rhythmanalysis is an important sensitising notion and research technique. Despite its increasing recognition, however, rhythmanalysis has not yet become a proper science as its proponents had hoped. In this article, we argue that rhythmanalysis could benefit from being further developed and integrated into a wider science of territories. What research must attain is, we suggest, not simply a recording, description or analysis of rhythms; instead, the goal is to capture the life of rhythms as they enter territorial formations. A neo-vitalistic conception, in other words, could enrich the standard social-scientific understanding of the relation between rhythms and territories. More specifically, we submit that the notion of rhythm could be explored not only in terms of the recurrent patterns of association it defines, but also with essential reference to the intensive situations and moments it generates and, in the end, territorialises.

Keywords: Social rhythms, Rhythmanalysis, Synchronisation, Science of territories, Territorial intensities

Introduction

Despite the increasing recognition of the importance of rhythms in social and urban studies, rhythmanalysis has not yet become a proper science or a discipline in a specific sense, as its proponents had hoped.¹ Since the slim but important contribution on rhythmanalysis by Henri Lefebvre was published in 1992, shortly after its author's death—and especially since its translation into English in 2004 curated by Stuart Elden (Lefebvre 1992, 2004)—we have seen a wide variety of different studies in rhythmanalysis, often with an empirical focus (e.g., McCormack 2002, 2014; Highmore 2005; Cronin 2006; Edensor and Holloway 2008; Middleton 2009; Edensor 2010, 2012; Prior 2011; Lin 2012; Simpson 2012; Schwanen et al. 2012; Smith and Hetherington 2013a, b; Wunderlich 2013; Goh 2014; Yeo and Heng 2014; Mulícek et al. 2015; Paiva 2016; Reid-Musson 2017). This scholarship proves that rhythmanalysis is extremely important and helpful

as a sensitising attitude and a research technique in the social and spatial sciences. It is even safe to grant that rhythmanalysis has become an acknowledged method of inquiry soon to be admitted in methodology textbooks.

In this piece, however, we argue that social scientific scholarship should now also move *beyond* rhythmanalysis. Clearly, this does not mean to throw away the many important insights contained in the rhythmanalytical understanding of social timespaces. Instead, we suggest, a benefit could come from further developing and integrating such insights into an enlarged science of territories and territorial formations. Rhythmanalysis, we suggest, is an essential component for general territorialology (Kärholm 2007; Brighenti 2010; Brighenti and Kärholm forthcoming). Our proposal is to incorporate the notion of rhythm inside a theoretical framework that enables us to embark in the integral study of processes of social formation and territorialisation at large. Just as

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¹ See, e.g., Lefebvre (2005, p 130): "Rhythmanalysis, a new science that is in the process of being constituted..."

rhythms are spatialised times and, simultaneously, temporalised spaces, so territories are no less temporal than spatial (Brighenti and Kärholm 2016). Territories are constituted through rhythms, but concurrently rhythms themselves—as they explicate themselves socially, biologically or ecologically—cannot but become territorialised. Following an insight from Deleuze and Guattari (1980), the life of territories can be said to be not only rhythmic, but also *melodic*. From this perspective, rhythms remain essential, but they are far from exhausting the phenomenon of territorialisation as a whole. In this case, territories could be seen as refrains of rhythms and melodies joint together; but just as refrains cannot exist without some melody and rhythm, so lived rhythms are in turn always impregnated with melodies and refrains (cf. McCormack 2002; Grosz 2008).

The nexus between rhythm and territory lies not only in the coming together of spaces and times, but more specifically in the *investments of energy*, or *intensities* that accompany it. For his part, Lefebvre acknowledged this fact, writing that ‘everywhere where there is interaction between a place, a time and an expenditure of energy, there is rhythm’ (Lefebvre 2004, p 15). But, as we hope to show in the following analysis, rhythmanalysis does not sufficiently clarify the nature of such energetic ‘expenditure’. The notions of investment, intensity, and credo will be needed as theoretical supplements. What are rhythms an investment in? Ultimately, we submit, rhythms can be regarded as investments in social life as meaning and as concerted action. It is, for example, as attempts at synchronisation that rhythms have a role to play in social bonding (Launay et al. 2016). The social relation as such, in other words, entails the territorialisation of social members onto a special *stratum* characterised by distinctive qualities—namely, rhythmic patterns and melodic lines. That is why we need a more rounded theoretical and analytical framework capable of capturing the specific intensities of the qualitative moments created by rhythms. These singular moments of becoming can be seen as produced by means of more or less salient spaces *and* times as they get caught into a co-constitutive relation—that is, as they become part of a process of territorialisation.

In the following pages, we develop the argument that what we need to attain is neither simply a description of rhythms nor an analysis of rhythms; instead, the goal is to capture the inner life of rhythms as they enter actual territorial formations. We invite to bring a neo-vitalistic conception into the social-scientific understanding of the relation between rhythms and territories. By doing so, we find ourselves in accord with Bennett’s (2010) critical re-appreciation of vitalism, Ingold’s (2016) project for a new anthropological

vitalism, and Amin’s (2015) analysis of the animation of the body/space relationship (we have also applied such perspective for instance in Brighenti and Kärholm 2017). Territorial effects and rhythms can never be reduced to human affairs and interactions alone, as other forces and intensities are entailed. For example, in a specific city, we must consider the ineffable spirit of the city, the *anima urbis* (Wolch 2002) produced by animals, crowds, groups, materials, atmospheres, and so forth. In fact, all socio-material involvements potentially imply animation, since personification and ‘actorship’ often evolve through interaction, and not the other way around (Bird-David 1999). The animistic moment is a moment of faith, one that recognises the yet-to-be-known forces and figures of a situation. Consequently, we suggest that the notion of rhythm could be explored not only in terms of the recurrent patterns of association it defines, but also with essential reference to the qualitative singular *intensive situations* to which it corresponds. Our project thus consists in an intensification of rhythmanalysis to the point of pushing it beyond itself, in order to capture the peculiar *eigenstates* created by specific rhythmic steps and melodic lines in social life.

The paper is structured as follows. In the first section, we review some notable theorisations of rhythms in the twentieth century, ranging from Durkheim and Mauss, through Pinheiro dos Santos, Bachelard, Laban, Warburg and Benjamin, to Lefebvre. This admittedly sketchy attempt to bring a fragmented field together is important for us, in that it enables us to show that the tradition of rhythmanalysis is broader than the usual association with Lefebvre alone. In the second section, we point out some insights and shortcomings of Lefebvrian rhythmanalysis, in order to advance a theoretical discussion that aims to ascertain and clarify the relation between rhythm, synchronisation and territorialisation. The aim of this discussion is thus to extract a series of analytical points in previous theorisations of rhythm that naturally differ from Lefebvre. In the third section, an elaboration on the notions of ‘intensity’, ‘melody’ and ‘presence’ is provided as a key to integrate rhythms, melodies and territories within a single theoretical grasp. In the conclusions, we wrap up the discussion, weaving together the various themes explored in the paper and advance a series of open research questions for debate. While one could say that an exhaustive reconstruction of the literature on rhythms would be enough to fill up a whole paper, if not a book, we emphasise that our treatment of rhythmanalysis is functional to the laying out of a socio-spatial theory (or at least, a theoretical space) where the notions of life, animation, formation and intensity can be brought into a single conversation. The review section is an important

entry point for this kind of theoretical undertaking even though it might be done at the expense of synthesis, lack of extensive elaboration as well as of empirical case studies.

