



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Environmental Innovation and Societal Transitions

journal homepage: www.elsevier.com/locate/eist



Actor roles in transition: Insights from sociological perspectives

Julia M. Wittmayer*, Flor Avelino, Frank van Steenberg, Derk Loorbach

DRIFT, Erasmus University Rotterdam, P.O. Box 1738, 3000DR, Rotterdam, The Netherlands

ARTICLE INFO

Article history:

Received 19 February 2016
Received in revised form 5 August 2016
Accepted 4 October 2016
Available online xxx

Keywords:

Sustainability transition
Multi-actor process
Actor role
Actor relations
Transition governance

ABSTRACT

To date, the field of transition research lacks a suitable vocabulary to analyse the (changing) interactions and relations of actors as part of a sustainability transition. This article addresses this knowledge gap by exploring the potential of the concept of ‘roles’ from social interaction research. The role concept is operationalized for transition research to allow the analysis of (changing) roles and relations between actor roles as indicative of changes in the social fabric and shared values, norms and beliefs. It also allows considering the use of roles as a transition governance intervention. This includes creating new roles, breaking down or altering existing ones and explicitly negotiating or purposefully assigning roles, as well as the flexible use of roles as resources.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

1. Introduction

In 2007, the Netherlands introduced the Social Support Act, which focused on the ‘active’ role of inhabitants and citizens in providing social support and enhancing the social participation of vulnerable groups. The economic crisis and its associated budget cuts intensified an emerging discourse on changing responsibilities between citizens and government. Motivated by the changing face of the welfare state, it was argued that citizens needed to take their personal and social responsibility for the common good. In the Netherlands, this discourse is broadly referred to as ‘active citizenship’ (Marinetto, 2003; Newman and Tonkens, 2011) or ‘participation society’ (Putters, 2014; Tonkens, 2014), the latter as coined by King Willem Alexander in his yearly King’s speech of 2013. In their emphasis on the necessity for more active citizens and the devolution of power to the local level, both discourses can be closely linked to the ‘Big Society’ discourse in the UK (Kisby, 2010; Ransome, 2011).

These ideas are especially reflected in national and local policies at the neighbourhood level. The following quote from a report on the current neighbourhood approach of the Ministry of Internal Affairs illustrates this point: “We search for different relationships between governments, institutions and citizens. Attempts to give concrete shape to these, often still in rudimentary form occur precisely in these neighbourhoods” (Deetman et al., 2011, p. 7). The Ministry of the Interior and Kingdom Relations describes its revised role in this neighbourhood approach as follows: “from active financial commitment linked with targets to a more facilitative role, acting on request in relation to what others do” (Ministry BZK, 2014: 2). The role of local government is increasingly understood as moving from controlling and containing to facilitating and supporting; the role of residents shifts from receiving services and bearing rights to becoming more active in their immediate living environment, and being subject to duties. Thus, changing roles and relations are high on the public agenda (PBL, 2011;

* Corresponding author.

E-mail addresses: wittmayer@drift.eur.nl (J.M. Wittmayer), avelino@drift.eur.nl (F. Avelino), vansteenbergen@drift.eur.nl (F. van Steenberg), loorbach@drift.eur.nl (D. Loorbach).

<http://dx.doi.org/10.1016/j.eist.2016.10.003>

2210-4224/© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

ROB, 2012; WRR, 2012) and have direct repercussions on life and work in cities, towns and neighbourhoods all over the Netherlands.

Set in this context, this article empirically zooms in on Carnisse, a neighbourhood in the city of Rotterdam (The Netherlands) with an accumulation of social-economic problems. Considering these problems to be of a persistent nature implies that tackling them requires a societal transition. A transition is defined as a “radical transformation towards a sustainable society as a response to a number of persistent problems confronting contemporary modern societies” (Grin et al., 2010: 1). The emerging field of transition research has a strong focus on socio-technological innovation (e.g. Geels, 2002; Rotmans and Loorbach, 2010b) in different socio-technical sub-systems or societal domains, such as the energy sector (cf. Verbong and Loorbach, 2012). However, in the last years, transition thinking has also been applied to broader sustainability questions in cities, neighbourhoods and communities (Bulkeley et al., 2011; Seyfang and Haxeltine, 2012; Schroeder et al., 2013; Wittmayer et al., 2016). It is in these contexts that changes in the social fabric (related to the concept of social innovations, cf. Franz et al., 2012; Moulaert et al., 2013) become important drivers for change and where the concept of socio-technical transitions is extended to make it more apt for broader social analysis (cf. Grin, 2010).

Transitions are described as “multi-actor processes, which entail interactions between social groups” (Geels et al., 2010, p. 11). Focusing on this multi-actor nature of transitions, this article proposes that fundamental changes in the roles of actors and in their relations with others are a vital element of any transition. Illustrated by the case study of Carnisse, it argues that transition research to date lacks a suitable vocabulary to analyse the (changing) interactions and relations of actors as part of a sustainability transition. We suggest that a promising concept is that of *roles*, which has a long history in social interaction research (Mead, 1934; Linton, 1936; Biddle, 1986). The concept of roles can be situated ‘in between’ the individual and society and has long been a “simple, but useful means for explaining self-society relationship” in sociology (Callero, 1994; p. 228, cf. Arditi, 1987). Roles are shared conceptions within a particular community and a change in role understandings can indicate changing interactions and relations between actors within such a community. As such, changes in roles can be indicative of changes in the broader social fabric and can provide new opportunities for multi-actor collaboration to deal with societal challenges and hence form an important part of transitions. The overall question we pose in this article is: *What is the potential of the concept of roles for describing and understanding the interaction and relations of actors in sustainability transitions and their governance?*

This question is addressed through a literature overview of transition research focusing on the key points of convergence of different streams within this emerging field and their treatment of actors and agency; and a focused literature review of roles theories, starting from classical works and overview articles and zooming in on three perspectives, which allow us to understand roles in relation to societal change. Throughout the article, we illustrate our argument by introducing a transition experiment in the neighbourhood of Rotterdam-Carnisse, in which we were involved as part of a transdisciplinary engagement funded by an EU-FP7 research project (InContext) and a municipally funded project (Veerkracht Carnisse).¹ We organized a transition management process of problem framing, visioning and pathway development and facilitated actual experimentation to support the creation of alternative more sustainable ideas, practices and social relations in Carnisse. The case description and the illustrative examples are based on numerous interviews, participant observation, informal interactions on numerous occasions, document reviews, field-notes and the organisation and facilitation of seven deliberative meetings and six action-oriented meetings in the period from 2010 to 2015.

In the next section, we highlight the knowledge gap in transition research with regard to its treatment of actors, illustrating the analytical challenge this poses by introducing the transition experiment in Carnisse. This is followed by a focused literature review on roles theories (Section 3) and an operationalization of the insights for transition research (Section 4). We conclude the paper by summarizing the main insights and pointing to future research avenues (Section 5).

