



Contested environmentalism: the politics of waste in China and Russia

Fengshi Wu & Ellie Martus

To cite this article: Fengshi Wu & Ellie Martus (2021) Contested environmentalism: the politics of waste in China and Russia, *Environmental Politics*, 30:4, 493-512, DOI: [10.1080/09644016.2020.1816367](https://doi.org/10.1080/09644016.2020.1816367)

To link to this article: <https://doi.org/10.1080/09644016.2020.1816367>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 10 Sep 2020.



Submit your article to this journal [↗](#)



Article views: 2082



View related articles [↗](#)




View Crossmark data [↗](#)



Citing articles: 7 View citing articles [↗](#)

Contested environmentalism: the politics of waste in China and Russia

Fengshi Wu ^a and Ellie Martus^{b,c}

^aSchool of Social Sciences, University of New South Wales, Sydney, Australia; ^bInstitute of Advanced Study, University of Warwick, Coventry, UK; ^cSchool of Government and International Relations, Griffith University, Brisbane, Australia

ABSTRACT

China and Russia provide critical insights into the nature of environmental politics under authoritarian governments. Developing a paired comparison of activism over waste management in both countries, we explore how environmental civil society interacts with the state and mobilizes social support. We find that despite greater political liberalization, NGOs in hybrid states such as Russia can still find it highly challenging to resist state pressure and introduce policy changes. In contrast, China, notwithstanding its harsher authoritarian system and the use of more repressive measures against social activism, can still be tested by a well-strategized NGO alliance. We challenge the linear logic of existing theories on environmental politics, which assume that social movements are all moving towards a defined end point (e.g. liberal democracy), and argue that environmental politics under authoritarian regimes is both dynamic and contested.

KEYWORDS NGOs; contested environmentalism; civil society; China; Russia; authoritarian politics

Introduction

The first two decades of the 21st century have witnessed a surge of mass mobilization and protests around the globe, marked by the Colour Revolutions in a number of post-Soviet states and the Arab Spring. In response, many governments, including Russia, China, India, Cambodia, and Myanmar, to name a few, have introduced more restrictive social control policies targeting non-governmental organizations (NGOs) and their transnational linkages to prevent them from organizing against authorities (Finkel and Brundy 2012, Crotty *et al.* 2014, Zhang 2018, Li 2019). In this study, we focus on two authoritarian states, China and Russia, and compare the changing power dynamics between state and environmental civil society in

CONTACT Ellie Martus  e.martus@griffith.edu.au

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

the context of increasingly restrictive NGO policies, focusing specifically on the waste management sector.

As this study demonstrates, in the context of a diminishing institutional space for NGOs, environmental problems, exemplified by the case of sustainable waste management, open up new spaces for political contestation, where both state and civil society actors acquire new skills and apply new tactics. While the existing scholarship on environmental politics under authoritarian rule draws more empirical evidence from China, the Russian case – as a hybrid authoritarian state with a degree more freedom of media and expression – offers excellent comparative material to develop new theoretical arguments. Comparing these two ‘most similar’ systems enables us to examine how historical and institutional factors shape the power tussle between political authorities and emerging environmental movements.

The analysis is structured as follows: In the first section, we review the existing literature on the relationship between environmental movements and the resilience of authoritarian regimes, highlight its shortcomings, and offer justification of our comparative research design. The second and third sections detail the struggle between environmental activism and political power over the issue of waste in China and Russia, paying attention to two key unexpected outcomes. First, despite NGO restrictions, we find that a pro-sustainable waste management movement has emerged, albeit to different degrees, in both China and Russia. Second, we find that although the environmental movement in Russia has a longer history and has been better connected to transnational civil society in comparison with China, the pro-sustainable waste movement has consolidated its base and networks earlier and more effectively in China than in Russia, and thus has been able to achieve greater public presence and policy input. In the fourth section, we systematically compare the different outcomes of the sustainable waste management movement in the two cases and discuss potential institutional explanations before returning to the theme of whether environmental activism and movements can impact the long-term trajectory of authoritarian regimes.

Environmental politics under authoritarian rule

Does tackling environmental problems have the potential to open up the political space for civil society actors and weaken authoritarian structures? The environmental politics literature has suggested at least three possible answers to this question: ecological modernization, environmental authoritarianism, and environmental democratization.

Ecological modernization theory emphasizes the collaboration between the state and civil society in the processes of establishing modern environmental governance. Mol has interrogated the case of China in depth and found that the state has provided leadership in improving environmental governance in

the last three decades, incorporating more domestic and transnational non-state actors into the governing system (Carter and Mol 2006, Mol 2006). By allowing civil society actors (mostly environmental NGOs established since the mid-1990s) to play an important role in environmental assessment, monitoring and policy implementation, the state acknowledges and, sometimes unintentionally, helps enhance public accountability of these actors (Johnson 2010, 2014, Li *et al.* 2012). Those few works that have employed the ecological modernization framework in the Russian context have been far more pessimistic. Mol (2009) for example argues that the decline and reversal of institution building is evidence of a process of ‘environmental deinstitutionalization’, with NGOs unable to ‘reinstitutionalize’ environmental protection. Tokunaga (2010) similarly argues that the route to ecological modernization in Russia is ‘closed’. More recently, Tynkkynen (2014) has argued that environmental policy is gradually being institutionalized again, after the decline in the 1990s; however, she contends that only a weak version of ecological modernization is currently taking place, focused on technological solutions to environmental problems, but providing limited scope for public participation.