Rhythmanalytical sources

Today, rhythmanalysis is usually associated with the name of Henri Lefebvre; in fact, however, Lefebvre comes in late in a long tradition of studies into the nature and power of social rhythms. Since the late nineteenth century, a movement towards the recognition of the importance of rhythms in social existence emerged in a variety of loci and intellectual milieus.² Some of the key references in this movement include, for instance, the French school of sociology, with Emile Durkheim and Marcel Mauss, the Portuguese philosopher Lúcio Alberto Pinheiro dos Santos and the reception of his work by the French phenomenologist Gaston Bachelard, the Austro-Hungarian choreographer Rudolf Laban, the German art historian Aby Warburg, the cultural theorist Walter Benjamin, and the French moral philosopher Simone Weil. While these names do not at all form a single school of thought, their elaborations appear to contain, as we hope to show, a number of crucial insights concerning the work of rhythms in social life.

In *The elementary forms of religious life*, Durkheim (1912) argued that social life functions on the basis of an essentially *dual* rhythm: such is the sequence of *synods* and *dispersals* of a given population through rituals. The synods are moments where the members of a social group meet in ritualistic forms in order to exist collectively. Durkheim famously believed that even in the most remote societies (the Australian aboriginals were his case of choice) it is religious assemblies that provide the blueprint for all types of social synodic moments. By establishing the basic dichotomy between the sacred and the profane, religion creates and enforces the cleavage between the collective and the individual, with ritual performances embodying the collective as ‘a kind of God’ materialised before the individual’s eyes. In Durkheim’s view, social life is thus rhythmic by nature, with social rhythms sitting upon, but not coinciding with, cosmic, biological and psychological rhythms.

An exquisitely heterodox legacy of Durkheimian sociology is the 1939 essay *Theory of the feast* by Roger Caillois (a chapter from his *Man and the Sacred*). A former student of Mauss, Caillois identifies the feast as that periodic moment of exception that rhythmically re-actualises

the original time (*Urzeit*) when society itself is created. At regular intervals, social institutions need to be regenerated, purified, re-sacralised, by expelling intoxicating elements and accumulated profanations. The rhythmic occurrence of the feast thus acts in a homeopathic way, unleashing the primordial disorder and its unbridled contagious climate, only to seal it in a timespace accurately set apart from the rest of ordinary, ‘normal’ life. The world can only be regenerated by the feast in a *mythic* timespace that stands in opposition to everyday existence (Caillois 1980[1939], p 129 ff.) Already Mauss (1947),³ starting from the general idea that the human being is a rhythmic animal, explored the rhythmic social functioning not only in ritual moments (as Durkheim had done) but also in a range of cases such as economic and technological activities (Mauss 1950). Acting with others entails entering a shared rhythm, *synching in* with them, which is something Mauss was interested in observing from the immediate bodily level to the most complex institutional arrangements. What he called ‘techniques of the body’ are tools for acquiring and sustaining a shared rhythm of concerted action with others. When it comes to economic life, the basic formats of exchange are tied to specific rhythmic accomplishments. Most famously, for Mauss the gift—and not the barter—embodies the first type of significant exchange: gift making, receiving and reciprocating gifts, are activities crucially sustained by a rhythm. In turn, the rhythm of the gift is shaped by the contradictory requirements of morality and competition.⁴ For instance, the moral rule that the gift must always be reciprocated establishes an in-between time that is imbued with waiting and *expectation*. Such dense time of waiting, filled with the waiting for acceptance and reciprocation, so to speak *recharges* the rhythm of the exchange itself. Given that the question about *when* is the right time for a gift to be reciprocated remains systematically under-determined, the time of expectation is not a chronological, but a chronic time—it is tense, and can always degenerate into fight (Brighenti and Kärholm 2016).

Playing (both playing instruments and playing more generally), listening to music and dancing are perhaps some of the activities where rhythm matters most immediately and compellingly at the bodily level. Also, these activities are intimately connected among themselves. In his late 1880s tracts against Wagner, for instance, Nietzsche protested against Wagnerian music on the

² It should be noted that our reconstruction of the sources of rhythmanalysis is necessarily selective. For an extensive review, see for example, McCormack (2002, p 476) and Mels (2004).

³ Indeed, Caillois took Mauss’ classes from 1933 to 1939. In turn, Mauss was Durkheim’s nephew. Caillois directly references both in his work.

⁴ Far from being a merely pacified interaction, the gift always borders with war, so that veritable ‘gift races’ are found among various populations (most famously, the *potlatch* of the North-Western American Chinook people).

ground that the latter inhibits the natural, inborn tendency of the listener towards movement and dance. Wagner represents a perversion in the history of music in that his ‘theatrical’ approach has engendered ‘the complete degeneration of rhythmic feeling, chaos in place of rhythm’ (Nietzsche 1888, §I: 666)—arrhythmic swimming and floating in sound instead of healthy rhythmic walking and dancing. In those same years, a similar, intimate association between music and bodily movement was also established by the American child psychologist Bolton (1894).⁵ If, in the late nineteenth century rhythm is saluted as natural, in the 1920s the dancer and aesthete Rudolf Laban (renown mainly for his ‘Labanotation,’ the standard notation system for recording human dancing movements) made the point that rhythm is, in fact, an attainment that requires special training: rhythms must be *produced*. For Laban, there are no a priori preclusions as to what can be *made* rhythmic. Indeed, there is always the possibility of capturing even dissonant events and ‘eu-rhythmise’ them.⁶ Such is the mission of art and, more specifically, the mission of choreutics understood as *Festkunst*, celebrative art: ‘The art of celebration is meant to connect to the all-encompassing rhythm in its complete and infinite variability through dance. Essentially, the Festival knows no kakorhythmy’ (Laban 1921). Almost contemporary with Laban—and, like him, a former student from Conservatoire de Musique de Genève—Émile Jaques-Dalcroze developed the pedagogical tool of *Eurythmics*. He taught that rhythm is not an external measure to be followed passively, but rather something to be felt and experienced through one’s own body. In order to become eurhythmic, he contended, one needs to move until one feels the rhythm from within rather than just reproduce something imprinted from the outside (Jaques-Dalcroze 1921, especially §4).