2. Analysing actors, roles and agency from a transition perspective

2.1. Transition research

Transition research refers to an interdisciplinary research field focused on structural change in societal systems. Different research streams draw on complex systems theory, social studies of technology, innovation studies, governance literature, and several others (Grin et al., 2010; Markard et al., 2012; Van den Bergh et al., 2011). For the purpose of this article, we focus on key points of convergence across this emerging field (cf. Grin et al., 2010) and its treatment of actors. The focus of transition research is on the dynamics and governance of historical and contemporary sustainability transitions. Transitions, as fundamental societal changes, are described as involving various patterns and pathways (De Haan and Rotmans, 2011; Geels and Schot, 2007), different phases (Grin et al., 2010; Rotmans, 2005), multiple actors (Farla et al., 2012; Geels, 2011; Wieczorek and Hekkert, 2012), and high levels of co-evolution, complexity, and uncertainty (Geels and Schot, 2010; Rotmans and Loorbach, 2010a, 2010b).

¹ The EU-funded FP7-research project InContext (2010–2013), aimed at better understanding the internal and external contexts that influence the ability of individuals and communities to deal with societal challenges through an action research approach based on transition management (www.incontext-fp7.eu). The municipal project Veerkracht Carnisse (2011–2015) aimed at supporting the development towards a greener, more social and child friendlier Carnisse through increasing the resilience and self-organizing potential of the neighbourhood (www.veerkrachtcarnisse.nl).

One of the main analytical frameworks is the Multi-Level Perspective (MLP), which distinguishes different levels of structuration and stability, namely niche, regime, and landscape. The main concept is the regime, a “semi-coherent set of rules carried by different social groups” (Geels, 2002; p. 1260). The niche concept refers to space for radical innovations, whereas the landscape is seen as the exogenous, wider context. Transitions are understood as “outcomes of alignments between developments at multiple levels” (Geels and Schot, 2007; p. 399). One of the critiques on the MLP concerns its lack of attention to actors and agency (Genus and Coles, 2008; Smith et al., 2005). Geels and Schot (2007) counter this by pointing out that alignments are always enacted by social groups, and it is through their activities that different levels of structuration (i.e. niche, regime) are continuously reproduced. The regime is said to “orient and coordinate the activities of the social groups that reproduce the various elements of socio-technical systems” (Geels, 2011; p. 27). The degree of structuration is viewed to be higher at regime level, which makes its constraining and enabling influence larger than that of niches. As in Giddens (1984), actors are seen as embedded in structures, while reproducing them at the same time – structures do not exist out there, but only through use and reproduction in practice. Actors are not “passive rule-followers (‘cultural dopes’), but active rule users and makers” (Geels and Schot, 2007; p. 403). Without further elaboration, those authors consider “role relationships” as part of these rules.

The main treatment of actors and agency dynamics can be found in the research stream focusing on the governance of transitions (e.g. Frantzeskaki et al., 2012; Grin et al., 2010; Loorbach, 2010; Meadowcroft, 2009). This stream concentrates on multi-actor decision making, including questions relating to agency, governance mechanisms, power relations, underlying values, and legitimacy (Avelino, 2009; Grin, 2010; Kern and Smith, 2008; Smith et al., 2005). Governance refers to interactions between multiple public and private actors to pool resources and achieve collective goals (Kooiman, 2003). Different governance approaches have been described and developed in transition research with a prominent one being transition management. It is described as the “attempt to influence the societal system into a more sustainable direction” by exploring future options through “searching, learning and experimenting” (Rotmans and Loorbach, 2010a; p. 108–109). A specific focus of transition management is on ‘frontrunners’, individuals with specific competencies and innovative ideas or practices with regard to a persistent problem.

In their comprehensive review article on the treatment of actors and agency in transition research, Fischer and Newig (2016) identify four different typologies to group actors involved in transitions, namely systemic typology (actors related to the levels of the MLP), institutional typology (actors related to institutional domains), governance typology (actors related to levels of governance) and intermediaries. A second recent publication proposes a heuristic framework for the analysis of actors and power relations in transitions, distinguishing between four categories of actors (state, market, community and third sector) and between actors at different levels of aggregation (individual actors, organizational actors and sector level actors) (Avelino and Wittmayer, 2016). A third more comprehensive attempt to scrutinize actors is a 2012 special issue by Farla et al. which identifies types of actors (policymakers and public authorities, firms, and others) as well as their strategies and resources.

As also outlined in these overview articles, we find that transition literature discusses actors as being from a variety of categories or backgrounds, such as policymakers, firms, social movements or civil society engaged in numerous activities and strategies (e.g. Farla et al., 2012; Grin et al., 2011; Loorbach, 2010). These actors can assume roles at different levels of structuration, such as regime actor’ (i.e. being part of the regime) or ‘niche actor’ (i.e. being part of niches) (Geels, 2011; Jørgensen, 2012; Rotmans, 2005). While entrepreneurs, start-ups and spin-offs are often considered niche actors, ‘powerful actors’ such as the state are considered regime actors (Avelino and Wittmayer, 2016; Geels, 2014). While Farla et al. (2012) identify a certain focus on accomplishments and capacities of individual actors as levers for transitions, they also caution against this focus on the individual and point to the fact that there is never only a single actor involved in transitions. This can be related to the call for more attention to issues of power, politics and agency (Avelino, 2009; Hendriks, 2009; Hoffman, 2013; Meadowcroft, 2009; Voß et al., 2009). Such individual actors are described in roles such as ‘frontrunner’ (Rotmans and Loorbach, 2010a), ‘change agent’ (Neuens et al., 2013), ‘champion’ or ‘policy entrepreneur’, (Brown et al., 2013). Other roles are described as being open to both, individuals and collectives, such as the role of ‘intermediaries’ (Hargreaves et al., 2013). Collective actors in transition processes include public authorities, firms, social movements, civil society or research organisations (cf. Farla et al., 2012; Geels, 2014; Loorbach and Wijsman, 2013; Wieczorek and Hekkert, 2012).

From this overview, we find that the reviewed transition literature has at least two shortcomings in its treatment of actors. Firstly, work on conceptualising actors and their interactions has only recently begun (Avelino and Wittmayer, 2016; Farla et al., 2012; Fischer and Newig, 2016); most work focuses on specific empirical contributions. Secondly, there is substantial research done on the interactions of actors where these interactions relate to purposeful attempts to achieve a certain goal (i.e. the governance aspects). However, there is considerably less attention for understanding the changing interaction and relations of actors on a more general basis and how these are indicative for and part of transitions. What the literature does not attend to, is the fact that the social roles of, for example, policymaker or citizen can itself be ‘in transition’. We argue that changes in (the shared understanding of) social roles can be indicative of transformative change in the social fabric of society. We therefore argue for an analytical focus on such social roles, how they are understood in society, how one role relates to others, how the roles and relations change over time, as well as how those occupying a given role come to terms with it and negotiate their own version thereof. We distinguish these social roles from the more specific concept of what one might refer to as ‘transition roles’, i.e. roles through which actors support or hinder a specific sustainability transition (e.g. frontrunner). Where such a role can be occupied by, for example, policy makers or citizens.

2.2. Case study: re-opening a community centre in Rotterdam-Carnisse, the Netherlands

To illustrate the challenge involved in analysing changing social roles as indicative of a sustainability transition, we turn to our empirical example of Rotterdam-Carnisse. Rotterdam is the second city of the Netherlands, counting almost 620.000 inhabitants and some 160 nationalities. Until recently, the port of Rotterdam was the world's largest port and the city has many heavily industrialized areas. Carnisse is considered a 'deprived' neighbourhood with almost 11.000 inhabitants in the Southern part of Rotterdam.

