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Multi-Level Perspective and Theories of Practice: a mistaken controversy?

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Debates are the lifeblood of academic enquiry. In the thriving field of sustainability transitions, an interesting discussion has flourished about the merits of and relationship between two analytical approaches known as multi-level models of innovation and theories of social practice. For practitioners and researchers interested in mobility transitions, this discussion illustrates how different ways of conceptualising social change can result in different strategies for policy intervention. What is the nature of this debate and could it turn out to be a mistaken controversy?

'Multilevel' models of innovation were inspired by Rip and Kemp and were further developed by Frank Geels, among others. This analytical approach focuses on transitions in socio-technical systems and follows socio-technical (green) innovations (for example, fuel cell technology) from their inception to their adoption and application. A central concern is understanding how changes in the environmental, political, economic and cultural context (for example, the desire for speed) may create opportunities for environmental innovations to replace dominant socio-technical regimes (for example, oil-based automobility) and become normalized. The relationship between these three layers of analysis (niche, regime and landscape) is thus one of coevolution and mutual adaptation.

In the field of sustainable transitions, theories of practice gained prominence partly as a solution to sustainability concepts that consider behaviour a matter of individual choice and consequently advocate policy instruments that help individuals make more informed, 'greener' choices (for example, providing information or price incentives). Departing from this individualistic understanding of action and change, theories of practice ask what the difference is when we take practices, such as driving, cooking, cycling or bathing, rather than individuals as the unit of analysis. Practices here are understood as combinations of skills, meanings and materials. For example, cycling may be associated with a healthy body, but also requires a bicycle and knowledge of how to use it. Under this approach, the social dimension is understood as a thick, evolving fabric of interconnected practices that change as skills, materials and meanings change. This leads to an understanding of spatial and temporal rhythms of society as directly related to the emergence, diffusion, decline, and disappearance of practices.

Whereas the policy tools proposed by multilevel models of innovation often focus on the promotion and spread of technological innovations, policies informed by theories of social practice instead try to intervene in the evolving fabric of social practices in a way that helps spread sustainable practices and limit undesirable ones.

Although both conceptual approaches have been applied to a transition agenda since the early 2000s, it was only during the second half of the 2000s that a dialogue between advocates of both models emerged. Multilevel models were criticised for their emphasis on technological innovation and infrastructures of supply. And despite references to systemic, co-evolutionary processes, multilevel models were accused of ignoring lifestyles and patterns of consumption. Moreover, it was suggested that they reconsider tacit assumptions about the way problems are framed, who the key players in socio-technical transitions are and, above all, the very idea that transitions can be managed. In light of these shortcomings, the call was put out for a greater awareness of the diversity of approaches to social systemic change. Additionally, theories of social practice were highlighted for their ability to enhance the study of sustainability transitions. Subsequently, the dialogue has been enriched with nuanced understandings of how each analytical approach conceptualises the social in the socio-technical tandem, the role of power, agency and inequality in transitions, the explanatory power of each model, and ways of accounting for change and stability.

In light of this unfolding exchange, certain questions may be posed. To what extent have the differences between the two models been overemphasised or even misunderstood? What similarities may have been overlooked? Is there a way to combine theories of practice and multilevel models so as to produce more comprehensive and detailed accounts of transitions and more accurate policy tools? Is this possible and/or desirable? What is lost or gained in this process? Two scholars who have contributed to the development of transition studies explain their understanding of each conceptual model, their respective virtues and implications, and the potential and limitations of combining different approaches.

Javier Caletrio

To learn more on these topics:

Two essential readings (by Javier Caletrio):

- *The Dynamics of Social Practice: Everyday Life and how it Changes* - by Elizabeth Shove, Mika Pantzar and Matt Watson
- *Automobility in Transition? A Socio-Technical Analysis of Sustainable Transport* - by Geels, Kemp, Dudley and Lyons
Crossed perspective (by Matt Watson and Frederic de Coninck):

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Debates surrounding the consequent societal challenges – health and wellbeing linked to climate change – require an understanding of societal change. Societies are dynamic entities in constant flux between change and stasis. The term ‘transition’ attempts to explain these processes and their outcomes. Multi-level perspectives (MLP) and theories of practice promise nuanced yet parsimonious indications regarding the possibilities for transition toward different configurations of societal organization.