In the following decades, a direct confrontation with modern industrial temporality was undertaken by Simone Weil. Reflecting on her work experience at the assembly line in the French Alsthom factory during the years 1934–1935, Weil (1942) elaborated a distinction between *rhythm* and *cadence*: the assembly line, she contended, is defined by an endless repetition of movements, a mechanical cadence that never amounts to a veritable rhythm. What the mechanical cadence of factory work lacks is a privileged moment of suspension, which Weil

described as the ‘flash of consciousness.’ A real rhythm affords smoothness and ease in gesture, which on the contrary simple cadence denies. The two appear irreconcilable as traditional craftsmanship on the one hand, and modern industrial mass production on the other. For Weil, rhythms are vital, cadences deadly. We may notice, in particular, that the fluidity of the rhythmical gesture is created precisely by the possibility of pausing, that is—perhaps paradoxically—by a moment of discontinuity. Weil also observed that someone who proceeds comfortably in his or her rhythm may look slow, even though, in fact, s/he advances in a quite expedite way; instead, workers in a factory appear to constantly hasten themselves in a ‘miserable precipitation that spoils them of any grace and dignity.’ In sum, for Weil, a rhythm contains more than the clockwork time of industrial production—as well as, we may add, of modern organized life. It is the luxury of the pause, the alternation of action and thinking—and especially, the control over such alternation—that makes rhythms superior to sheer cadences. Weil’s reflection importantly highlights that the energy invested in the production of oscillating phenomena has a specific colouration of its own, accounting for the distinction between the diverging experiences of, respectively, cadences and rhythms.

Ranging from large public events to minute bodily gestures, the notion of rhythm thus seems to be pivotal in Western modern theorisation. Some major cultural theorists from the 1920s and 1930s confirm this fact. In 1929, Warburg completed the introduction to his otherwise unfinished Mnemosyne Project, aimed at producing a visual atlas of ‘pathetic forms’ in art history and beyond. His analysis opens with a view of culture at large as a rhythmic—not to say, bipolar—enterprise. Specifically, in Warburg’s view, the fundamental oscillation in human culture occurs through a series of ‘swings’ that alternatively establish and eliminate a conscious distance between the human subject and the world in which s/he lives.⁷ A similar ‘universal’ intuition seems to have paved Lúcio Alberto Pinheiro dos Santos’s lost treaty *A ritmanalise* (1931). The Portuguese philosopher’s speculation on rhythm is only known through Gaston Bachelard, who summarised these ideas in *La dialectique de la durée*

⁵ ‘So strong is this impulse in all classes of people that no one is able to listen to music in which the rhythm is strong and clear without making some kind of muscular movements’ (Bolton 1894, p 163).

⁶ ‘The boundary between eurhythmy and kakorhythmy is, however, fluid. A subtly tuned organ of perception knows how to detect the rule, the order, the structure of the complexity—in short, the existence of harmonic flow even in the most apparently complicated kakorhythmy.’ (Laban 1921).

⁷ ‘The establishment of a conscious distance [*Bewusstes Distanzschaffen*] between the self and the external world may be described as the basic act of human civilization; and if such in-between space [*Zwischenraum*] becomes the substrate of artistic creation, then the prerequisites are met by which the awareness of such a distance can become a permanent social function which, through the rhythm [*Rhythmus*] of swinging into [*Einschwingen*] matter and swinging out [*Ausschwingen*] towards Sophrosyne signifies the cycle between pictorial and symbolic cosmology, whose adequacy or failure as an orienting spiritual instrument thus signifies the fate of human culture at large.’ (Warburg 2010[1929], p 629).

(1936). In dos Santos, rhythm develops into a whole metaphysics: he poses a theory of vibration which is not without similarities with Bergson's philosophy, and resonates with his classmate Leonardo Coimbra's 'creationist rhythm-montology'. In turn, all these authors might have been influenced—perhaps unknowingly—by Gabriel Tarde's (1890) theory of *universal repetition*. A Leibniz-inspired monadology underpins Tarde's vision, where harmony is appreciated as an instantiation of rhythmic resonance.⁸ In Pinheiro Dos Santos, rhythmanalysis was first conceived as a *therapeutic discipline* aimed at improving living rhythms, avoiding dysrhythmias, arrhythmias and cacorhythmias, and enhancing an active rhythmic production on the part of the individual. His attempt thus somehow also resonates with Laban's. Their aim was not just that of setting up a research technique: rather, creating a valuable tool for transforming subjective situations was the actual stake. In this sense, Bachelard (1936) parallels, and opposes, rhythmanalysis to psychoanalysis: whereas the latter offers a gloomy view of the immutable power of the unconscious, the former corresponds to a theory that believes in, and in turn strengthens, the human capacity of transformation and renewal.⁹ Dos Santos's rhythmanalysis is therefore not about *rhythm* in the singular and the abstract, but about *rhythms* in the plural and the concrete.

Bachelard was the only prominent European philosopher to endorse Dos Santos, yet he did so enthusiastically. Following Dos Santos (and, with him, Coimbra) Bachelard (1936, §VIII–IX) recognises that rhythm is the fundamental temporal notion and 'real basis' of temporal effectiveness. Bachelard largely draws on Bergsonian ontology, but he contradicts it on a crucial point, namely the issue of *continuity*. Indeed, for Bachelard, the notion of temporal duration—as well as, more generally, the notion of time—cannot be explained in abstraction from the dialectic tensions that compose it. Duration is rhythmic, made of discontinuities between moments of effort and moments of rest, where time features as, alternatively, a *resource* (affordance) and an *obstacle* (wall).¹⁰ Because life is a discontinuous succession of 'events',

human rhythm cannot but be an active effort at 'rhyth-mising' that mixes active and passive components.

In urban planning and architecture, modernist theorists developed an interest in incorporating rhythms in planning and design. The Russian-German-Israeli architect Alexander Klein, for instance, investigated what has been called 'Frictionless Housing for Functional Living' during the late 1920s. Klein developed a graphic method for the mapping of everyday choreographies, and presented dwellings that could afford predictable and desynchronised rhythms of movement (Lueder 2017). Le Corbusier (Corbusier 1966[1924]) famously constructed the spatial necessities of city planning on the basis of the everyday shift between work time and spare time (*heure du travail* and *heure du repos*). This reads as an interesting elaboration on the Durkheimian dichotomy between the individual and the collective, and the ensuing rhythms of gathering and dispersal of the population. The well-planned city envisaged by Le Corbusier was one with steady, predictable rhythms. The modernist vision of society and the city (that then dominated the 1950s and 1960s, stretching until the 1970s), can in turn be seen as different from the following more fluid approach to rhythms endorsed by theorists writing in the so-called post-Fordist wave, imbued with an ideology known as postmodernism in the arts as well as the social sciences. In the post-modernist transition, rhythms have become less univocal and more fragmented (Lynch 1972). The current interest by urban planners and human geographers in a range of phenomena known for instance as splintering, temporary and event-oriented urbanism (Graham and Marvin 2001) do, however, reveal the continued interest towards the underlying social phenomena capable of shaping and sustaining rhythms that get transcribed into spatial formations at the urban scale (see e.g. Secchi 2005).

Lefebvre's take on rhythms can at least to some extent be seen as part of his critique against the abstract spaces and temporalities of the modern society and its urban condition. In the period from the 1960s through the 1980s, synthesising the Bergson-Dos Santos-Bachelard lineage and the Marxist perspective, as well as drawing influences from the Situationists, Henri Lefebvre highlighted that rhythms are not merely natural and social occurrences, but also means of class domination. Lefebvre brought up the subject of rhythms in *Critique de la vie quotidienne II* (Lefebvre 1961), then discussed extensively rhythmanalysis in *La Production de l'espace* (Lefebvre 1974/1991)¹¹ and later devoted several texts

⁸ In the 1910s, Leonardo Coimbra was formulating a 'new monadology', while Pinheiro Dos Santos was taking Bergson's classes in Paris, where he met Bachelard (Cunha 2008). In turn, Bergson had taken Tarde's post at the Collège de France, and was well acquainted with the latter's work.