In contrast to environmental modernization’s prediction of a possible synergy between the authoritarian state and civil society fighting against environmental degradation, environmental authoritarianism underlines the paternalistic, or even predatory, nature of the authoritarian state when building institutions for environmental protection. In the case of China, this approach argues that the improvement in environmental governance (particularly in responding to climate change) in the past two decades has actually contributed to the popularity of the Chinese Communist Party (CCP) and the sophistication of authoritarianism (Gilley 2012). Moreover, the Chinese system now has a ‘demonstration effect’ on other developing countries in Asia and beyond to adopt more authoritarian political structures in order to address grave challenges caused by global climate change (Beeson 2010, Shahar 2015). Unlike the case of China, environmental authoritarianism has not been widely applied to the Russian context, with a few limited exceptions (Bouffard 2018).¹ As Martus (*forthcoming*) argues, the environmental authoritarianism literature implies a much higher level of state engagement with environmental governance than currently exists in Russia.

Finally, drawn from the simultaneous rise of broad environmental and social movements and the collapse of authoritarian regimes in a number of states including the former Soviet Union, South Korea, Taiwan and Brazil since the 1980s, the thesis of environmental democratization highlights that mass mobilization as a result of environmental disaster can open up the political system and contribute to democratization (Weiner 1999, Hochstetler 2000, Schreurs 2002). However, this thesis is challenged by the case of China, as the previous two groups of literature have shown. Despite many successful campaigns and examples of policy advocacy by various environmental NGOs, there remains

a lack of synthesized environmental movements in China to openly promote an agenda of political change (Tong 2005).

The above three macro-level theories are helpful to the extent that they provide a starting point to examine the power dynamics between environmental movements and authoritarian states. But they are limited in explaining the relative prominence of one trajectory over the other two at any point in time. Most importantly, however, these existing approaches are limited by the fact that they all assume environmental movements are moving towards a defined end point (be it modernization, authoritarianism or liberal democracy). Similar to the critique levelled at democratization studies by Levitsky and Way (2002) almost two decades ago when they pointed to a ‘democratizing bias’ in the literature, we urge caution at assumptions that environmental movements are unidirectional, and argue that reality of state-civil society relations under authoritarian regimes is far more dynamic and nonlinear. We instead argue that there is no clear, definite development or decline of the authoritarian state, when challenged by a sustained environmental movement.

As an alternative to the above three macro-theories, we argue there is ongoing contestation: resistance by the environmental movement followed by setbacks, and the stagnation then reconsolidation of authoritarianism. In the case of China, many recent literatures converge on the observation that reforms led by the state to cope with daunting pollution in the past three decades have produced far more ‘ambivalence’ (Stern 2013) than certainty in the Chinese political system and environmental governance. The party-state ‘needs and fears’ environmental NGOs at the same time ‘for their positive and negative roles in controlling risk and maintaining stability’ in solving the conflicts resulting from environmental accidents and pollution (van Rooij *et al.* 2016, p. 1). Both the ‘perceived threats’ by the state and the ‘interpretation of the political environment’ by the activists are constantly changing, which results in cases of ‘conditional tolerance’ of broad civil society coalitions by the Chinese state from time to time (Lu and Steinhardt *forthcoming*). This argument echoes the findings on state–society relations in general in China, whereby outbreaks of protest, complex regime co-optations, and sustained government-NGO collaboration all take place and co-exist (Hildebrandt 2011, Spies 2011, McCarthy 2013, Wu 2017a).

Furthermore, similar patterns are emerging in Russia. The close link between the environmental movement and demands for democratization in the late 1980s and early 1990s (Weiner 1999), prepared the ground for growing tensions between civil society and an increasingly hostile state in the Putin era (Feldman and Blokov 2012, Newell and Henry 2016, Plantan 2018). On the one hand, repressive NGO laws and increasingly aggressive rhetoric directed towards NGOs with international funding have created a very hostile environment, with groups accused of working in the interests of foreign governments to destabilize Russia (e.g. Mikheev *et al.* 2018). On the other, similar to the ‘conditional tolerance’ of some groups in China, some Russian NGOs are able to exist

and collaborate with the state (Sofronova *et al.* 2014, Martus 2018), and environmental concerns are leveraged by the regime to enhance its own legitimacy.

The cases of China and Russia illustrate what we call ‘contested environmentalism’ under authoritarian rule. We argue that the field of environmental protection becomes an arena for continuous and emerging conflict, competition and negotiation between state and civil society actors in authoritarian regimes. What our approach offers is an analytical angle to better understand the historical roots and enduring nature of authoritarianism, the power of existent institutions – particularly the sequence of institutional changes in the context of both domestic regulatory reforms and development of transnational civic linkages – in both facilitating and limiting social movements, and the non-linear trajectory of political development in authoritarian states.

Research design and methods

In this analysis, we conduct a paired comparison (Tarrow 2010) of recent trends in environmental politics in both China and Russia to further discern the nature of contested environmentalism in authoritarian states. These two cases provide new insights to identify important institutional factors that can explain why under some conditions social forces are able to push ‘ecological modernity’ forward, and under others the state can suppress social grievances, co-op social innovations, and build up ‘environmental authoritarianism’. Our choice of paired comparison enables us to draw on our regional expertise, and provide the in-depth analysis considered to be a key strength of this method (Tarrow 2010, p. 244) while moving beyond the limitations of a single case study.