I regard theories as different lenses for examining and shedding light on social phenomena and issues. In this debate, the phenomena are broad processes of social change and the issue is knowing how societies might be organized such that basic practices like mobility are less resource-intensive. Different phenomena and issues require different lenses, which also allow similar phenomena and issues to be explored from different angles. I therefore do not approach this debate as a matter of MLP or theories of practice, but by considering what type of light each approach sheds on the phenomena and issues in questions.

MLP and theories of practice have been mobilized with regard to environmental sustainability in recent years. Both theories have been developed relative to the societal phenomena of climate change and ask the question 'how to achieve sustainability'. Much attention has been given to 'Sustainable Production and Consumption' (SPC). The idea is that, in a context of climate change, environmental degradation, dwindling resources and declining bio-diversity, research on these two fundamental areas of human activity is necessary, as they must change together to make significant progress towards sustainable development (e.g. factor 4-10). MLP and theories of practice have gained ground through their joint promise to move beyond technological solution- (supply) and individual lifestyle choice- (demand) centered solutions that dominated early SPC discussions.

Supported by numerous case studies, MLP on transitions offers a theoretical framework of the recursive ways through which technological and organizational innovations emerge relative to broader socio-cultural, economic and political processes. The approach argues for a focus on the socio-technical dimension, implying an inextricable link between society and technology. Its multi-dimensional, nested hierarchical framework is succinctly outlined by Geels (2010: 495) as follows: 'MLP distinguishes three analytical levels: niches, the locus of radical innovation; socio-technical regimes, which are locked in and stabilized on several dimensions; and an exogenous socio-technical landscape. These 'levels' refer to heterogeneous configurations of increasing stability. MLP proposes that transitions - defined as regime shifts - come about through processes that interact within and between these levels. Transitions do not come about easily, as existing regimes are characterized by lock-in and path dependence, and are oriented towards incremental innovation along predictable trajectories. Radical innovations emerge in niches, where dedicated actors nurture alignment and development on multiple levels to create 'configurations that work' (Rip and Kemp, 1998). These niche-innovations may have greater success if changes in the external landscape exert pressure on the regime that lead to cracks, tensions and windows of opportunity.'

MLP studies explore the processes by which innovations (radical and incremental) generate societal changes. Innovation exists in systems, which are often defined through

sectors or domains (e.g. electricity or energy, cars or mobility, music or media) wherein technological and societal changes are inter-dependent. Critical 'actors' active in these processes of change include financial institutions, cultural intermediaries, governments, businesses and 'users' (of the innovation). With a focus on technology, empirical studies have looked at examples such as the emergence of automobiles (see *Automobility in Transition? A Socio-Technical Analysis of Sustainable Transport* for examples), steamships, new farming technologies and renewable energy technologies. All emphasize the lock-in effects of landscape and regime-level configurations, and their capacity for creating opportunities for incremental innovation through shifts in political debate and social values. Climate change debates and rising environmental awareness are good examples of how landscape-level shifts create opportunities for change at other levels. Niche level innovations, on the other hand, can lead to radical changes by disrupting the landscape and regime levels. It is partly for this reason that many MLP scholars focus on grass-roots initiatives and emphasize 'bottom-up' transitions.

Applied to mobility, examples of system transition point to the reconfiguration of elements across different levels (Spurling & McMeekin, 2014). At the niche level this includes cars with alternative power sources (battery/electric vehicles, biofuels, hydrogen fuel cells) and new fuel or charging infrastructures. At the regime level this might include: taxes for limiting traffic in urban settings and tolls for motorways, (which would privatize road access); reducing car use due to high oil prices (e.g. Peak oil), high carbon taxes, congestion charges and parking fees; and, changes in vehicle ownership (as the latter becomes more expensive) towards car sharing, car-rental and carpooling. Finally, at the landscape level, this might include a modal shift towards trains, trams, buses and cycling and more efficient public transport modes based on integrated transport systems with better modal connections.