⁹ Decades later, Lefebvre will also follow a similar therapeutic perspective of rhythmanalysis. Echoing Bachelard, in one of his own very first mentions of the concept (in *The Production of Space*) Lefebvre suggests that: 'Rhythm analysis might eventually even displace psychoanalysis, as being more concrete, more effective and closer to a pedagogy of appropriation (the appropriation of the body, as of spatial practice)' (Lefebvre 1991[1974], p 205).

¹⁰ On this point, Bachelard also crucially refers to the psychology of Pierre Janet. See also Bachelard (1957).

¹¹ So, it is actually not first introduced as a concept in *Critique de la vie quotidienne III* (1981) as Sheringham (2006, p 160) seems to claim.

to the subject during the 1980s (Lefebvre (2005[1981]); Lefebvre and Régulier 1985, 1986), later collected as *Éléments de rythmanalyse: Introduction à la connaissance des rythmes* (Lefebvre 1992). As hinted above, Lefebvre's 're-discovery' of rhythmanalysis in the 1970s and 1980s brought a lot of different themes together, but also tended to obscure the many sources that, before him, had already investigated the topic.

In fact, other contemporary French thinkers were interested in the rhythms of everyday life. For example, during the 1970s a writer like Georges Perec and a semiologist like Roland Barthes pointed towards a rhythmanalysis more firmly based in the study of everyday mundane behaviour, and they were both less caught up in dichotomies than Lefebvre in his work. Perec had made his own literary rhythmanalysis (although never named it as such) through brief and repeated observation studies conducted in the early 1970s, working, as Sheringham (2006, p 266) notes, with the problem of how to represent rhythms through difference. For example, in Perec's observation of recurrent busses in *Tentative d'épuisement d'un lieu parisien* (1974), he makes small variations in his notation; first he writes 'Un 63 passe' then just 'un 63' and then, inverting the order, 'passe un 63'. In his 1977 course at the Collège de France, Barthes cast a specific interest in rhythms through the concept of *idiorrythmie* (Barthes 2002; Sheringham 2006, pp 201–206). The idea of idiorhythm come from monastic life, and was originally used to describe the life of the monks on Mount Athos that parted from regulated monastic community. These monks lived as hermits and only joined the other monks in the monasteries during certain festivities. Barthes uses the concept in a more general sense to discuss 'the way the subject engages with the social and cultural code' (Sheringham 2006, p 202) on their own premises.

Barthes' interest thus went towards understanding how the individual could interact with a community without being controlled or subdued by it. Idiorhythmics has to do with how individuals in their relation to others might follow their own path, yet always act through the moods, affects and desires that intersect their life. In a sense, it lays close to Lefebvre's later theory in that it seeks to capture conflicting rhythms and resistance to temporal homogenisation—but there is also a difference. Dolidon (2010, p 4) explains: 'To put oneself in an idiorhythmic state presupposes that one lives at a different pace from the rest of society within society'. This state of rhythmic difference, presupposing some kind of negotiation, implies a more heterotopic approach than the one advocated by Lefebvre; the different rhythms mirror each other in different ways, but there is no pre-given moral or natural right inscribed in any of them. The idea of idiorhythm allows different rhythms to be both

within and outside each other simultaneously—and this is an important point. Rather than basing a discussion in dichotomies—i.e., focusing on dominating or dominated rhythm—we need to look at rhythms of different paces and saliences, i.e. gradients of interdependent or at least co-existing (synchronous and synchronous) territorialisations (Kärholm 2017).

In this section, we have retrieved—albeit necessarily in a summary way—a number of fundamental approaches to the study of rhythms that were developed during the nineteenth and twentieth centuries. It should be remembered that these theoretical discussions (and perhaps especially in the case of Lefebvre) are related to a modern history of urban development, that we unfortunately do not have the space to develop here (but see, for example, Kärholm 2009; Smith and Hetherington 2013a, b). While the authors discussed so far may seem to not have much in common, we in fact believe that a number of analytical insights can be extracted from their interweaving preoccupations. Indeed, they shared not simply a general sensitivity towards rhythms, but contributed to work out a bundle of analytical points, namely: (a) society has a rhythmical constitution; (b) rhythms are not clockwork productions but envelop a degree of non-linear interaction; (c) rhythms become the support of meaning as well as basic regulatory devices; (d) a given rhythmic configuration provides a portrait of a specific society. In particular, the insight that not simply do rhythms intersect space and time, but they crucially interweave energy and meaning is the *fil rouge* that runs through this literature. To which we may simply add: society is meaning, meaning is intensity. Rhythms thus represent ways to cope and articulate intensity in social encounters. Once put in this context, the Lefebvrian synthesis becomes more understandable, albeit less original. A critical reconstruction of Lefebvre's project, which we attempt in the next section, paves the way for a discussion that interprets rhythms as one component, one among many, in the life of territories.

Territorialising rhythmanalysis

Even though Lefebvre was not very keen on recognising his sources of inspiration, there are several merits in his re-capitulation and re-actualisation of rhythmanalysis.¹² The following key analytical points might not have been invented by Lefebvre, but are made particularly clear in his work.

¹² Fraser (2008) has also documented a consistent attitude in Lefebvre to obscure his sources, especially never mentioning Bergson as a major source: Lefebvre, comments Fraser (2008, p 342) 'continues to work with Bergsonism without calling it by that name.'

First, whereas Bergson had emphasised temporal continuity (duration) and Bachelard opposed to it 'evental' discontinuity (dialectics), Lefebvre highlighted that the two aspects must coexist. Indeed, a rhythm introduces both a qualitative difference between moments (discontinuity) as well as, simultaneously, a single movement that leads through the moments and connects them (continuity).¹³ In other words, the first insight is that rhythm itself is a special struggle between continuity and discontinuity.

Second, rhythm is contradistinguished not only by *returns*, but more pointedly by *accents*. The notion of *stress*—ranging from linguistics, through psychology, to everyday language—hints to the existence of qualitatively distinct (stressed) moments, which we may also call *salient* moments. Rhythm thus presupposes the existence of qualitative differences between temporal moments—in Bergson's parlance, these are differences of nature that cannot be reduced to differences of degrees. Both the vitalist and the phenomenological perspectives teach that, for instance, acceleration and deceleration are not simply symmetric events; on the contrary, they possess and convey different and irreplaceable *meanings* in terms of lived experience. Yet the distinction between strong and weak times also makes sense from a structuralist perspective: so, in Durkheim and Caillois, a distinction is advanced between the dense, heightened time of the synod (the rite or public event) and the sparse time of mundane private life (for instance, leisure activities, family business, etc.).