China and Russia have much in common, including authoritarian regime features, similar institutional environments for the political control of NGOs, and both are significant actors in global environmental politics. However, there are key differences between the two cases in terms of outcomes for environmental NGOs and zero-waste movements. Although this ‘most similar system’ research design (Meckstroth 1975) does not immediately lead to the narrowing down of specific explanatory variables, it first helps to identify and understand the ongoing power contestation between the authoritarian state and environmental civil society, and second, offers insights for further investigation of the causal mechanisms in future studies.

Waste management has been selected for comparison for several reasons. First, the issue is highly topical in both China and Russia. China produces the largest percentage of global total solid waste per year. It has been estimated that almost two-thirds of China’s cities face a ‘garbage siege’ problem, posing severe risks to the environment and public health (Zhang and Li 2011). In Russia, municipal solid waste (MSW) has been steadily increasing, with most sent to landfill. In Moscow and the surrounding region, for example, over 11 million

tonnes of MSW was produced in 2015. Of this, 90% went to landfill, and only 4% was recycled (Alimov and Artamonov 2015, p. 2). Second, the scale of the MSW issue has sparked a number of large protests in both states, with the public voicing their discontent with the handling of this issue by governments as discussed below. Finally, urban waste is not as confrontational an issue in comparison with other areas of environmental concern such as anti-large dam construction or air pollution in China, or pipeline construction and Arctic oil and gas development in Russia. This means that the state is more willing to engage with groups on the issue; thus the sector presents a high level of complexities of the relationship between the state and civil society.

Our analysis draws on original fieldwork conducted in China and Russia at different periods between 2012 and 2018 and analysis of documentary materials. The empirical research for the China case has been conducted by the first author and is based on published scholarship, interviews and participatory observations conducted from 2012 to 2018. The first author was an expert advisor for two grant-making organizations operating in China during this period, which provided opportunities to communicate and interact with anti-incinerator and other waste management related NGOs either via social media or in person.²

The empirical research for the Russian case was conducted by the second author, utilizing similar methods and approach. This involved a review of major Russian federal and regional level media coverage of the urban waste protests, in conjunction with reports and websites from NGOs involved with the issue, and government policy documents including regulations. This is supplemented by contextual material gathered for a research project on environmental actors and institutions in Russia, consisting of a series of in-depth, semi-structured interviews conducted in 2018 with environmental NGOs operating in Moscow and St Petersburg.

In both cases, interviewees were asked about state/civil society relations and the impact of NGO regulations on their operations and engagement with government agencies. Interviews are used for contextual information, rather than textual analysis. Specific interview details are provided in the notes whenever necessary.

China: civil society swimming against the political tides

This section provides an analysis of social activism in the field of waste management in China and focuses on the recent developments of this case in the context of Xi Jinping's rule since 2012 and new regulatory restrictions. In a nutshell, the activist community advocating for better recycling policies and against building more incinerators, has not only survived but also thrived. The Panyu anti-incinerator protest in 2009 and the follow-up policy advocacy activities represent a watershed event as they mark the beginning of

the overall expansion and deepening of the anti-incinerator movement across China (Johnson 2010, Wong 2013, Steinhardt and Wu 2016). Prior to the Panyu movement, the grassroots level protests against the location of potential landfills and incinerators were isolated from each other and tied to local contexts. However, since Panyu, there is now an open, nationwide alliance of activists, concerned citizens, community leaders, experts, and sympathetic bureaucrats – the Zero Waste Alliance (*Lingfeiqi Lianmeng*, ZWA)³ – that work on sustainable waste management issues on a regular basis (Lu and Steinhardt [forthcoming](#)).

Besides resisting prevalent state monitoring individually, activists and NGOs in the field of zero waste also have applied two strategies to sustain their collective presence in China. First, they have moved from ‘street politics’ – mobilizing citizens to take up collective actions such as NIMBY protests – to ‘brain politics’ – developing policy expertise and focusing on policy changes. After successful protests delayed the construction of the incinerator, Basuo, the leading activist of the Panyu movement, for example, established his own environmental NGO and quickly shifted his main focus from community mobilizing only, to both grassroots outreach and participation in policy implementation and recommendation. Eventually, Basuo became a self-trained expert whom local governmental agencies (at district, municipal and even provincial levels) in Guangdong province frequently consult with to design waste recycling programs in residential complexes and to revise or draft regulations. In Beijing, the two most important environmental NGOs in coordinating and connecting local anti-incinerator movements – the Friends of Nature (*Ziran Zhiyou*) and the Natural Academy (*Ziran Daxue*) – have strong records of policy recommendation and extensive networks with state agencies. These leading NGOs have always mindfully mixed resistant actions with proactive engagement with the government when assisting pollution victims and communities, including getting in touch with state affiliated scholars, sympathetic officials, and representatives of the Political Consultative Conference.