MLP and practice theory are intellectual projects still in the making. They are part of a coherent overall position because, despite different substantive orientations, they have several key similarities. First, units of analysis (socio-technical systems and practices) are conceptualized as heterogeneous configurations with co-evolving elements. Second, agency is perceived as structured or shaped by routines, rules, habits and conventions. Third, they address the analytical tension between the reproduction of current systems and normal ways of life ('stability') and the emergence of alternatives that can lay the foundations for transition ('change'). Finally, they share a processual orientation (Abbott, 2001) that emphasizes co-evolution, social interaction, alignments and the struggle between old and new configurations (whether of practices or socio-technical systems). Both approaches see the world as dynamic and filled with interacting social groups that have beliefs, interests, strategies and resources, and that respond to each other's movements (although the emphasis on strategic action varies across practice theory

interpretations).

Despite these commonalities, clear divisions exist. To begin, MLP is a heuristic perspective (or middle-range theory) with an open framework that can accommodate insight from auxiliary theories to address its under-developed aspects. Viewed critically, this point, it could be argued, tends to absorb alternative approaches that challenge its orthodoxy into its framework. The theory of practice is more deliberately a theory with a specific theoretical lens (especially with regard to 'social practices', see Shove et al., 2012). Theories of practice are often criticized for excluding ideas that does not faithfully adhere to their assertion. This is not self-evident; Matt Watson's 'practice systems' approach is a case in point, and as Spaargaren (2011: 85) explains important work is being done to broaden the framework of analysis: "Besides the usual consumption practices of everyday life, there are also practices that are implicit in the reproduction of markets, politics and civil society".

Secondly, although much has been made of the tension between vertical and horizontal (flat) ontologies (see Watson's discussion for details), I would like to suggest that this distinction is less relevant for the practical development of understanding and enquiry. Many 'theories of practice' do not subscribe to a flat ontology, including Bourdieu's analysis of social relations and Warde's defense of theories of practice for studying consumption. Similarly, some analyses based on MLP tend to focus on horizontal relationships, especially at the niche levels, and insist that scaling up is little more than the spread or recruitment of more people to a specific way of organizing practices, often at a local or community level. What is important here is the emphasis on the political economy and power relationships. Different degrees of power and politico-economic interest that influence transition processes are embedded within the MLP analytical framework. The description above of the potential for a mobility transition gives the interests and influence of petro-chemical and automobile industries a key role in shaping current practice configurations and framing debates about potential new configurations. Theories of practice have had less to say about the political economy, although Bourdieu's (1990) account of cultural production and consumption places significant emphasis on the power of dominant social groups to legitimate and reproduce particular practice arrangements.

Thirdly, one of these theories has been more applied to consumption, and the other more to production (McMeekin & Southerton, 2012). Reflecting their intellectual genealogies, theories of practice are more concerned with the cultural meanings and experiences of what people do, whereas MLP has focused more on the current producers and developers of radical innovations than on the shifts in consumption patterns that necessary to absorb these radical innovations. MLP only recognizes consumption through technological adoption and diffusion processes, thus reducing it to a matter of purchase and use. Given

the emphasis on 'niches', analysis tends to identify 'special users', often described as: avant-garde consumers who are early adopters of technologies; 'active consumers' who engage intensively in modifying and developing technologies aimed at a wider market; and civil society organizations, consumer advocacy groups and ethical consumers. In addition to these groups is the mass of 'ordinary users' who, it is assumed, emulate or follow the wave of technological adoption triggered by special users. Ordinary users are viewed as a relatively homogeneous group trapped within the incumbent socio-technical regime. Their attachment to existing technologies provide stability to this regime and is a source of resistance to radical innovations.

To consumption researchers, this Veblenesque 'trickle-down' view is not just dated; it misses the point. As Warde (2005: 131) puts it, "consumption occurs as items are appropriated while engaging in specific practices'. If we want to understand how consumption changes we need to decentralize the act of purchase (and use) and emphasize the meaning of everyday practices. Theories of practice help address this lack and offer conceptual tools for exploring culture (meanings and conventions), social relations (identity, differentiation, inequalities) and skills and competences (including the economic, social and cultural capitals that shape skills). Crucially, through its emphasis on materiality (including technologies and infrastructures), theories of practice share many of the conceptual principles of MLP and are a common ground for theoretical and empirical development. Conversely, the MLP framework has the ability to inform processes linked to the political economy that would facilitate a better explanation of the production aspect that plays a role in shaping social practices.