In this article, we zoom in on one particular part of our transdisciplinary engagement in Carnisse,² namely the local struggles to re-open a community centre in a self-sufficient manner. Regarded as an isolated development, the closure of a community centre in Carnisse is just an example of how a group of citizens took matters into their own hands and struggled with an 'unfavourable' policy environment. However, this case does not stand on its own. Questions on the closure of community centres and ways to maintain or re-open them preoccupy municipalities and professionals all over the Netherlands (Boutellier and Huygen, 2012; Huygen, 2014; Van der Zwaard and Specht, 2013). These closures are symptomatic of the ongoing struggles that residents, policymakers, and professionals face in making sense of broader developments, such as the economic crisis, budget cuts or a changing welfare state across Europe. All of these developments challenge current role understandings, such as the role of local governments, residents, and servicing institutions (Bakker et al., 2012; ROB, 2012; WRR, 2012). We consider the re-opening of the community centre as a transition experiment, as it takes a societal challenge as a starting point for experimentation and aims at contributing to changes in local structures, cultures and practices (cf. Van den Bosch, 2010). In the following, we introduce the developments concerning the re-opening of the community centre in three main phases.

2.2.1. Orienting and exploring (end 2011 until mid-2012)

The community centre Arend & Zeemeeuw (A&Z) in Carnisse had offered a number of different facilities, including a coffee house, kitchen, rooms for meetings and sport, which were used by primary schools, a kindergarten and the former local welfare organisation. By the end of 2011, it was closed due to municipal and organisational choices. One important choice was the decision of the district municipality Charlois to issue a tender for welfare work, which did not include resources for this centre. Shortly after, concerned residents formed an action group that investigated the possibilities for re-opening the centre, and launched a petition for doing so in March 2012. This group focused on getting the facts with regard to ownership structure, financial obligations and neighbourhood needs on the table. The centre was built on ground owned by the municipality of Rotterdam and the building had been owned by the former welfare organization until its bankruptcy following the loss of the tender. The municipality of Rotterdam accepted ownership of both the ground and the building only mid-2012. The announcement of the work of the action group left public officials in confusion regarding how to relate to this initiative. Should they oppose it, facilitate it, be sceptical or enthusiastic about it? Generally, they moved from being very sceptical in 2011 to being more receptive of the initiative. For instance, a director of the district municipality was "unpleasantly surprised" by its work, perceiving it as mobilising 'against' the district municipality.³ However, by mid-2012, after several internal discussions, the district municipality declared their formal position as follows: "The district municipality Charlois facilitates the residents' initiative A&Z by thinking along and bringing in knowledge and experience. But the district municipality does not contribute to the exploitation of A&Z" (Deelgemeente Charlois, 2012).

2.2.2. Starting up (mid-2012 until mid-2013)

In the meantime, the citizen action group drew up a business plan and reached more than 300 people through a petition – both documents were used to lobby different municipal and organisational representatives. In October 2012, the district municipality questioned the legitimacy of this process and wondered about the level of commitment and energy of the residents. That same month, participants in a meeting about the future of the community centre did not even consider the district municipality: they did not involve the present policy officer in their deliberations.

As of January 1st, 2013, the action group formalized their engagement in a foundation, which unofficially re-opened the centre for exploitation and took on all daily tasks on a voluntary basis. This happened notwithstanding the ongoing negotiations with the municipality regarding rent and exploitation. In February 2013, an initial agreement was reached allowing the foundation to officially run the community centre, yet still without an official rent agreement. At the official opening of the centre in June 2013, a director of the district municipality announced their support with an incidental subsidy. While this came as welcome support, the district municipality also aimed to increase its influence on the activities, which led to strong disagreements with the foundation.

2.2.3. Stabilising and evolving (mid-2013 until mid-2015)

An institutional reform led to the abolishment of the district municipality Charlois and its replacement by a district committee in spring 2014. These institutional changes did not have many repercussions for the centre. On the contrary, the centre had diversified its income streams and developed into one of the main neighbourhood contacts for policymakers.

² For more elaborate descriptions of the overall engagement, see Van Steenberghe et al., 2015; Wittmayer et al., 2013, 2014.

³ Fieldnotes on phone call by neighbourhood coordinator, April 4th 2012, Rotterdam

As the foundation stated in an interview in 2014: “We can do this [be critical], because we don’t need them [district committee]” (Beheerjebuurtuis.nl, 2014). However, the negotiations, struggles, and disagreements regarding the centre’s rent, exploitation, and subsidies continued. These were mainly taking place between the foundation and two municipal departments. While the Physical City Development department aimed at increasing the value of municipal property, the Societal Development department was responsible for the welfare system and interested in the social infrastructure provided by the centre. Tensions culminated in March 2015 when these struggles were debated in the City Council, preventing an imminent closure of the community centre. In this precarious, uncertain situation, the foundation successfully ran the centre, hosted organisations (e.g. primary schools and day care organisations), organized and hosted activities, received subsidies from charities and businesses to renovate (parts of) the building, and won second place in the Rotterdam City Initiative 2014 competition.

Through increased public attention, public dignitaries started noticing the centre. In his New Year Speech 2014, the clerk to Rotterdam City Council compared it with the opening of the newly built Central Station (a 600 million Euro project). In an interview, a former director of the district municipality characterised the re-opening in a self-sufficient manner as “a flagship project” for the neighbourhood and a symbol for larger scale changes in Dutch society, such as increased decentralisation, local government reform, a changing welfare state.⁴

Clearly, this case does not describe a ‘complete’ transition but rather a transition experiment as part of ongoing change dynamics. The experiment is symbolic of the state of Carnisse and other neighbourhoods in Rotterdam and the Netherlands, and their coming to terms with broader developments, such as closures of social real estate, social entrepreneurship or shrinking budgets. We first turn to literature on roles to increase our understanding of the concept, before we subsequently operationalize it for transition research and illustratively apply them to analyse this case.

3. Review of roles theories

The concept of roles dates back to the 1930s (Linton, 1936; Mead, 1934) and the literature shows little consistency in its conceptualisation and operationalization (Biddle, 1986; Gibson and Pennington-Gray, 2005; Winship and Mandel, 1983–1984). There are different ontological perspectives with regard to roles: from a functionalist perspective, roles exist and individuals ‘take’ or ‘play’ those roles; from an interactionist perspective individuals have some freedom in ‘making’ a pre-given role; and from a more constructivist perspective, individuals ‘use’, ‘create’ or ‘negotiate’ roles.

In this article, we follow the common sense bottom line that the concept of roles establishes a shared reality to which actors can refer and which offers a connection to “regularities in the cultural environments” (Lynch, 2007, p. 381). In our take on roles, these can be described as a set of recognizable activities and attitudes used by an actor to address recurring situations. This suggests that roles can be described as ideal-types, but that they are socially constructed and therefore open to negotiation and change. We focus on three perspectives in this literature: (1) roles as recognizable activities and attitudes, (2) roles as resource, and (3) roles as boundary objects. These perspectives allow us to understand roles as an interplay between stability and change, to relate roles to change in social systems and to take political and power aspects into account.