The second strategy is to move from ‘lonely’ activists to broad coalitions. Since early on, the environmental NGO sector has been distinctive, compared with other NGO communities in different policy areas, in its capacity to build up cross-organizational networks and broad coalitions (Bondes and Johnson 2017, Lu and Steinhardt [forthcoming](#)). Both vertical connections, which link grassroots communities with key NGOs in Beijing (or even international NGOs and agencies), and horizontal connections, which link-up local NGOs, pollution victims and other concerned parties within a region or similar level, are necessary for the survival and success of local targeted resistance and individual activists/NGOs (Wu 2013). Evidence from other fields, particularly disaster relief NGOs (Peng and Wu 2018) that has a lot of overlap with the environmental sector, further

confirms the positive effect of coalition building for civil society actors in general. With the advancement of social media and Web 2.0, NGOs and activists can cast an even wider net to engage with thousands of ordinary citizens (Wu and Yang 2016). The anti-incinerator and environmental NGO community have utilized smart-phone-based technologies (e.g. Weibo, Wechat public accounts, smart-phone Apps) to conduct public monitoring and interactive mapping of pollution and incinerator sites, which also help enhance NGOs' public visibility and lower the political risks activists endure individually.

The strategic moves by leading activists and NGOs mentioned above eventually led to the establishment of the ZWA in late 2009. Originally designed to link-up various NGO activities related to urban waste across localities with grant support from the Global Alliance for Incinerator Alternatives, ZWA focused on networking and coordination activities among environmental NGOs only. However, by 2016, the annual ZWA conference had expanded its invitee list to include a broad pool of speakers and participants from abroad, NGOs, local communities, officials and scholars/experts. These conferences have become essential fora for informal exchanges between activists and governmental officials.⁴

Many structural and institutional factors contribute to the overall development of civil society and permit the above strategies to work in the field of waste management, amongst which three are most worthy of attention. First, the particular sequence of new laws and regulations related to environmental governance and NGO development. Prior to the 2016 Charity Law and the 2017 Law of Administration of Activities of Overseas Nongovernmental Organizations (a.k.a. the 'International NGO Law'), Chinese government had passed and reformed a couple of laws and regulations aimed at enhancing public access to environmental information and environmental impact assessment, e.g. the 2003 Environmental Assessment Law, the 2008 Environmental Information Disclosure Measures, and 2014 Environmental Protection Law Amendment. These environmental regulatory changes opened up a critical window of opportunity for the environmental NGO community to grow and consolidate its capacity of policy participation and advocacy (Wang 2018).

In addition, the official rhetoric of 'ecological civilization' launched during Hu's administration and enhanced by Xi's is another arguably supporting factor for the zero-waste and environmental activist community. Ecological civilization is the most recent metaphor employed by the CCP to improve its public image and policy appeal on the global stage. Domestically too, this official rhetoric has helped state-level environmental administration to gain more power within the bureaucratic system (Morton and Wu 2019). In a way, probably not intended by the state, it also has provided discursive legitimacy for anyone or any NGO that promotes environmental protection and awareness.

Therefore, the regulatory environment for activists and NGOs to continue their work is relatively better in the field of anti-incinerator and waste management than in many other public policy areas. A rare window of opportunity opened for environmental NGOs to get access to policy processes, pursue legal means for information disclosure, and grow self-capacity in the 2000s, and as a result social autonomy and capacity-building have reached a relatively higher level among environmental NGOs compared with other social activism communities. Environmental NGOs have moved beyond providing spontaneous support to each other to regularized cooperation, a shared sense of belonging, collective action, and strategizing, and, to some extent, establishing 'parallel governance' alongside or outside of the state apparatus (Peng and Wu 2018).

Second, the lack of an effective state agency or governing structures in the field of urban waste management makes it beneficial for local bureaucracies to work with environmental NGOs. Prior to the 2000s and the first wave of urbanization in large cities, urban waste was not systematically managed, but left for market forces to deal with. Civil society emerged in this context, following protests by pollution victims, before the state regulatory bodies. This explains why district-level officials would seek advice from Basuo and environmental NGOs to draft regulations on recycling and urban waste management.

Third, because of the advantages explained above, compared with the labour and human rights activist communities, the environmental community, including the zero-waste movement, has been able to mobilize resources and expertise from both domestic and overseas sources. By diversifying sources of funding and not depending exclusively on foreign donors and agencies, the practical and political risks for Chinese grassroots NGOs are reduced (Zhou 2018). Even after the International NGO Law came into effect, both Chinese environmental NGOs and foreign donors have worked out pragmatic ways to circumvent regulatory restrictions and continue at least parts of their financial connections (Wu 2017b).

Russia: politically acceptable environmentalism?

This section explores the politics of waste in Russia, charts the involvement of activists and grassroots groups followed by the involvement of larger NGOs and their strategies, and considers the overall impact on state–society relations. As noted, waste management is a serious environmental issue for Russia and has led to a number of protests in recent years. These have occurred in several cities across Russia, with the largest seen in the Moscow region. The number and size of protests peaked in March and April 2018 and became known as the 'Rubbish Riots' (*Musornyi Bunti*). One of the largest occurred in Volokolamsk, when local residents tried to block roads leading to the landfill site, and a number of protestors were

detained by police (Bryzgalova 2018a). Further protests were held, eventually resulting in the dismissal of the head of Volokolamsk District.