This is not an argument for fusion or synthesis, but for an alliance of different theoretical lenses that have a common understanding of social change perceived as a matter of processes and interdependencies across a range of heterogeneous elements. The core elements of socio-technical systems are: technical artefacts, scientific knowledge, industry structures, markets, consumer demand, infrastructure, policy and regulation. There is no consensus on a single typology of elements across theories of practice, but most scholars suggest that social practices consist of a combination of material objects and infrastructures, practical know-how and socially sanctioned objectives and meanings. It is essential to know how such elements are currently configured and how they can be 'reconfigured' to promote a transition to sustainability (Geels et al., 2015). Broadening the range of elements 'opens up' the analysis that considers the relationship between production and consumption processes, without reducing supply and demand to a simple question of availability or acquisition of technologies (or goods and services). Such an alliance would also encourage consideration of the importance of a range of actors – beyond governments, business and civil society groups – in configuring systems or practices, which would include social movements, media, advisory bodies, researchers

and special-interest groups. The earlier example of reconfiguring a mobility system offers a brief illustration. In this case several elements were identified as working at all levels of MLP. Theories of practice provide them with conceptual complements for a cultural understanding of mobility and the inter-connected practices in which mobility is embedded (see Matt Watson's contribution for examples). The conceptual addition (by MLP) of different 'actors' active in reproducing or challenging contemporary mobility patterns currently dominated by the private car (from 'driver' advocacy groups to supermarkets that promote home delivery) are an opportunity for greater consideration of the political economy and power.

References:

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Whatever the sustainable society of the future may look like, it will have to be fundamentally different from that of today. The ways in which mobility is related to so many aspects of social life indicate that it will have to change at least as much as everything that surrounds it. Fortunately we do not have to agree on a final design, but rather only on the direction to take and the commitment to start taking steps in this direction. However, the rigidity of deeply unsustainable patterns of life and social order indicate that even this relatively modest ambition requires that we gather all the good ideas we can find and figure out what we need to do with them.

This Mobile Lives controversy discussion is a good test case for undertaking this endeavour. Among these good ideas, theories of practice and the Multi-Level Perspective have gained prominence across different academic fields and thinking about the sort of social change necessary to shift society towards sustainability. Prominent proponents of each approach have argued the incompatibility of the two approaches. But are there grounds for bringing them together? Could there even be reason to believe that doing so could be beneficial by raising new questions to be asked and addressed?

Practice theory offers distinctive and challenging keys to understanding why people end up doing what they do, and how these acts relate to broader social relations that constitute

social order and relative to change. These modes of understanding contrast the orthodox descriptions of behaviour, considered as a matter of individuals making choices that are consistent with their attitudes¹, rather than seeing action as the carrying out of practices. Virtually any recognisable activity, i.e. walking, cycling, driving or bus riding can be considered a practice. By considering it as a practice, each is... ""...a type of routine behaviour that consists of several, interconnected elements: forms of physical activity, forms of mental activity, 'things' and their use, basic knowledge in the form of understanding, know-how, states of emotion and motivational knowledge²."

This definition highlights how practice theory understands doing as much more than attitudes and choices; it encompasses routinisation, embedded and tacit knowledge, norms, things and so on. However, we can also interpret practice in the sense of common usage, simply as referring to what people do and individual habits. However, one would miss the radical implications of the concept. For Schatzki³, "both social order and individuality...result from practices". For such thinkers, practices are central to understanding the recursive nature of relationships between social structure and the details of human action as recursive, meaning that structure and action are co-constitutive of one another.

This is because practices are not only present when a person gathers the various 'elements' necessary – materials, competence and meanings⁴ – to do a given activity. It also exists as an entity. We can illustrate this with cycling and driving, which are considered practices. Thus each exists as an entity in that we can talk about the action of cycling and the elements that constitute it as a practice, including technologies like bikes, accessories and road signs. Each entails specific skills and ways of using the body, each with their own social meanings, norms and rules. But these practices continue to exist as an entity only in and through those who practice them, primarily through people who ride bicycles or drive cars⁵.