3.1. Roles as recognizable activities

The functionalist perspective is one of the most prominent ones on roles. It regards the social as being made up of ‘universally’ agreed upon social positions and their interrelations, accompanied by a set of collective expectations (e.g. norms, beliefs, or preferences, cf. Biddle, 1986), rights, and duties. Roles are enacted by representatives of the position through characteristic behaviour. For example, the social position of ‘citizen’ is related to others such as ‘policymaker’ or ‘politician’ and is accompanied by behavioural expectations such as casting one’s vote, or clearing pavements from snow. These expectations are connected to norms and beliefs, in that roles can be enacted in appropriate and inappropriate ways, with the latter being followed by sanctions. As such, roles are seen as “agents of social conformity” (Gibson and Pennington-Gray, 2005, p. 445) in a functionalist perspective, leaving little room for flexibility, variability or personal agency.

The interactionist perspective on roles allows more room for agency. Rather than taking roles as a static given, its focus is on the ‘role making’ process: how roles are adopted, adapted, enacted, performed, and made by an individual (Biddle, 1986; Hilbert, 1981). This perspective starts from the individual (rather than from the pre-defined social position) and focuses on role enactment and its influence on the actor as well as the evolution of roles through interaction (e.g. issues such as identity and self-representation). As such, it has been criticised for not accounting for broader societal contexts, including issues of power, politics and structural constraints (Biddle, 1986; Callero, 2003).

Combining both perspectives, Turner (1990, p. 87) defines a role as “comprehensive pattern of behavior and attitudes, constituting a strategy for coping with a recurrent set of situations, which is socially identified – more or less clearly – as an entity. A social role is played recognizably by different individuals, and supplies a major basis for identifying and placing persons in a group, organisation, or society [...] can be thought of as consisting of rights and duties, or of expected behaviour,

⁴ Fieldnotes on meeting between former director of the district municipality Charlois, neighbourhood coordinator of Carnisse and researchers, November 18th, 2013, Rotterdam

provided these terms are interpreted broadly”. He emphasises role *change* as “a change in the shared understanding and execution of typical role performance and role boundaries” (Turner, 1990; p. 88). A role can change in different ways⁵: a) a new role can be created, b) an established role can be dissolved, c) a role can change quantitatively (e.g. addition or subtraction of duties or rights, gain or loss in power), or d) it can change qualitatively (e.g. substitution of elements, reinterpretation of meaning, change in prominence of different elements). In addition, a role does not stand on its own, but “always bears a [...] relationship to one or more other roles, change in one role always means change in a system of roles” (Turner, 1990).

3.2. Roles as resource perspective

This perspective starts from the understanding that social structures control action and are reproduced by action in a dynamic process (i.e. structuration). Roles are considered as cultural objects, i.e. “social constructions that are widely recognized as legitimate and normal features of the social world” (Collier and Callero, 2005; p. 47). As cultural object, roles have a practical reality (they are assumed to be real), an interactive reality (they are used to construct the self), and a symbolic/cognitive reality (they are cognitive representations transcending particular situations).

Roles are considered to be both cultural assumptions and taken for granted rules guiding action and resources that can be used to achieve certain practical ends (Callero, 1994; building upon Giddens, 1984 and Sewell, 1992). Roles are viewed not as consequences of a pre-determined social position, but as resources that can be used to enact such positions and consequently establish social structure (Baker and Faulkner, 1991). Roles become “a vehicle for agency” (Callero, 1994; p. 230) and an “organizing concept used by [actors] when they require it” (Hilbert, 1981; p. 220 emphasis in original). Rather than playing roles (i.e. functionalist perspective) or making roles (i.e. interactionist perspective), individuals are considered to *use* roles to construct the self and as a resource for gaining access to cultural, social or material resources (Baker and Faulkner, 1991; Callero, 1994; Hilbert, 1981).

3.3. Roles as boundary objects

Acknowledging the role concept as a concept-in-use, Simpson and Carroll (2008) depart from the functionalist and interactionist perspectives towards an understanding of the socially embedded process of role construction. Starting from a flux ontology which embraces complexity and contestation, roles are viewed as boundary objects, “intermediary device[s] for the translation of meanings” (Simpson and Carroll, 2008; p. 46) in the context of identity construction processes. Roles are considered a vehicle for mediating and negotiating meaning in interactions, while also being (re)constructed through them. Identities, as well as roles, are considered more or less temporary stabilisations in an ongoing process of identity work.

This perspective emphasizes that neither roles nor identities, nor structures for that matter, are ever ‘stable’ or ‘something out there’. Rather, we can treat them as temporary stabilisations for the sake of analysis or for guiding our action at a specific place and point in time. Instead of being pre-defined and static, roles such as policymaker or citizen seem to always be in the process of being constructed, deconstructed, reconstructed, contested, as well as enacted, made and used. Roles bridge the individual and societal levels in that they are intermediary and temporary results of their interactions; they are sites of struggle, power, and conflict. This perspective leaves room for considering the act of putting up a role as boundary object, as an act of agency, and leaves room for alternative meanings and improvisation.

4. Understanding roles in transitions

Transition research is interested in understanding social systems, their change dynamics and the purposeful activities of actors to influence and play into current societal dynamics to contribute to a more sustainable future (i.e. their governance). From the review of roles theories, we can establish that the concept of roles allows for a more systematic description and analysis of the interaction and relations between actors, which can be made productive for analysing current and historical transitions.

From this review, we derive three main insights:

- Firstly, the roles-as-recognizable-activities perspective holds that a single role always relates to one or more other roles and that a change in one has consequences for the others. This implies two distinct objects of analysis: the **single role** and a **role constellation**. We propose the latter term to refer to webs of roles, which interact, interrelate and co-evolve with one another. While an analysis of the single role provides insights into its substance, a focus on the role constellation highlights the relations between different roles.
- Secondly, in line with the focus of transition research on change, we suggest distinguishing between two temporal aspects of the analysis. Both, single roles and role constellations can be analysed either at a **specific point in time** as a temporary stabilisation or **over time** focusing on how these change.

⁵ Role change should be distinguished from related phenomena such as role transition or reallocation (an individual moves into another role), variability (each individual develops her own version of a particular role within accepted boundaries), and deviance (crossing the accepted boundaries of a particular role) (Turner, 1990).

- Thirdly, the roles-as-resource and the roles-as-boundary-objects perspectives draw attention to the ways roles can be purposefully used and negotiated. We suggest taking the actual **usageofroles** as an object of analysis to further our understanding of the ways in which actors purposefully contribute to more sustainable futures. It also allows us to understand how actors struggle in coming to terms with and using roles in their daily life to attain a specific end, such as e.g. influencing a sustainability transition.

In this section, we discuss and operationalize the concepts of single roles and role constellations analysed both at a specific point in time and over time. We also discuss the actual usage of roles as an act of transition governance. Throughout this section, we refer to the transition experiment in Carnisse to illustrate our argumentation.

4.1. Analysing single roles in transitions

As outlined above, we consider roles as shared understandings, which can be described as a set of recognizable activities and attitudes used by an actor to address recurring situations. We suggest that there is a core of activities and attitudes, which are widely recognized and shared within a specific group of people or a social system⁶ as belonging to a specific role. By way of example, this would be the activity of ‘making policy’ for the role of policymaker or ‘casting one’s vote’ for citizen. However, next to such ideal-type descriptions, there are always competing ideas about other activities or attitudes, which are or should be part of that very role. Consider, for example, the Dutch discourse that policymakers should be ‘less controlling’ and ‘more facilitative’. Such competing ideas are part of ongoing role negotiations in society, implying specific ideas about what is desirable and what is problematic. However, it also leads to struggles on individual level in terms of how to ‘play’ a role if the individual’s role understanding deviates considerably from the shared role understanding.