The protests have generated significant media attention, a great deal of which has been sympathetic. However, the overall success of the movement has varied considerably, depending on the individual case. As noted, the head of the Volokolamsk District was sacked, and in an earlier instance, Putin directly intervened to close down the Kuchino landfill by presidential decree (Henry 2018). At the same time, in a number of instances individual activists involved in these protests have faced harassment from the police and local authorities, and in some cases arrest and detention (see Proshkin 2018, Reprintseva 2018, Bryzgalova 2018b)

For the most part, the ‘Rubbish Riots’, and other related protests across Russia, have been spontaneous, grassroots protests. Issues are highly localized, although there has been some limited coordination between protests. Social media (e.g. VKontakte) has been widely used as a communication tool to organize protests and spread information. However, in contrast to China, protests appear to remain at the level of ‘street politics’, with little evidence of policy engagement or cooperation with local or regional authorities, nor the opportunity to do so. Blame is attributed to local and regional authorities, and, for the most part, not linked to the federal government. This has given protestors a degree of freedom to operate in a way not seen in more ‘political’ spheres such as human rights, or anti-corruption.

Beyond these localized protests at the level of organized groups, there are several NGOs which focus exclusively on issues associated with MSW. Two prominent groups are ‘Separate Collection’ (*Razdel’nyi sbor*) and ‘No.More.Rubbish’ (*Musora.Bol’she.Net*). Both are volunteer-led and provide information to the public, organize cleanups, and participate in events related to waste collection and recycling. No.More.Rubbish is apolitical and focused on community engagement, though cooperates with larger organizations such as Greenpeace on joint campaigns (Sokolov and Solov’eva 2012). Similarly, Separate Collection avoids direct criticism of the authorities, but has a stronger focus on policy advocacy and involvement in legislative development (*Razdel’nyi sbor*, n.d.). Both have received funding from the government under the Presidential Grant Foundation, which has become a key source of funds for civil society.

Of the larger NGOs, Greenpeace Russia has had a long and multifaceted involvement in the MSW issue. As noted, they work with grassroots organizations on waste and recycling campaigns. They also place considerable emphasis on providing public information, producing a ‘Recycle Map’ showing the location of recycling outlets across Russia for example (Greenpeace 2019), in addition to running a ‘Zero Waste’ campaign, and providing media commentary (e.g. Artamonov 2018). Greenpeace has a long-standing tradition of policy advocacy and critique of legislation in the sphere, having

produced numerous reports and pamphlets offering a range of policy solutions (e.g. Alimov and Artamonov 2015).

Of the NGOs, Greenpeace, as one of the largest and most visible environmental groups in Russia, has so far managed to operate in the waste management sphere with a large degree of freedom. Under the current laws targeting NGO operations, the organization has managed to avoid being targeted for the most part (one interviewee for example referred to Greenpeace as one of ‘the untouchables’), although they have faced some harassment from the authorities (e.g. Newell and Henry 2016, p. 15). The two coalition-type groups discussed above, Separate Collection and No.More.Rubbish, steer clear of any overtly political activities like supporting protests and encouraging supporter mobilization, and appear to have had little involvement in the 2018 ‘Rubbish Riots’ despite the obvious connection to their *raison d’être*. The reliance of these groups on funding from the Presidential Grant Foundation is likely to ensure NGOs continue to avoid direct criticism of authorities.

These events have occurred at a time when the state is attempting to redefine its relationship with NGOs and their role in Russian society. On the one hand, groups focused on issues like MSW are allowed to exist. Henry (2018) describes these grassroots groups as being part of a new ‘environmentalism of daily life’, acceptable to the government. Local-level protestors have not been able to organize collectively, and NGOs in the sector avoid criticizing the regime by adopting a careful strategy of de-politicization: blame for the issue is not attributed to the Putin administration or any broader failures in state capacity. This strategy is in stark contrast to that adopted by the environmental movement in the late Soviet and early post-Soviet era, which was closely associated with the push for democratization noted above. As a result, protesters and groups associated with MSW are given a degree of protection from state hostility. As one representative of a St Petersburg-based NGO pointed out, when it comes to groups who want to clean up rubbish the authorities are generally quite positive, but when the environmental problems raised are violations linked to ‘corruption and big business, then environmental groups automatically become enemies’.

The politically ‘safe’ nature of waste management is clearly demonstrated by Putin’s regular attention to the issue. As an example, at the 2019 annual Presidential Address to the Federal Assembly setting out the government’s policy agenda, Putin referred to municipal waste as a ‘painful topic’ and emphasized the need ‘to build a civilized and safe system of waste treatment, recycling and disposal’ (President of Russia 2019). A second example of this can be seen with the case of the All-Russia People’s Front (*Obshcherossiiskii narodnyi front*, ONF).⁵ The ONF devotes considerable attention to waste, runs its own ‘Interactive Landfill Map’ for citizens to report illegal dumping sites (ONF Ploshchadka Ekologiya, n.d.), and discusses a range of policy proposals on its website (ONF, n.d.). Putin

has called on the organization to address the issue of ‘uncontrolled and criminalized’ landfills on at least two separate occasions (RIA Novosti 2016, President of Russia 2019).

The attention Putin has paid to the issue of waste reform suggests that issue is perceived as beneficial. The immediate closure of the Kuchino dump and the subsequent positive media coverage for example demonstrate how the issue can be co-opted or neutralized for the benefit of the regime. Studies of other authoritarian regimes have made similar observations about the way the environment can be utilized in support of the state (e.g. Doyle and Simpson 2006). At the same time however, the large scale of the protests is likely to be perceived as threatening to the regime. As one NGO representative observed for example, ‘when they [the authorities] see that people are really ready to fight, then they do something. But it’s not because they want to improve the environment, it’s just because they want to calm down the situation’.