Third, the duality of *calculative* and *emotional* dimensions—the rational-legalistic and the intimate-passionate side—is identified by Lefebvre in these terms: 'Rhythm appears as regulated time, governed by rational laws, but in contact with what is least rational in human being: the lived, the carnal, the body.' As seen above with Mauss, the body is an important source and receptacle of rhythms. In fact, Lefebvre (2004, p 68) suggests that the body is 'the paradigm of rhythmological study'. Following classical French anthropology, Lefebvre discusses how the extended rhythms of the body in the use of tools such as the hammer, but also gestures and mimicry (given that, with Mauss, the body represents the first technical tool of humanity), produce well-characterised spaces. Also in consonance with the studies of micro social interaction (from Simmel to Goffman), Lefebvre (1991[1976],

p 207) comes quite close to describe the process we call 'rhythmic territorialisation': 'through the mediation of rhythms... an animated space comes into being which is an extension of the space of bodies.'¹⁴ The body is both a rhythm machine and a producer of space, capable of expressing and sharing as well as concealing meaning.

At this point, however, a number of questions still remain unanswered: on the one hand, which specific spatial effects do these rhythms and gestures generate? And, on the other, which other dimensions do these spaces draw on that, in turn, intersect and affect rhythms?

Here is where the Lefebvrian approach reveals its limitation. While rich in interesting examples and suggestions, Lefebvre often ends up in discussions reduced to stark oppositions that at times are just naive. This is especially true about his last book, *Rhythmanalysis*, which reads as a veritable catalogue of contradictions and oppositions (see in particular Lefebvre 2004, p 68). Such dualism is especially unsatisfactory by his own standards, given his long-term advocacy of trialectics and the introduction of a 'third body' capable of bringing indeterminacy into a system. In particular, Lefebvre's repeatedly discussed opposition of *temps cyclique* versus *temps linéaire* (already introduced in Lefebvre 1961), while intuitive and at first sight appealing, turns out to be misleading. This dichotomy is in fact a reiteration of a nostalgic and, at bottom, moralistic idea about modern time regarded as mechanic and unhealthy, as opposed to the ancient time seen as organic and curative. The opposition of 'qualitative' and 'quantitative' rhythms, or cyclical and linear, indulges a Manichean vision of good versus bad (something that also lurks in Weil, but is more subtly elaborated). It is not hard to claim that we need a more rounded understanding of rhythms capable of remaining open and sensitive to rhythmic phenomena and the role they play, without trying to define their nature—whether they are endogenous or external, good or bad—outside of the situations in which they are enacted.

In a similar way, Lefebvre's characterisation of eurhythmia and arrhythmia appears as a transcription of classic notions of utopia and dystopia that is not particularly helpful. In fact, we must acknowledge that there is no *fundamentum in re* for this distinction: The prefixes 'eu-' and 'dys-' or 'a-' are always correlative to a judgement, to an evaluative point of view. Therefore, similar distinctions cannot be grounded in pseudo-universal binaries such as nature/culture and so on, as Lefebvre does; instead, what amounts to a 'good' or 'bad' rhythm must be gauged in the light of a political stance and a cultural context.

¹³ More precisely, Bachelard (1936, p 76) characterised rhythm as simultaneously 'structure' and 'construction'—which might be a sophisticated way to include both unity and variation. A similar notion of unity-with-multiplicity is also already present in Canetti's (1960) conceptualisation of crowds, specifically where Canetti described the crowd as a wave-like event which is unique and multiple at the same time. Also, the Durkheimian sociologist Gurwitsch (1963, p 53) had already remarked that rhythms entail a constant search for balance between temporal continuity and discontinuity.

¹⁴ The idea that social interaction 'animates' space was clearly first elaborated by Simmel (2009[1908], §IX).

Finally, Lefebvre's approach to rhythm analysis is imbued in a phenomenological background, as his insistence on 'lived' temporality confirms. Here, we are far from disputing the importance of phenomenology for social theory; but as we have argued elsewhere, phenomenology—understood as the analysis of the absolute local here-and-now—must be complemented by ecology, i.e. the analysis of relative global elsewhere-at-other-times (Brighenti 2008). That is why, as detailed in the next section, in order to advance towards a more complete understanding of the processes at stake, rhythms must encounter territories, the latter being complex creations that are as much phenomenal (imbued with meaning) as they are ecological (generated by operative relations).

Synchronisation and presence

'Operative relations' is another expression to indicate affections. The latter prove pivotal for a territorialological understanding of rhythmic productions and transformations. The immediately affective dimension of rhythm has been widely recognised: what is rhythm if not an *attempt at synchronising* affects (action + reaction, that is, interaction)? The role (and different scales) of synchronising movements was early on acknowledged in time-geography (Buttimer 1976; Carlstein 1978), but the animations and affects of synchronisations have been less studied. In fact, through its affective component, a rhythm often tends to induce other rhythms; the beat of the drum or the rhythm of a swing often brings out a mimicking bodily movement; other people's gestures can be mimicked and even predicted and synchronised in social bonding (Launay et al. 2016, p 4). Retail has known and exploited this tendency of mimicry—through e.g. muzak, escalators and revolving doors, setting a rhythm in order to keep up the pace of the shopper—for decades if not more (Kärrholm 2009). Affect, in other words, affords synchronisation through mimesis. Some studies suggest that rhythms without a specific sender might have an agency, and can improve behaviours as a kind of socialising-by-proxy (Launay 2015). Synchronous behaviours such as music, dance, sport and exercise might be developed to enable more time-efficient ways of bonding with larger groups than, for example, through inter-individual grooming (Launay et al. 2016). Affective synchronisation is thus—much like objects as viewed by Strum and Latour (1991)—something that makes our societies stick together, something that helps us structure large patterns of order.

We suggest that rhythm can be best tackled as part of the process of territorialisation. It is, of course, well known that rhythms tend to extend from bodies and into social space, and that rhythms are constituents of everyday interactions (Mels 2004, p 6; Edensor 2010). There is

also a growing literature on the role and specificities of *urban* rhythms (Crang 2001, 2007; Smith and Hetherington 2013a, b; Mareggi 2013; Mulícek et al. 2015), and although the relation between rhythms and territories has been recognised (for example, Deleuze and Guattari 1980; Brown and Capdevila 1999; McCormack 2002), rhythms in general still tends to be treated as unrelated to the processes of territorialisation on which they rely and through which they find their form. Here is where we think that rhythms cannot do without territories, just as territories cannot do without rhythms. Rhythm is a functional component of a territory, in that it enables the synchronisation of associates within a 'synchoric' situation. But, rhythms themselves cannot account for the synchronisation that is essential in order to enable consociates to interact. A rhythm gives *an imprint* to a territory, but does *not resolve* it. Territories are experiments with social life and social encounters, they contain both a stabilising dimension (supported by rhythms) and an expressive dimension (a radically empirical measure-setting attempt that escapes rhythm). Rhythms are always already part of a territorialised body, or formation—they have *intensity* as well as *presence*. So, rhythms are always already entangled in processes of territorialisation. Rhythms have, as we have suggested, a kind of life of their own; correspondingly, to live or to come to life (to animate) is also a process of formation, an investment in a living and to some extent continuous body. We are thus never talking about abstract, disassociated rhythm per se, but rather about heartbeats, drum rolls, tides, cigarette breaks, etc.—all these rhythms are embodied and territorialised, and as such they always echo into other kinds of territorial production.