In a historical perspective, the focus is on how role understandings change and how this might be indicative and/or part of broader societal change. Apart from the creation and dissolution of a role, the change of a single role can be analysed by describing a shared role understanding at two specific points in time and discussing the differences between these. For this analysis, we build on the discussion of role change by the roles-as-recognizable-activities perspective indicating that roles can change quantitatively or qualitatively. Coherent with our framing of roles as activities and attitudes, a quantitative role change refers to an addition or subtraction of activities and attitudes or a loss of power and a qualitative role change refers to a change in activities and attitudes and the relative salience thereof, as well as a reinterpretation of its meaning.

In applying these questions for analysing single roles in transition (see Table 1) to the re-opening of the community centre in Carnisse, we can identify a number of central roles. On an individual level, these include resident, policy officer, researcher, professional; and on a collective level, municipality, district municipality, district commission, welfare organisation, action group, and community centre foundation. In 2010, one of the important activities of the district municipality Charlois was the financial provision for the community centre through subsidies provided to the local welfare organisation. It also monitored the targets connected to the subsidy. It was the role of the welfare organisation to exploit and manage the place (incl. programming activities and engaging with volunteers and residents). Residents were visiting the place to attend specific activities such as sports, bingo or youth activities. Related to the community centre, we can therefore speak of a distant, results-focused attitude of the municipality, while the welfare organisation provided for the residents, who were acting as users. Competing ideas on the role of resident started to emerge, being more active and self-reliant and not dependant on either welfare organisation or district municipality. Obviously, this is but a broad stroke illustration of the shared understandings (e.g. not including all competing ideas) of specific single roles and their recognizable activities and attitudes.

While our five-year engagement does not allow analysing roles through the course of a transition, it does allow pointing to (emerging) changes in shared role understandings within this period. The district municipality Charlois had already stopped the financial provision for the community centre (quantitative role change), before it was abolished through institutional reform in 2014 (dissolution of a role). Simultaneously the district committee was introduced (creation of a new role) but currently it neither has the means to support the community centre financially nor does it play any specific role in relation to it. The activities of the Municipality of Rotterdam increased with regard to the community centre – from letting the ground

⁶ The boundaries can be defined in different ways. Important examples are certainly geographical areas, such as city, region or nation; but also culturally defined communities (by common language or religion).

Table 1
Guiding questions for analysing single roles in transition.

Object of analysis	One specific point in time	Over time
Single Role	<ul style="list-style-type: none"> - What is part of this role? - Which is the set of recognizable activities and attitudes widely shared and recognized to be part of this role? - Which other (competing) activities and attitudes are considered part of this role, and by whom? - What is considered problematic (or desirable) about it? 	<ul style="list-style-type: none"> How did this role change? <i>Take two distinct points in time and consider qualitative and quantitative change, the dissolution and creation of the role.</i>

to also letting the building and reaching out to support the foundation in exploiting the centre. This change in role can be considered alongside the ‘participation society’ discourse, which proposed that the role of (local) governments should be more ‘facilitating’ than ‘directing’. In their tender for welfare work (2011/12), the district municipality Charlois enacted a new paradigm for welfare work – away from helping ‘clients’ and ‘fixing’ problems towards a more coaching role encouraging people to take matters into own hands. This means primarily a qualitative role change in terms of a reinterpretation of the role of welfare organisation. In addition, residents together with professionals have taken up the exploitation and management of the community centre – changing their role from consuming to ‘prosuming’. It also includes the creation of new roles in this context, namely action group and foundation.

4.2. Analysing role constellations in transitions

As outlined above, we define role constellations as webs of roles, which interact, interrelate and co-evolve with one another with regard to a specific issue. Analysing role constellations at a specific point in time implies firstly, to take stock of the related roles and secondly to describe the relations and interactions between these. There are different aspects of such relations and interactions worthy of analysis, for example a focus on their power aspects (cf. [Avelino and Wittmayer, 2016](#)) or a simple description with regard to the stance of the roles towards one another (e.g. supporting, observing, opposing, challenging or competing).

Role constellations can be regarded as a vital part of analysing and describing persistent problems to which transitions are a response. Each framing of a persistent problem (in e.g. public discourse) bears implicit and explicit ideas about roles and responsibilities of and necessary interventions by different kinds of actors – an analysis of role constellations provides major insights into these ideas. One could argue that the construction of a persistent problem (and proposed solutions) comes with an implicit image of what is problematic (or desirable) about existing actor interactions and role constellations, and what kind of new role constellations are necessary. The Dutch discourse on ‘participation society’ or the UK discourse on ‘Big Society’ is such a problem analysis, which includes explicit ideas about the roles of and relations between citizens and governments in relation to provisions in the social domain. These discourses illustrate competing images of desirable role constellations.

In a historical perspective, an analysis can focus on the changes between role constellations, which are related to a specific (sustainability) issue at different points in time. These changes concern the actual roles, which partake in the role constellation (consider the possibility that roles have dissolved or have been created), and the relations between roles.

To give a broad stroke illustration of the insights such an analysis can provide, we turn to Carnisse using the analytical questions summarized in [Table 2](#). Rather than solely focusing on the substance, the focus in analysing role constellations is on the actual relations between roles. On an individual level, the role constellation in 2010 included at least resident, policy officer, professional; and on a collective level, municipality, district municipality and welfare organisation. Considering this composition, the role constellation has changed during the five-year involvement in terms of the actor roles involved. We have seen that the role of district municipality has given way to that of district committee, which in turn does not play a major role in relation to the community centre. New entrants to the role constellations were the Municipality of Rotterdam, as well as the action group fighting for the re-opening of the centre and, later, its formalised successor the foundation.

Building upon the description of the substance of the roles under [Section 4.1.](#), we can identify the relation between district municipality and welfare organisation as a business relationship where the latter is accountable to the former. While the paradigm change in welfare work did not have consequences for this relation, it did change the relation between the residents and the welfare organisation. Whereas earlier the welfare organisation had a standard programme to help residents as clients, currently they activate residents to organize their own help or activities – thus reflecting a change from supply-driven to activating. The relation between district municipality/district committee and residents changed from the former providing for the latter (e.g. in terms of financial provision for the centre), towards one where the district committee does not interfere with the activities of residents concerning the centre. Policy officers of the district municipality Charlois were struggling with coming to terms with the tension between the upcoming and competing understanding of their role as facilitating society and the widely shared understanding of directing, controlling and monitoring projects. As stated by its director “me as director, but also the municipal organisation, we had to learn to just let it happen. And to just follow

Table 2
Guiding questions for analysing role constellations in transition.

Object of analysis	One specific point in time	Over time
Role Constellation	What is the role constellation about? Which roles are part of it? How are the relations and interactions between the roles described? What is considered problematic (or desirable) about the role constellation?	How did the role constellation change? Take two distinct points in time and consider the (change in) partaking roles as well as the change in relations between the roles.