What then can the waste management example tell us about broader trends in Russian environmental politics? As noted, few would argue a process of ecological modernization or democratization is taking place in Russia, with evidence to suggest the opposite if seen within the context of the decline in environmental institutions and a gradual weakening of civil society since the 1990s. The environmental authoritarianism framework seems equally limited in the Russian context. While the government may choose to emulate this ‘ideal type’ model in the future, at present it appears unlikely for reasons noted above. The evidence from this case suggests that, as in the case of China, an alternative approach is needed, which emphasizes uncertainty and an ongoing struggle between state and civil society. In Russia, this manifests itself as a form of ‘managed environmentalism’, which is largely apolitical, closely watched, and sometimes even cultivated by the state, albeit within careful limits.

Comparative discussion

As demonstrated above, the communities of MSW and zero waste activists and NGOs in China and Russia share similar challenges. With the introduction of new laws and restrictions related to NGOs since mid-2000s, individual activists and groups face more formal and informal risks than before. Beyond these similarities, however, significant differences emerge. Despite the 2018 protests in Moscow, the scale of which have rarely been seen in the post-Soviet era in relation to the environment, the issue of waste politics provides a strong indication of the deterioration of the political environment for NGOs in Russia. While restrictions designed to control civil society have not been able to prevent local dissatisfaction with waste management practices developing into grassroots protests, these protests have remained highly localized and limited in scale, with little indication of alliance building found in the case of

China. Russian NGOs focused on waste and recycling avoid politicizing the issue through direct criticism of the authorities, and in many cases are dependent on domestic sources of funding, particularly as access to international finance has been significantly reduced as a result of restrictive NGO laws. Furthermore, while local authorities in China have been willing to work with environmental groups following anti-incinerator/landfill protests, in Russia there are few signs of this happening at the local or regional level. Cooperation is restricted to a select few at the federal level. The effect of over a decade of gradual, increased state control of NGOs has been to leave environmental civil society in Russia atomized and weak, and unable to capitalize on the momentum created by the 2018 protests. In contrast, environmental NGOs in China have been able to alleviate the impact of Xi's repressive policies by their conscious effort to build up cross-organizational alliance and public accountability. Overall, the general mood among NGO practitioners in China is not as upbeat as a few years ago, but that is less due to the Charity Law and the International NGO Law per se than targeted and repeated repression of human rights and labour activists since 2012 (Wu 2017b).

So how can we account for this variation? There are immediate and specific political institutional factors that we argue have contributed to the different outcomes in the two cases. For example, the sequence, rather than the number or content of various laws and regulations matters to the outcome. In the case of China, reforms of laws and regulations related to environmental governance that were implemented in the 2000s created rare structural opportunities for environmental civil society to blossom for over a decade, which explains to a great extent why anti-incinerator and zero-waste activism could endure the worsening of the overall NGO regulatory environment since 2012. While in Russia, almost the opposite is true. The high point for environmental governance was in the 1990s, in the immediate post-Soviet era. Post-Soviet environmental civil society, characterized by organized, professionalized NGOs rather than mass-mobilization and protest, was thus already in decline in the 2000s when laws aimed at curbing NGO activity and foreign connections were introduced from 2006 onwards. The point at which NGO regulations were introduced, when groups were already struggling, may in part account for why Russia's environmental civil society has been hit hard by these restrictions and has therefore been less capable of exploiting grassroots protests when they emerge.

Furthermore, while both governments have openly acknowledged and publicized official narratives on the value of environment protection and sustainability, Chinese environmental NGOs have been able to capitalize on this official rhetoric and hold the government to account more successfully than their peers in Russia. It is important to highlight that anti-incinerator NGOs in China have successfully transformed their experience of resistance into technical expertise and have made themselves invaluable to local policy implementation. This is

a crucial departure point between Chinese and Russian zero-waste social movements. Russian activists and NGOs have adopted a careful strategy to ensure the issue of urban waste management is not directly linked with anti-regime sentiment, and this has given them a degree of freedom in which to operate. However, in contrast with the case of China, they have very limited interaction with the government in the policy sphere.

More importantly, however, beyond the immediate institutional environment, we have also found that the sequence and patterns of political transition and transnational civic linkages also contribute to the outcome of regulatory restrictions and short-term social control measures. The dramatic political liberalization that occurred in Russia during *perestroika* in the late 1980s and after the Soviet Union's collapse in 1991 opened the door to transnational linkages amongst a wide range of civil society actors including those that focus on distinctly political matters (i.e. human rights, fair elections, political parties). Since coming to power in 2000, and particularly following the Color Revolutions, Putin has devoted considerable energy towards reasserting state control over civil society. The three NGO laws passed by the Russian government between 2006 and 2015 target this politically energized sector of civil society. Groups that focus on issues such as urban waste that are considered safe, even useful, are allowed to operate with a greater degree of freedom and have access to domestic sources of NGO funding. At the same time, an increasingly hostile atmosphere is being cultivated in which groups with international ties are being accused of working against the interests of the state.