Following Deleuze and Guattari (1980), territorialisations are not only rhythmic but also melodic, they generate whole landscapes. Melodies mingle with rhythms to create the intensity and singularity of a particular territorial presence, so that meaning can be perceived and put to fruition. For instance, a child who plays composes his/her own melody of movement and sound; interacting children will likewise compose plural—harmonic or disharmonic—lines. Certainly, these lines also possess rhythm, but the rhythms of play are always counterpointed by melodic elements that express their unique presence. In this sense, Deleuze and Guattari speak of 'refrains', which they also conceptualise as 'blocs of becoming'. A refrain, it appears, is as much rhythmic as it is melodic. In their theorisation of territorial 'lines of flight', Deleuze and Guattari were influenced by the French educator Fernand Deligny, who had described as *lignes d'erre*—'wander lines'—the trajectories traced by the autistic children he was taking care of in the early

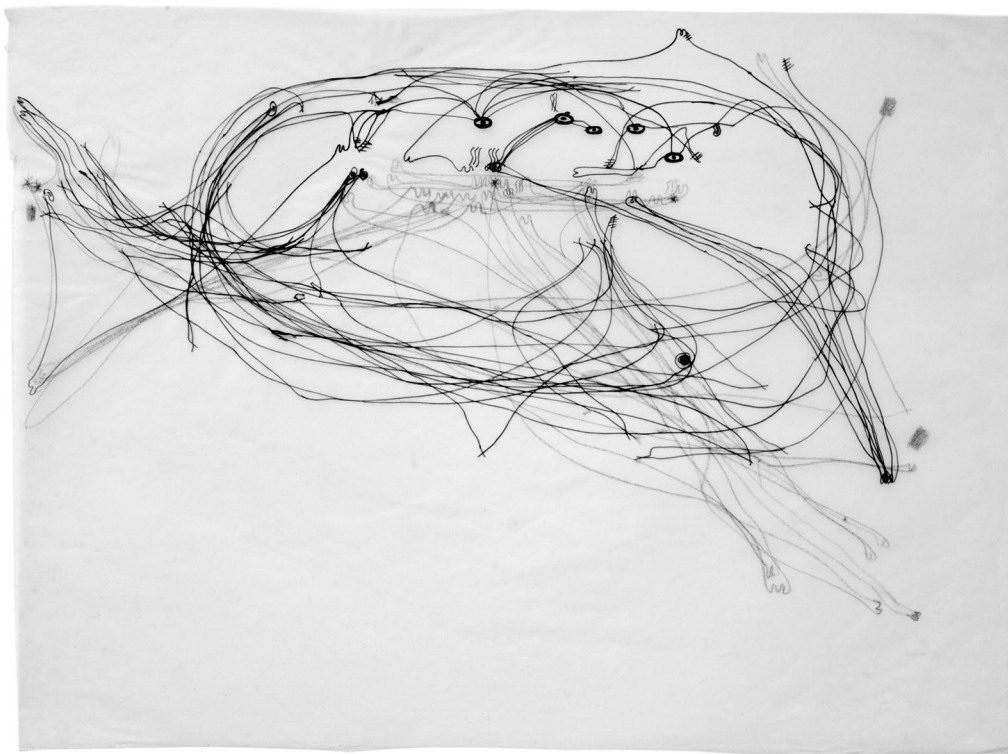


Fig. 1 Fernand Deligny, *Lignes d'erre* [Wander Lines]. Courtesy Maison d'édition l'Arachnéen, Paris

1960s in the isolated village of Monoblet, in the Occitanie region (Deligny 2013) (Fig. 1).

Some would even dispute that the activities of these children amounted to anything like playing; but in fact, drawing his maps, Deligny was reproducing the gestures of the children taken care of in his residential programme as they themselves compulsively drew traces and wandered around in a repetitive, endless fashion. Deligny has also described the problems some these children faced in going from one moment or activity to the next one, for example, from peeling an orange to eating it (Deligny 2015, p 222), seemingly loosing themselves in the singularity of each activity. The repetitive rhythm of peeling is deterritorialising the associated time-space of “eating an orange”. The gesture is not fulfilled but kept as if before a hiatus, lost in a seemingly non-significant rhythm. However, an activity is never just a rhythm: “If the acting of scrupulously peeling an orange remains suspended—and, then, a gesture, we might say that what is involved is an offering without a ‘to whom’” (Deligny 2015, p 225). The rhythm is thus still an investment in life—it is part of a life, it is alive. In the writings of Deligny we see how action seemingly devoid of intention and signification, without the ‘thought-out-project’, also has its melodies. Actions such as drifting and searching, Deligny (2015, p 52) tells us, can be seen as belonging to the same order,

they both involve investments and intensities. The rhythms of certain gestures might look empty to us, they might at first seem like detours without any discernible patterns, or nonsensical and stuck in endless repetition, but even so they have melodic counterpoints pregnant with a refrain.

Similarly, the psychoanalyst Bruno Bettelheim, working at his Orthogenic School for Disturbed Children at the University of Chicago in the immediate aftermath of W.W. II, noticed how emotionally disturbed children tended not to play in official playing spaces, but rather privileged in-between spaces like stairways (Bettelheim 1950, p 116 ff.). By doing so, they were undermining established territorial associations (Kärholm 2007). In other words, playing children can also de-rhythmise the allotted playing spaces by introducing their own specific melodic counterpoints. By establishing ‘playful’ activities out-of-place they de- and re-territorialised both the staircase and the playground. Again, what from the perspective of the rhythm analyst might seem as the adding or breaking of a rhythm, might in fact be a new emergent ecology of play, full of new territorial associations.

The difference between rhythm and melody which we would like to assert here can perhaps be explained in parallel with the distinction between *affectio* and *affectus* in Spinoza (Deleuze 1981, pp 66, 67): whereas

affectio (affection) is the synchronic ‘geometric’ image that encapsulates the situation of bodies as they encounter and are affected by other external bodies, *affectus* (affect) refers to the on-going ‘sentimental’ variations and transitions that in a living duration correspond to a higher or lower capacity to act in a body. In other words, affects are ‘feelings’ formed by the geometry of affections. Similarly, the image of rhythms is made ‘transitive’ by the emergence of melodies. In sum, it seems as if the generation and regeneration of territorial production is as melodic as it is rhythmic: the territory is born again, it can seemingly become the same, over and over again, while also changing and ever increasing its own complexity.