This understanding of practice clearly helps us understand why so much of daily life is surprisingly rigid (even given the predictable and catastrophic consequences of these lifestyles, especially in terms of climate change). However, it also provides relevant ways for understanding how change occurs. In terms of distinct practices, change can clearly occur through a shift in the relationship between skills, meaning and materials. Cycling obviously takes very different forms depending on the place (compare Copenhagen and Sheffield, say) and time (compare 1940s London to the same city in the 1990s or today) by representing different configurations between the elements. This highlights the many ways in which routine patterns of human action change, creating possibilities for intervention. However, the real potential of theory of practices to enable an understanding

of social change lies in appreciating the ways practices interrelate. A variety of concepts have emerged for addressing those relationships in recent years, including Shove, Pantzar and Watson discussing bundles and complexes of practices, or Schatzki's analysis of constellations of practice⁶. Each term carries different meanings but seeks to link the different ways in which practices are unified, co-depending and co-constituting one another, regardless of how some of them are unified in time (e.g. ways of storing, eating and clearing up after family dinner) and space (e.g. the practices of office life); or in more clearly co-dependent relationships such as patterns of mobility that allow for close coordination of different practices at home, at work, in shops and in leisure spaces over extended space within a limited time. It is clear that contemporary mobility patterns have co-evolved along with a vast range of other practices and the spaces and times in which they can be carried out.

Theoretically, social change on any scale can be explained in terms of changes in practices. A fundamental social transition would, in principle, be understood as the fruit of processes of change in (the largely routinized patterns) what people do across the many areas of activity in society. Such processes of change in people's activities are always incremental, as the implementation of a new practice is unlikely to be drastically different from the former one. But sometimes these incremental changes come closer together. Moreover, changes in one practice almost always have an effect on other practices. Relationships between practices and change rates can result in incremental changes at higher frequencies and across many practices at once, seemingly amounting to what appears, retrospectively at least, as a phase of rapid social transition. This reflects the challenges of the 'flat ontology' of the theory of practice. This arguably esoteric expression represents understanding of any social reality as a matter of human actions and the material traces (technologies, buildings, infrastructures and more), representations, discourses, meanings, skills and techniques) they collectively produce. In essence, any seemingly important social phenomena – i.e. states or corporations – or social structure such as gender or class are cumulative effects of practices (which are shaped by said phenomena and structures).

Despite this theoretical potential, the empirical applications of the theory of practice struggle to go beyond consideration of particular types of change and often remain limited to the details of everyday action relative to particular practices. Understandably, approaches with concepts which more readily allow us to address important phenomena are more transparent and easier to apply when addressing transition.

The Multi-Level Perspective (MLP) is such an approach. As Dale Southerton's contribution to this controversy argues and as its name suggests, MLP is anything but horizontal. Its appeal lies partly in the fact that it clearly differentiates different scales - from niche to

regime to landscape - by providing concepts and terms that enable analysis to work from the details of innovation at the niche level and through to relationships between structures and institutions at the regime level.

The verticality of MLP and horizontality of theory of practice may seem esoteric but nonetheless represents a difficult obstacle for some scholars. A leading proponent of practice theory, Schatzki sees MLP as a 'failure' for this very reason⁷. Geels, a key figure in the development of MLP, is less dismissive but sees reconciliation between the two approaches as being limited by the fact that practice theory makes it possible to understand the details of end use of practices and innovations at the niche level⁸.

Despite the apparent tension between the two approaches, recent years have seen attempts to bring them together. McMeekin and Southerton⁹ propose linking the theory of practices for understanding of consumption patterns with MLP as a more programmatic basis, but do not challenge the fact that Geels' limits the theory of practices' value to understanding end user practices. Hargreaves and colleagues (Hargreaves et al. 2013) seek pragmatic reconciliation by identifying points of intersection between the vertical processes in MLP and the horizontal flows of theory of practices¹⁰.

However, a conception based on 'systems of practice' contends that practices are partly formed by the socio-technical systems of which they are part. Those socio-technical systems are constituted and sustained by the continued execution of the practices that comprise them. Consequently, changes in socio-technical systems only occur if the practices that integrate those systems into the routines and rhythms of life change. If those practices change, so will the socio-technical system.