In contrast, China has never launched fundamental political reforms and fully opened for foreign associations – especially those with open political agenda – to enter and operate inside the country. For example, the first attempt to open a Greenpeace China office was immediately shut down after the office staff staged a small demonstration in Tian'anmen Square on 4 June 1994. Since then, even though most Chinese environmental NGOs have received grants and expertise support from overseas, there are little cumulative political challenges to the CCP regime coming directly from the transnational alliances between Chinese and foreign environmental NGOs, in spite of the fact that there are intended and unintended impacts on policy outcomes and institution building at local and state levels in China (Morton 2005). What is worth pointing out is that the most significant political achievements and contentious acts in the environmental sector are initiated and carried out by Chinese NGOs alone. Some China experts even criticized foreign donors as being compromised due to the strict check-ups conducted by the Chinese government, resulting in the use of funding to 'boost the Chinese government, not NGOs.' (Spires 2012). This partially explains why cutting off international funding support and transnational linkages by Xi's administration has not completely hit the core of China's environmental civil society. With locally rooted networks and a decent level of self-capacity, the

zero-waste alliance has been able to take off and link-up with various anti-incinerator and pollution victim groups and sympathetic scholars and policymakers to advance their activism agenda.

Conclusion

In this comparative study of the politics of waste in two authoritarian countries, we have presented both similar and divergent trends regarding state and civil society dynamics after the introduction of harsher NGO restrictions in recent years by both governments. On the one hand, such restrictive regulations have had a direct negative impact on the development of the community of environmental NGOs and activism in both cases, as they impose specific limits, obstacles, and even threats to individual organizations and activists.

On the other hand, however, and probably more importantly to this research, there are considerable variations in the nature of social activism in the aftermath of these restrictive NGO laws. In the first case, civil society actors in China have been able to draw upon the self-capacity and social resources accumulated in previous years to overcome some of the negative consequences of the new NGO restrictions and have been able to continue to mobilize, build up alliances and achieve advocacy goals. In the second case, regulations have not prevented the emergence of grassroots protests in Russia, but these have remained highly localized. After years of decline, environmental civil society actors in Russia lack the resources to mobilize effectively and have avoided direct criticism of authorities, focusing instead on public information campaigns. Furthermore, Chinese zero-waste activists, having learned from previous campaigns, have acquired new capacities, and transformed themselves into experts, becoming successful in terms of policy engagement. There is little to suggest this has occurred in Russia.

China and Russia, two representative cases of authoritarianism in the contemporary world, provide an insight into the nature of environmental politics under authoritarian governments. Despite greater political liberalization, NGOs in hybrid states such as Russia can still find it highly challenging to resist state pressure and introduce policy changes; whereas the Chinese state, despite having a harsher authoritarian system and using repressive measures against social activism, can still be tested by a well-strategized NGO alliance. These cases demonstrate that there is space for environmental civil society actors to exist under such regimes, and even operate with a degree of freedom and capacity not afforded to similar actors in other policy fields due to the specific opportunities discussed. However, we would not assume that the presence of environmental actors serves to directly weaken overall authoritarian structures. Instead, the existence of environmental civil society and the success of some environmental movements and campaigns, such as the ongoing anti-incinerator and zero-waste

case in China and the operation of urban waste NGOs in Russia, reinforces that there is no linear path in terms of whether environmental social mobilization will lead to political liberalization. The two cases together, representing authoritarianism at different stages, demonstrate that the ultimate outcome of the newly opened public policy space triggered by environmental challenges is ongoing, dynamic, and contested.

Notes

1. As one of the reviewers has pointed out, Russia, despite some claims to be a leader in global environmental governance (e.g. Tynkkynen 2010), is far less ambitious than China in this regard. This can partially explain why it is less clear that Russia is an 'environmental authoritarian' state. Limited by space, we cannot fully discuss this point here, but it remains an issue for future research.
2. The first organization is funded by Chinese entrepreneurs and based in Beijing and the other one is American and has a China Board consisting of independent experts.
3. Organizational website <http://www.lingfeiqi.org>, last accessed 22 December 2018.
4. Communication between the first author and a main activist associated with the Zero-Waste Alliance and a main organizer of the annual conferences in December 2018.
5. The ONF was created by Putin in 2011 and as an attempt to broaden the electoral appeal of United Russia. It is composed of a variety of groups including trade unions and (politically acceptable) NGOs. Putin is the leader of the ONF.

Acknowledgments

The authors would like to thank the journal editor and four anonymous reviewers for their useful comments, and Stephen Fortescue and the participants of the 14th Biennial Australasian Association for Communist and Post-Communist Studies Conference (30–31 January 2019) for comments on an earlier draft.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The second author received funding as part of an IAS WIRL-COFUND Fellowship at the University of Warwick. IAS WIRL-COFUND Fellowships are funded by the European Union's Horizon 2020 research and innovation programme, under the [Marie Skłodowska Curie Actions](#) COFUND scheme (grant agreement number 713548).