Rhythms are not found in pure states. Instead, they only come to exist in landscapes of ecological relations, as soon as those relations come to be territorialised. In fact, it is only through an ecological perspective, where different operative relations across different times and space are at play, that the territory-rhythm complex can be fully understood. The formation of a specific territorial duration demands some kind of temporal desingularisation, i.e. when the territory at one moment becomes increasingly similar or replaceable with itself at another moment. The order that makes a present territory share an identity with that of its past is rhythmical, even *chronological* (Brighenti and Kärholm 2016). However, this difference does not evolve in accordance with chronological measures, rather, it brings with it recurrent *chronic* ruptures with processes of resingularisation in its wake. This way, the territory also becomes a veritable *individual*, a unique moment in time and space, different from other similar territories of the same sort, but also different from itself as it was before. Similarity and difference are co-produced simultaneously. Besides being rhythmic, the territory—understood as a synchronic production—enfolds its elements in melodic ways that might transform or change its existing rhythms into new ones. In sum, rhythms are never neutral or devoid of melody. The seeming neutrality of the rhythm is an effect of the process of abstraction and temporal desingularisation, where one moment becomes associable with another. This production of rhythm is, however, always part of a process of singularisation that entails the presence of an intensity (if nothing else, in the intensity of a now different for a “then”), whereby an investment of energy is discernible.

Conclusions

Going ‘beyond rhythmanalysis’ does not mean discarding it, rather, prolonging it into a more complex endeavour. In this article, we aimed to make rhythms encounter territories in order to theorise how rhythmic production interweaves with territorialisation processes at large in

all their dimensions. Reviewing some crucial theorisations of rhythm since the late nineteenth century, and more intensively during the 1920s and 1930s, and looking at the continuation of this tradition since the 1970s, we have observed how rhythms have been studied as a vital part in the very forming of society, as well as of its different fields, such as religion, urbanism, dancing, pedagogy, etc. We see that rhythms are co-producers of complex and vibrant landscapes of activity through their peculiar character of being absent and present at the same time—in other words, through their transformative potential. Bridging distances in time and space, rhythms afford and produce connections and patterns, but they are born with melodic lines and counterpoints, and it is through encounters with these that they become intensive, and turn into actual living creatures. One condition for this animation of rhythms, we have contended, is to move beyond dichotomies such as linear/cyclic, mechanic/organic, continuous/discontinuous, qualitative/quantitative that have burdened Lefebvre’s rhythmanalytical project.

In our view, a territoriological continuation of rhythmanalysis seems more promising since it enables a study of rhythms together with melodies and refrains, i.e., it allows for a study of rhythms by means of the spatio-temporal processes and contexts through which rhythms come alive and take on meanings. A territoriological perspective points towards the study of de/territorialisation, de/singularisation of territorial sorts as well as the spatio-temporal expression of properties in the form of affections and operative relations that enable territorial formation to carry and convey social meaning. Rhythms are never encountered as abstract entities, but are always produced in complex processes of territorialisation. It would thus make sense to advance the study of rhythms through in-depth investigations of spatio-temporal intensities and presences, instead of paralysing dichotomies. Rhythms are an inherent part of living intensities, social interactions and formations of meaning.

The contribution of this article to the existing literature lies in retrieving a vitalistic take, on both rhythms and territories, by inscribing rhythmanalysis into the field of territoriology. In particular, we argue for an approach that is grounded in phenomenology yet also stretches beyond it, in order to capture the rhythmic, melodic, presential and intensive dimensions of living territories. When dealing with rhythms, the notion of presences and absences, the operative relations of intensities, dormant associations and investments in meaning need to be addressed in a more ecological way. Rhythms depend on, yet simultaneously are a constituent part of, living and continuously shifting territorial landscapes.

Authors' contributions

Authors worked jointly on this publication. Both authors read and approved the final manuscript.

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References

- Amin A (2015) Animated space. *Public Cult* 27(2):239–258
- Bachelard G (1936/1950) *La dialectique de la durée*. Puf, Paris
- Bachelard G (1957) *La poétique de l'espace*. Puf, Paris
- Barthes R (2002) *Comment vivre ensemble: cours et séminaires au Collège de France 1976–1977*. Éditions du Seuil/Imec, Paris
- Bennett J (2010) *Vibrant matter. A political ecology of things*. Duke University Press, Durham
- Bettelheim B (1950) *Love is not enough, the treatment of emotionally disturbed children*. The Free Press, Glencoe
- Bird-David N (1999) "Animism" revisited: personhood, environment, and relational epistemology. *Curr Anthropol* 40(suppl. 1):67–79
- Bolton TL (1894) Rhythm. *Am J Psychol* 6(2):145–238
- Brighenti AM (2008) Visual, visible, ethnographic. *Etnografia e Ricerca Qualitativa* 1(1):91–113
- Brighenti AM (2010) On territorialology: towards a general science of territory. *Theory Cult Soc* 27(1):52–72
- Brighenti AM, Kärrholm M (2016) Three presents: on the multi-temporality of territorial production and the gift from John Soane. *Time Soc*. <https://doi.org/10.1177/0961463x16678254>
- Brighenti AM, Kärrholm M (2017) Domestic territories and the little humans: understanding the animation of domesticity. *Space Cult*. <https://doi.org/10.1177/1206331217737921>
- Brighenti AM, Kärrholm M (forthcoming) *Animated lands*. University of Nebraska Press, Lincoln
- Brown S, Capdevila R (1999) Perpetuum mobile: substance, force and the sociology of translation. In: Law J, Hassard J (eds) *Actor network theory and after*. Blackwell Publishers/Sociological Review, Oxford, pp 26–50
- Buttimer A (1976) Grasping the dynamism of lifeworld. *Ann Assoc Am Geogr* 66(2):277–292
- Caillois R (1980[1939]) *L'homme et le sacré*. Gallimard, Paris
- Canetti E (1960) *Masse und Macht*. Claassen Verlag, Hamburg
- Carlstein T (1978) Innovation, time allocation and time-space packing. In: Carlstein T, Parkes D, Thrift N (eds) *Human activity and time geography*. Edward Arnold, London, pp 146–161
- Corbusier L (1966[1924]) *Urbanisme*. Vincent, Fréal & C, Paris
- Crang M (2001) Rhythms of the city. In: May J, Thrift NJ (eds) *Timespace*. Routledge, London, pp 187–207
- Crang M (2007) Speed = distance/time: chronotopographies of action. In: Hassan R, Purser R (eds) *24/7: time and temporality in the network society*. Stanford University Press, Stanford, pp 62–88
- Cronin AM (2006) Advertising and the metabolism of the city: urban space, commodity rhythms. *Environ Plan D Soc Space* 24(4):615–632
- Cunha RS (2008) *A Filosofia do Ritmo Portuguesa: da Monadologia Rítmica de Leonardo Coimbra a Lúcio Pinheiro dos Santos e a Ritmanálise*. *Philosophica* 31:161–191
- Deleuze G (1981) *Spinoza. Philosophie pratique*. Minuit, Paris
- Deleuze G, Guattari F (1980) *Mille Plateaux*. Minuit, Paris
- Deligny F (2013) *Cartes et lignes d'erre: Traces du réseau de, 1969–1979*. L'Arachnéen, Paris
- Deligny F (2015) *The Arachnean and other texts*. University of Minnesota Press, Minneapolis
- Dolidon A (2010) Barthesian idiorhythmic forms of micro-resistance in the work of Jocelyne François. *Forum Mod Lang Stud* 46(3):310–320
- Durkheim E (1912) *Les formes élémentaires de la vie religieuse*. Puf, Paris
- Edensor T (2010) Walking in rhythms: place, regulation, style and the flow of experience. *Vis Stud* 25(1):69–79
- Edensor T (ed) (2012) *Geographies of rhythm: nature, place, mobilities and bodies*. Ashgate Publishing Ltd., Farnham
- Edensor T, Holloway J (2008) Rhythmanalysing the coach tour: the Ring of Kerry, Ireland. *Trans Inst Br Geogr* 33(4):483–501
- Fraser B (2008) Toward a philosophy of the urban: Henri Lefebvre's uncomfortable application of Bergsonism. *Environ Plan D* 26:338–358
- Goh DPS (2014) Walking the global city: the politics of rhythm and memory in Singapore. *Space Cult* 17(1):16–28
- Graham S, Marvin S (2001) *Splintering urbanism*. Routledge, London
- Grosz EA (2008) *Chaos, territory, art: Deleuze and the framing of the earth*. Columbia University Press, New York
- Gurvitch G (1963) *La vocation actuelle de la sociologie*. Presses Universitaires de France, Paris
- Highmore B (2005) *Cityscapes, cultural readings in the material and symbolic city*. Palgrave Macmillan, Basingstoke
- Ingold T (2016) *The life of lines*. Routledge, New York
- Jacques-Dalcroze E (1921) *Rhythm, music and education*. GP Putnam's Sons, New York