Table 3
Guiding questions for analysing governance activities relating to roles.

Object of analysis	One specific point in time	Over time
Single Role	Which governance activities related to roles are used and for which end?	How did the governance activities related to roles change?

the developments by nearly sitting on your hands".⁷ During the four year period there was a constant tension between the owner, funder, manager and users of the community centre because of the break with a dominant role constellation that was rather stable in the previous years (since mid-1990s). The merging of actors, their roles and a tipping of previous power relations and interdependencies led to a continuous process of negotiation and giving meaning to one another's role and position.

4.3. Analysing roles as governance interventions

The roles-as-resource perspective suggest that actors can use roles purposefully in their interaction with others as a resource for thinking, acting and achieving political ends. Such usages can be considered acts of agency and purposeful attempts of (transition) governance (see Table 3). However, governance activities relating to roles are broader and can include playing a role, making a role, creating a new role, destroying or altering existing ones, explicitly negotiating and purposefully assigning roles. In their interaction in relation to the re-opening of a community centre in Carnisse, some actors 'make' their roles, thus searching for the boundaries of a specific role, which eventually can lead to a change (qualitatively or quantitatively) in its broader societal understanding. In Carnisse, the shared understanding of the role of policy officer slowly changed to embrace the idea that a policy officer should be facilitating residents in their quest to improve their living environment. Other actors in Carnisse created roles, which had not been part of the existing role constellation, such as 'action group' or 'foundation'. Others continue to play their accustomed role (e.g. the local citizen association) and thereby reproduce existing role understandings.

The usage of roles is a highly political act. For example, the district municipality Charlois referred to the collective fighting to re-open the community centre not as an 'action group' as they themselves did, but as a "residents initiative" (Deelgemeente Charlois, 2012). In doing so, it framed the role of this new actor in a specific way including an understanding of who can be part of such an initiative (e.g. a resident but not a professional), and which resources are accessible (e.g. financially certain small subsidies, while not the power to decide upon the future of the community centre). We see this also in the ways that the Municipality of Rotterdam advised the action group: while one policy officer advised to set up a 'residents company', another focused on management by professionals and still a third one preferred the centre to be run by residents only. There is thus an apparent need for clarity and for pushing a dominant frame: an individual is to be either an entrepreneur, a professional or a resident. The framing of the 'other' is thus a means for distributing or withholding resources. Another aspect of using 'roles' in attempting to influence societal dynamics is that roles can be exclusive. There are limits to the usage of roles in that not every role is accessible to everyone. By way of example, the role of policy officer of Rotterdam and its associated resources may not be claimed and used by everybody, but only by individuals with an appropriate educational record and employment contract. Role designations and claims thus come with inherent assumptions about access to resources, responsibilities and power.

Using roles as resources, requires a capacity on the part of individual and/or collective actors to play into stimuli for role change and provide alternative role understandings, or even (re)invent them. Relating this to empowerment as one of the goals of transition management (Loorbach, 2007), the more empowered an individual is, the more this person might be inclined to make and use roles in alignment with her own vision, regardless of societal expectations (cf. Avelino, 2009). Thus, this governance approach to roles is about becoming aware of and seeing how roles are made and used and can be an important means for dis/empowering actors.

5. Concluding remarks

We argued that the transitions field to date lacks a suitable vocabulary to analyse the (changing) interactions and relations of actors as part of a sustainability transition. To address this gap, we explored the potential of the concept of 'role' for transition research. This concept also allows us to distinguish between 'transition roles' – roles actors use in supporting or hindering transitions, and the broader concept of social roles. A focus on the latter allows understanding (changing) roles and their (changing) relation to other roles as indicative of changes in the social fabric and shared values, norms and beliefs. It also allows understanding transition governance as a continuous searching, learning and experimenting process through which roles are (re-)negotiated over a period of time and in which actors use roles to reach certain ends.

This article provides three main insights for transition research. Firstly, it distinguishes between single roles and role constellations, which allow analysing both the shared and competing understandings of a role and the relation between

⁷ Interview, former director of the district municipality Charlois, July 7th 2014, Rotterdam

different roles. Secondly, it analyses these as temporary stabilisations in the present, as well as over time, in order to trace changes. The article showed us that negotiations and struggles concerning what roles and relations are, can and should be are an ongoing part of both a transition governance intervention and a broader long-term societal transition. The persistent nature of societal problems also derives from the fact that actions tend to build on 'old' role understandings, rather than explicitly questioning current ones. This questioning needs to be part of transition governance interventions – thus, for instance, when envisioning sustainable futures this includes a questioning of current and a proposition for new role constellations. A third insight is that roles can be used not only explicitly, but also purposefully in interactions with other actors as acts of transition governance. It is, *inter alia*, through the creation and use of new roles or by breaking down and altering existing ones that role change prompts changes in collective processes and alters dominant institutional constellations (i.e. regimes). Therefore, we propose to consider the flexible use of roles as a particular form of transition governance intervention.

This article aims to fuel the critical and necessary debate on a more systematic analysis of actors in transition research through a focus on roles and proposes three future research avenues. Firstly, this article suggests using the roles concept to analyse the social fabric and changes therein – illustrated by a case of social rather than socio-technical innovation. We propose that the concept has the potential to carve out the 'social' in socio-technical transitions – a proposition worthy of further investigation. A second future research avenue is using the proposed concepts for analysing empirical cases of historical and current transitions to further sharpen and amend it. Historical analyses of multi-actor dynamics, for example, can focus on changes from one role (constellation) to another within a specific sustainability issue (e.g. the changing role of local government in sustainable local development). With regard to current transitions, insightful research could focus on the different competing discourses and 'ideal type' descriptions of roles and their political implications, and/or the negotiation processes between collective actors and their broader surrounding (e.g. local government and the Dutch public debate on the participation society). Equally interesting to study are contexts, where roles are not changing, or where such role change proves difficult. A final research avenue concerns the application of the operationalisation of the roles concept for the analysis of 'transition roles' – thus tying it back in again with the normativity inherent to sustainability transitions. In the spirit of our transdisciplinary engagement in the neighbourhood of Carnisse, this includes to question, be reflexive and to challenge our own roles as 'transition researchers' in the 'transitions in the making' that we are engaging in.

Funding

This work was supported by the European Union's Seventh Framework Programme [265191] and [613169] and the Municipality of Rotterdam.

Acknowledgements

The authors would like to thank Tim O'Riordan and two anonymous reviewers for their valuable comments on an earlier version of this article. We also would like to thank all the people with whom we worked during our 5-year engagement in Carnisse. This article is based on research carried out as part of the project "Veerkracht Carnisse" (funded by the Municipality of Rotterdam) and the project "InContext – Supportive environments for sustainable living" (EU FP7, grant agreement 265191). Data analysis and article writing were partly funded under the TRANSIT project (EU FP7, grant agreement 613169). The views expressed in this article are the sole responsibility of the authors and do not necessarily reflect the views of the European Union nor the Municipality of Rotterdam.