Thus, systems such as automobility persist and change only through the flow of practices that form them. These practices clearly are not restricted to 'user' practices or the distinctive practices of identifiable innovators (in their niches). Systems persist through the routinised actions of actors throughout the system, as they carry out practices that reproduce the institutions and relationships that make up the system. So, the system of automobility clearly depends on continued car use. But car use can only attract and retain practitioners so long as multiple co-dependent practices continue to coexist, including those of car production and maintenance, transport planning, road building, fuel provision, state regulation, etc. These interdependencies between practices develop and are maintained over time through continued performance of the practices themselves. These interdependencies can spread and stabilise, progressively conditioning the reproduction of the practices that make them up, which underlies the characteristics of the MLP's concepts of regime. Practices can therefore be directly in systemic relationships

with other practices, as well as with the infrastructures, technologies, institutions and regulations, which represent the accretion and sustainability of past execution of other practices.

Such an argument may provide a theoretically consistent way of linking theory of practices with the systemic properties of the social dimension that MLP describes and that goes beyond looking for specific points of intersection at a given 'level' of MLP. Rather, MLP scales are viewed as of practices at all levels. But can this abstract discussion be useful in terms of working through how to take the next steps towards a meaningful mobility transition?

There are various avenues for moving this agenda forward. First, attention to the systemic qualities of particular configurations of personal mobility helps to better decentralise the analysis of the individual traveller and look more closely for the critical points of the system comprising, for instance, car-dependency. Second, by following the arrangements that comprise the routine of driving through the relationships that comprise them, i.e. spatial planning, infrastructural provision, car production and retail, alternative sites and questions arise. What are the specific characteristics of the practices that produce and sustain relatively systemic features of the social dimension that produce and reproduce unsustainable patterns of mobility? By what means do the 'systemic features' of the social dimension shape action – what important processes and relationships are particularly powerful at so doing?

Such lines of inquiry can help in better targeting interventions - whether by the State or by civil society actors – to change mobility practices that are stand out for their constituting unsustainability. These intervention will most likely not be directly involved in mobility practices, but rather will occur in the systemic relationships that maintain unsustainable patterns of mobility.

Notes

1 Shove E. Beyond the ABC: climate change policy and theories of social change. *Environ Plan A*. 2010;42(6):1273-1285.

2 Reckwitz A. Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *Eur J Soc Theory*. 2002;5(2):243-263.

3 Schatzki TR. *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*. Cambridge University Press; 1996.

4 Shove E, Pantzar M, Watson M. *The Dynamics of Social Practice: Everyday Life and How*

It Changes. London: SAGE; 2012.

5 Watson M. How theories of practice can inform transition to a decarbonised transport system. J Transp Geogr. 2012.

6 Schatzki T. Where the Action Is (On Large Social Phenomena Such as Sociotechnical Regimes). Sustain Pract Res Gr Work Pap. 2011;(November):1-31.

7 Schatzki T. Spaces of Practices and of Large Social Phenomena . 2015:1-9.

8 Geels FW. Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective. Res Policy. 2010;39(4):495-510.

9 McMeekin A, Southerton D. Sustainability transitions and final consumption: practices and socio-technical systems. Technol Anal Strateg Manag. 2012;24(4):345-361.

10 Hargreaves T, Longhurst N, Seyfang G. Up, down, round and round: Connecting regimes and practices in innovation for sustainability. Environ Plan A. 2013;45:402-420.

Disciplines : **Humanities, Social sciences, Economy, law and management**

Transport mode(s) : **All modes of transport**



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¹ <http://en.forumviesmobiles.org/disciplines/sciences-humaines>

² <http://en.forumviesmobiles.org/disciplines/sciences-sociales>

³ <http://en.forumviesmobiles.org/disciplines/economie-droit-et-gestion>

⁴ <http://en.forumviesmobiles.org/modes-transports/tous-modes-transport>

⁵ <http://en.forumviesmobiles.org/node/2969>

⁶ <http://en.forumviesmobiles.org/node/2969>

⁷ <http://en.forumviesmobiles.org/directory/people/2015/10/28/matt-watson-geographe-3002>

⁸ <http://en.forumviesmobiles.org/directory/people/2015/10/28/matt-watson-geographe-3002>

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¹² <http://en.forumviesmobiles.org/contact>