- Kärrholm M (2007) The materiality of territorial production: a conceptual discussion of territoriality, materiality, and the everyday life of public space. *Space Cult* 10(4):437–453
- Kärrholm M (2009) To the rhythm of shopping. On synchronisation in urban landscapes of consumption. *Soc Cult Geogr* 10(4):421–440
- Kärrholm M (2017) The temporality of territorial production: the case of Stortorget, Malmö. *Soc Cult Geogr* 18(5):683–705
- Laban R (1921) Eurhythmy and kakorhythmy in art and education 2014. *Body Soc* 20(3&4):75–78
- Launay J (2015) Musical sounds, motor resonance, and detectable agency. *Empir Musicol Rev* 10(1–2):30
- Launay J, Tarr B, Dunbar R (2016) Synchrony as an adaptive mechanism for large-scale human social bonding. *Ethology* 122(10):779–789
- Lefebvre H (1961) *Critique de la vie quotidienne*. Tome II: Fondements d'une sociologie de la quotidienneté. l'Arche, Paris
- Lefebvre H (1991[1974]) *The production of space*. Blackwell, Oxford
- Lefebvre H (1992) *Éléments de rythmanalyse: Introduction à la connaissance des rythmes*. Éditions Syllepse, Paris. Lefebvre H. (2004) *Elements of rhythm analysis: an introduction to the understanding of rhythms*. Continuum, London
- Lefebvre H (2005[1981]) *Critique of everyday life*, vol 3. Verso, London. (*Critique de la vie quotidienne*, III. De la modernité au modernisme. Pour une métaphilosophie du quotidien)
- Lefebvre H, Régulier C (1985) *Le projet rythmanalytique* (The rhythmanalytical project). *Communications* 41:191–199
- Lefebvre H, Régulier C (1986) *Essai de rythmanalyse des villes méditerranéennes* (Attempt at the rhythm analysis of Mediterranean cities). *Peuples Méditerranéens* 37:5–16
- Lin W (2012) Wasting time? The differentiation of travel time in urban transport. *Environ Plan A* 44:2477–2492
- Lueder C (2017) Evaluator, choreographer, ideologue, catalyst: the disparate reception histories of Alexander Klein's graphical method. *J Soc Archit Hist* 76(1):82–106
- Lynch K (1972) *What time is this place?*. The MIT Press, Cambridge
- Mareggi M (2013) Urban rhythms in the contemporary city. In: Henckel D, Thomaier S, Könecke B, Zedda R, Stabilini S (eds) *Space-time design of the public city*. Springer, Dordrecht, pp 3–20
- Mauss M (1947) *Manuel d'ethnographie*. Payot, Paris
- Mauss M (1950) *Sociologie et anthropologie*. Puf, Paris
- McCormack DP (2002) A paper with an interest in rhythm. *Geoforum* 33(4):469–485
- McCormack DP (2014) *Refrains for moving bodies: experience and experiment in affective spaces*. Duke University Press, Durham
- Mels T (2004) Lineages of a Geography of Rhythms. In: Mels T (ed) *Reanimating places, a geography of rhythms*. Ashgate, Aldershot, pp 3–42
- Middleton J (2009) Stepping in time: walking, time, and space in the city. *Environ Plan A* 41:1943–1961
- Muliček O, Osman R, Seidenglanz D (2015) Urban rhythms: a chronotopic approach to urban timespace. *Time Soc* 24(3):304–325
- Nietzsche FW (1888) *Nietzsche kontra Wagner*. In: Kaufmann W (ed) *The portable Nietzsche*. Penguin, London, p 1982
- Paiva D (2016) Collapsed rhythms: the impact of urban change in the everyday life of elders. *Space Cult* 19(4):1–16
- Prior N (2011) Speed, rhythm, and time–space: museums and cities. *Space Cult* 14(2):197–213
- Reid-Musson E (2017) Intersectional rhythm analysis: power, rhythm, and everyday life. *Prog Hum Geogr*. <https://doi.org/10.1177/0309132517725069>
- Schwanen T, van Aalst I, Brands J, Timan T (2012) Rhythms of the night: spatiotemporal inequalities in the nighttime economy. *Environ Plan A* 44:2064–2085
- Secchi B (2005) *La città del ventesimo secolo*. Roma, Bari
- Sheringham M (2006) *Everyday life: theories and practices from surrealism to the present*. Oxford University Press, Oxford
- Simmel G (2009[1908]) *Sociology*. Inquiries into the construction of social forms, vol 2. Brill, Leiden
- Simpson P (2012) Apprehending everyday rhythms: rhythm analysis, time-lapse photography, and the space-times of street performance. *Cult Geogr* 19(4):423–445
- Smith RJ, Hetherington K (2013a) Urban rhythms: mobilities, space and interaction in the contemporary city. *Sociol Rev* 61(5):4–16
- Smith RJ, Hetherington K (eds) (2013b) *Urban rhythms: mobilities, space and interaction in the contemporary city*. Wiley, Chichester
- Strum SS, Latour B (1991) Redefining the social link: from baboons to humans. In: Schubert G, Masters RD (eds) *Primate politics*. Southern Illinois University Press, Carbondale, pp 73–86
- Tarde G (1890) *Les lois de l'imitation*. Alcan, Paris
- Warburg A (2010[1929]) 'Menyimosyne Einleitung'. *Werke*. Suhrkamp, Berlin
- Weil S (1942) 'Expérience de la vie d'usine', in *Œuvres complètes*, 1991, t. II, v.2. Gallimard, Paris, p 296
- Wolch J (2002) *Anima urbis*. *Prog Hum Geogr* 26(6):721–742
- Wunderlich FM (2013) Place-temporality and urban place-rhythms in urban analysis and design: an aesthetic akin to music. *J Urban Des* 18(3):383–408
- Yeo SJ, Heng CK (2014) An (Extra)ordinary night out: urban informality, social sustainability and the night-time economy. *Urban Stud* 51(4):712–726

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