References

- Arditi, G., 1987. *Role as a cultural concept*. *Theor. Soc.* 16, 565–591.
- Avelino, F., Wittmayer, J.M., 2016. *Shifting power relations in sustainability transitions: a multi-actor perspective*. *J. Env. Policy Plan.* 18 (5), 628–649.
- Avelino, F., 2009. *Empowerment and the challenge of applying transition management to ongoing projects*. *Policy Sci.* 42 (4), 369–390.
- Baker, W.E., Faulkner, R.R., 1991. *Role as resource in the Hollywood film industry*. *Am. J. Sociol.* 97 (2), 279–309.
- Bakker, J., Denters, B., Oude Vrielink, M., Klok, P.-J., 2012. *'Citizens' initiatives: how local governments fill their facilitative role*. *Local Gov. Stud.* 38 (4), 395–414.
- Beheerjebuurtuis.nl, 2014. *Je Bent Krachtiger Als Je Meerdere Harten Hebt*. Wijkcentrum Hart Voor Carnisse Put Kracht Uit Samenwerking (<http://beheerjebuurtuis.nl/je-bent-krachtiger-als-je-meerdere-harten-hebt/> [accessed 8.02.16]).
- Biddle, B.J., 1986. *Recent development in role theory*. *Annu. Rev. Soc.* 12, 67–92.
- Boutellier, H., Huygen, A., 2012. *Buurthuis De Nieuwe Jutter: Geen Blauwdruk, Wel Een Succesverhaal*. Sociale Vraagstukken (www.socialevraagstukken.nl/site/2012/11/27/buurthuis-de-nieuwe-jutter-geen-blauwdruk-wel-een-succesverhaal/ [accessed 8.02.16]).
- Brown, R.R., Farelly, M.A., Loorbach, D., 2013. *Actors working the institutions in sustainability transitions: the case of Melbourne's stormwater management*. *Global Environ. Change* 23 (4), 701–718.
- Bulkeley, H., Castán Broto, V., Hodson, M., Marvin, S. (Eds.), 2011. *Cities and Low Carbon Transitions*. Routledge, New York.
- Callero, P.L., 1994. *From role-playing to role-using: understanding role as resource*. *Soc. Psychol. Q.* 57 (3), 228–243.
- Callero, P.L., 2003. *The political self*. In: Burke, P.J., Owens, T.J., Serpe, R.T., Thoits, P.A. (Eds.), *Identity Resources for Radical Democracy*. *Advances in Identity Theory and Research* Kluwer Academic/Plenum Publishers, New York, pp. 57–70.
- City of Rotterdam, 2014. *Carnisse Neighbourhood Profile*. City of Rotterdam, Rotterdam (<http://wijkprofiel.rotterdam.nl/nl/rotterdam/charlois/carnisse/> [accessed 8.02.2016]).
- Collier, P., Callero, P.L., 2005. *Role theory and social cognition: learning to think like a recycler*. *Self Identity* 4 (1), 45–58.
- De Haan, J., Rotmans, J., 2011. *Patterns in transitions: understanding complex chains of change*. *Technol. Forecast Soc.* 78 (1), 90–102.
- Deelgemeente Charlois, 2012. *Charlois Bericht July 17th, 2012*. Deelgemeente Charlois, Rotterdam.

- Deetman, W., van der Lans, J., Scherpenisse, R., 2011. *Doorzetten En Loslaten. Toekomst Van Wijkanaanpak* Visitatiecommissie Wijkanaanpak. Deel 1. Eindrapportage, Den Haag.
- Farla, J., Markard, J., Raven, R., Coenen, L., 2012. Sustainability transitions in the making: a closer look at actors, strategies and resources. *Technol. Forecast Soc.* 79 (6), 991–998.
- Fischer, L.-B., Newig, J., 2016. Importance of actors and agency in sustainability transitions: a systematic exploration of the literature. *Sustainability* 8, 476.
- Frantzeskaki, N., Loorbach, D., Meadowcroft, J., 2012. Governing societal transitions to sustainability. *Int. J. Sustain. Dev.* 15 (1), 19–36.
- Franz, H.W., Hochgerner, J., Howaldt, J. (Eds.), 2012. *Challenge Social Innovation: Potentials for Business, Social Entrepreneurship, Welfare and Civil Society*. Springer, Heidelberg.
- Geels, F.W., Schot, J.W., 2007. Typology of sociotechnical transition pathways. *Res. Policy* 36 (3), 399–417.
- Geels, F.W., Schot, J.W., 2010. The dynamics of transitions: a socio-technical perspective. In: Grin, J., Rotmans, J., Schot, J.W., Loorbach, i.c.w.D., Geels, F.W. (Eds.), *Transitions to Sustainable Development; New Directions in the Study of Long Term Transformative Change*. Routledge, New York, pp. 11–104.
- Geels, F.W., 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Res. Policy* 31 (8/9), 1257–1274.
- Geels, F.W., 2011. The multi-level perspective on sustainability transitions: responses to seven criticisms. *Environ. Innov. Soc. Trans.* 1 (1), 24–40.
- Geels, F.W., 2014. Regime resistance against low-Carbon transitions: introducing politics and power into the multi-Level perspective. *Theor. Cult. Soc.* 31 (5), 21–40.
- Genus, A., Coles, A.-M., 2008. Rethinking the multi-level perspective of technological transitions. *Res. Policy* 37 (9), 1436–1445.
- Gibson, H.J., Pennington-Gray, L., 2005. Insights from role theory: understanding golf tourism. *Eur. Sport Manag. Q.* 5 (4), 443–468.
- Giddens, A., 1984. *The Constitution of Society* Berkeley. University of California Press.
- Grin, J., Rotmans, J., Schot, J.W. i.c.w., 2010. In: Loorbach, D., Geels, F.W. (Eds.), *Transitions to Sustainable Development; New Directions in the Study of Long Term Transformative Change*. Routledge, New York.
- Grin, J., Rotmans, J., Schot, J., 2011. On patterns and agency in transition dynamics: some key insights from the KSI programme. *Environ. Innov. Soc. Trans.* 1 (1), 76–81.
- Grin, J., 2010. Understanding transitions from a governance perspective. In: Grin, J., Rotmans, J., Schot, J.W., Loorbach, i.c.w.D., Geels, F.W. (Eds.), *Transitions to Sustainable Development; New Directions in the Study of Long Term Transformative Change*. Routledge, New York, pp. 221–319.
- Hargreaves, T., Hielscher, S., Seyfang, G., Smith, A., 2013. Grassroots innovations in community energy: the role of intermediaries in niche development. *Glob. Environ. Change* 23 (5), 868–880.
- Hendriks, C., 2009. Policy design without democracy? Making democratic sense of transition management. *Policy Sci.* 42 (4), 341–368.
- Hilbert, R.A., 1981. Toward an improved understanding of role. *Theor. Soc.* 10 (2), 207–226.
- Hoffman, J., 2013. Theorizing power in transition studies: the role of creativity in novel practices in structural change. *Policy Sci.* 46 (3), 257–275.
- Huygen, A., 2014. *Buurthuizen in Zelfbeheer. Benodigde Kwaliteiten Voor Succesvol Zelfinitiatief*. Verwey-Jonker Instituut, Utrecht.
- Jørgensen, U., 2012. Mapping and navigating transitions—The multi-level perspective compared with arenas of development. *Res. Policy* 41 (6), 996–1010.
- Kern, F., Smith, A., 2008. Restructuring energy systems for sustainability?: Energy transition policy in the Netherlands. *Energy Policy* 36, 4093–4103.
- Kisby, B., 2010. The big society: power to the people? *Polit. Q.* 81 (4), 484–491.
- Kooiman, J., 2003. *Governing as Governance*. Sage, London.
- Linton, R., 1936. *The Study of Man*. Appleton-Century, New York.
- Loorbach, D., Wijsman, K., 2013. Business transition management: exploring a new role for business in sustainability transitions. *J. Clean. Prod.* 45, 20–28.
- Loorbach, D., 2007. *Transition Management. New Mode of Governance for Sustainable Development*. Thesis (PhD). Faculty of Social Sciences, Erasmus University Rotterdam.
- Loorbach, D., 2010. Transition management for sustainable development: a prescriptive, complexity-Based governance framework. *Governance* 23 (1), 161–183.
- Lynch, K.D., 2007. Modeling role enactment: linking role theory and social cognition. *J. Theor. Soc. Behav.* 37 (4), 0021–8308.
- Marinotto, M., 2003. Who wants to be an active citizen? the politics and practice of community involvement. *Soc. Sci. Res.* 32 (1), 103–120.
- Markard, J., Raven, R., Truffer, B., 2012. Sustainability transitions: an emerging field of research and its prospects. *Res. Policy* 41 (6), 955–967.
- Mead, G.H., 1934. *Mind, Self and Society*. University of Chicago Press, Chicago.
- Meadowcroft, M., 2009. What about the Politics? Sustainable development, TM, and long term energy transitions. *Policy Sci.* 42 (4), 323–340.
- Ministry BZK, 2014. *Voortgangsbrieven Wijkanaanpak 2014*. Kenmerk: 2014-0000550800. Ministerie BZK, Den Haag.
- Moulaert, F., MacCallum, D., Mehmood, A., Hamdouch, A. (Eds.), 2013. *The International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research*. Edward Elgar, Cheltenham/Northampton.
- Nevens, F., Frantzeskaki, N., Loorbach, D., Gorissen, L., 2013. Urban Transition Labs: co-creating transformative action for sustainable cities. *J. Clean. Prod.* 50, 111–122.
- Newman, J., Tonkens, E., 2011. Active citizenship: responsibility, choice and participation. In: Newman, J., Tonkens, E. (Eds.), *Participation, Responsibility and Choice. Summoning the Active Citizen in Western European Welfare States*. Amsterdam University Press, Amsterdam, pp. 179–200.
- PBL, 2011. *De Energieke Samenleving*. Planbureau voor de Leefomgeving, Den Haag.
- Putters, K., 2014. *Rijk Geschakeerd. Op Weg Naar De Participatiesamenleving. Sociaal en Cultureel Planbureau*, Den Haag.
- ROB, 2012. *Loslaten in Vertrouwen. Naar Een Nieuwe Verhouding Tussen Overheid, Markt En Samenleving*. Raad voor het openbaar bestuur, Den Haag.
- Ransome, P., 2011. 2011: 'The big society' fact or fiction? – a sociological critique. *Soc. Res. Online* 2 (18).
- Rotmans, J., Loorbach, D., 2010a. Towards a better understanding of transitions and their governance: a systematic and reflexive approach. In: Grin, J., Rotmans, J., Schot, J.W., Loorbach, D. i.c.w., Geels, F.W. (Eds.), *Transitions to Sustainable Development; New Directions in the Study of Long Term Transformative Change*. Routledge, New York, pp. 105–222.
- Rotmans, J., Loorbach, D., 2010b. Complexity and transition management. *J. Ind. Ecol.* 13 (2), 184–196.
- Rotmans, J., 2005. *Societal Innovation: Between Dream and Reality Lies Complexity*. Shortened Inaugural Speech. Erasmus University Rotterdam, Rotterdam.
- Schroeder, H., Burch, S., Rayner, S., 2013. Novel multisector networks and entrepreneurship in urban climate governance. *Environ. Plann. C* 31 (5), 761–768.
- Sewell, W.H., 1992. A theory of structure. duality, agency and transformation. *Am. J. Soc.* 98, 1–29.
- Seyfang, G., Haxeltine, A., 2012. Growing grassroots innovations: exploring the role of community-based initiatives in governing sustainable energy transitions. *Environ. Plann. C* 30 (3), 381–400.
- Simpson, B., Carroll, B., 2008. Re-viewing 'Role' in processes of identity construction. *Organization* 15 (1), 29–50.
- Smith, A., Stirling, A., Berkhout, F., 2005. The governance of sustainable socio-technical transitions. *Res. Pol.* 34 (10), 1491–1510.
- Tonkens, E., 2014. *AVijf misvattingen over de participatiesamenleving. Afscheidsrede*. University of Amsterdam, Amsterdam.
- Turner, R.H., 1990. Role change. *Annu. Rev. Soc.* 16, 87–110.
- Van Steenberg, F., Wittmayer, J., i. c. w. Sterrenberg, L., 2015. *Veerkracht carnisse*. In: *De Stad Kennen, De Stad Maken Online Book*. www.kkshetlevendeboek.nl/boek/.
- Van den Bergh, J., Truffer, B., Kallisa, G., 2011. Environmental innovation and societal transitions: introduction and overview. *Env. Innov. Soc. Trans.* 1 (1), 1–23.
- Van den Bosch, S., 2010. *Transition Experiments: Exploring Societal Changes Towards Sustainability*. Thesis (PhD). Erasmus University Rotterdam, Faculty of Social Sciences.
- Van der Zwaard, J., Specht, M., 2013. *Betrokken burgers & Betrouwbare overheid. Condities en competenties voor burgerkracht in de buurt*. In: *Literatuurstudie Voor Kenniswerkplaats Leefbare Wijken*. Rotterdam.

- Verbong, G., Loorbach, D. (Eds.), 2012. *Reality, Illusion or Necessity?* Routledge, New York.
- Voß, J.-P., Smith, A., Grin, J., 2009. *Designing long-term policy: rethinking transition management*. *Policy Sci.* 42 (4), 275–302.
- WRR, 2012. *Vertrouwen in Burgers*. Amsterdam University Press, Amsterdam.
- Wieczorek, A.J., Hekkert, M.P., 2012. Systemic instruments for systemic innovation problems: a framework for policy makers and innovation scholars. *Sci. Public Policy* 39 (1), 74–87.
- Winship, C., Mandel, M., 2016. 1983–1984. roles and positions: a critique and extension of the blockmodeling approach. *Soc. Method.* 14, 314–344.
- Wittmayer, J., Mock, M., Van Steenbergen, F., Baasch, S., Omann, I., Schöpke, N., 2013. *Taking Stock – Three Years of Addressing Societal Challenges on Community Level Through Action Research Pilot Specific Synthesis Report*. Ecologic, Berlin (Deliverable 4.1, InContext).
- Wittmayer, J.M., Schöpke, N., Van Steenbergen, F., Omann, I., 2014. Making sense of sustainability transitions locally. How action research contributes to addressing societal challenges. *Crit. Pol. Stud.* 8 (4), 465–485.
- Wittmayer, J.M., van Steenbergen, F., Rok, A., Roorda, C., 2016. *Governing sustainability: a dialogue between Local Agenda 21 and transition management*. *Local Environ.* 21 (8), 939–955.