ORCID

Fengshi Wu  <http://orcid.org/0000-0001-8859-7355>

References

- Alimov, P. and Artamonov, D., 2015. *Musornoe kol'tso vokrug Moskvy*. Greenpeace Russia. Available from: https://www.greenpeace.org/russia/Global/russia/report/toxics/obsor_othodi_msk.pdf [Accessed 12 December 2018].
- Artamonov, D., 2018. Problema, zakopannaya v zemlyu. O musornom collapse v Podmoskov'e. *Snob.ru*, 20 March. Available from: <https://snob.ru/entry/158692> [Accessed 13 January 2019].
- Beeson, M., 2010. The coming of environmental authoritarianism. *Environmental Politics*, 19 (2), 276–294. doi:10.1080/09644010903576918
- Bondes, M. and Johnson, T., 2017. Beyond localized environmental contention: horizontal and vertical diffusion in a Chinese anti-incinerator campaign. *Journal of Contemporary China*, 26 (106), 504–520. doi:10.1080/10670564.2017.1275079
- Bouffard, T., 2018. Authoritarian administration: an environmental paradox in the Russian arctic. *Arctic Yearbook*. Available from: <https://arcticyearbook.com/arctic-yearbook/2018/2018-scholarly-papers/288-authoritarian-administration-an-environmental-paradox-in-the-russian-arctic>
- Bryzgalova, E., 2018a. Po Podmoskov'yu prokatilet'sya volna ekologicheskikh protestov. *Vedomosti*, 11 March. Available from: <https://www.vedomosti.ru/politics/articles/2018/03/11/753149-volna-ekologicheskikh-protestov> [Accessed 12 January 2019].
- Bryzgalova, E., 2018b. Organizator mitingov v Volokolamske zaderzhan politsei. *Vedomosti*, 1 April. Available from: <https://www.vedomosti.ru/politics/articles/2018/04/01/755506-organizator-mitingov-zaderzhan> [Accessed 12 January 2019].
- Carter, N.T. and Mol, A.P.J., 2006. China and the environment: domestic and transnational dynamics of a future hegemon. *Environmental Politics*, 15 (2), 330–344. doi:10.1080/09644010600562294
- Crotty, J., Hall, S.M., and Ljubownikow, S., 2014. Post-soviet civil society development in the Russian Federation: the impact of the NGO law. *Europe-Asia Studies*, 66 (8), 1253–1269. doi:10.1080/09668136.2014.941697
- Doyle, T. and Simpson, A., 2006. Traversing more than speed bumps: green politics under authoritarian regimes in Burma and Iran. *Environmental Politics*, 15 (5), 750–767. doi:10.1080/09644010600937199
- Feldman, D. and Blokov, I., 2012. *The politics of environmental policy in Russia*. Cheltenham: Edward Elgar.
- Finkel, E. and Brundy, Y.M., 2012. Russia and the colour revolutions. *Democratization*, 19 (1), 15–36. doi:10.1080/13510347.2012.641297
- Gilley, B., 2012. Authoritarian environmentalism and China's response to climate change. *Environmental Politics*, 21 (2), 287–307. doi:10.1080/09644016.2012.651904
- Greenpeace, 2019. <https://recyclemap.ru/> [Accessed 22 March 2019].
- Henry, L., 2018. Will a garbage revolt threaten Putin? *The Conversation*, 7 June. Available from: <https://theconversation.com/will-a-garbage-revolt-threaten-putin-95704> [Accessed 13 January 2019].
- Hildebrandt, T., 2011. The political economy of social organization registration in China. *The China Quarterly*, 208, 970–989. doi:10.1017/S0305741011001093

- Hochstetler, K., 2000. Democratizing pressures from below? Social movements in the new Brazilian democracy, in Kingstone, P. and Power, T. (eds). *Democratic Brazil: Actors, institutions, and processes*. University of Pittsburgh Press: pp.167–184.
- Johnson, T., 2010. Environmentalism and NIMBYism in China: promoting a rule-based approach to public participation. *Environmental Politics*, 19 (3), 430–448. doi:10.1080/09644011003690914
- Johnson, T., 2014. Good Governance for Environmental Protection in China: Instrumentation, Strategic Interactions and Unintended Consequences. *Journal of Contemporary Asia*, 44(2), 241–258. doi:10.1080/00472336.2013.870828
- Levitsky, S. and Way, L.A., 2002. Elections without democracy: The rise of competitive authoritarianism. *Journal of democracy*, 13(2), 51–65. doi:10.1353/jod.2002.0026
- Li, S., 2019. Global civil society under the new INGO regulatory law: a comparative case study on two INGOs in China. *VOLUNTAS*. doi:10.1007/s11266-019-00101-y
- Li, W., Liu, J., and Li, D., 2012. Having their voices heard: three cases of public participation in environmental protection in China. *Journal of Environmental Management*, 98, 65–72. doi:10.1016/j.jenvman.2011.12.019
- Lu, J. and Steinhardt, C., forthcoming. Alliance building among environmental non-governmental organizations in China. *Modern China*. (manuscript provided by the authors).
- Martus, E., 2018. *Russian environmental politics: state, industry and policymaking*. Abingdon: Routledge.
- Martus, E., forthcoming. Policymaking and policy framing: Russian environmental politics under Putin. *Europe-Asia Studies*.
- McCarthy, S.K., 2013. Serving society, repurposing the state: religious charity and resistance in China. *The China Journal*, 70 (1), 48–72. doi:10.1086/671330
- Meckstroth, T.W., 1975. “Most different systems” and “most similar systems” a study in the logic of comparative inquiry. *Comparative Political Studies*, 8 (2), 132–157. doi:10.1177/001041407500800202
- Mikheev, S., Zharov, M., and Ryabov, I., 2018. *Ekozashchita i ekonapadenie: politicheskie ekologi v rossii i mire*. Moscow. Available from: <http://miheev-politolog.ru/ekozashchita-i-ekonapadenie-politicheskie-ekologi-v-rossii-i-v-mire/> [Accessed 13 December 2018].
- Mol, A.P.J., 2006. Environment and modernity in transitional China: frontiers of ecological modernization. *Development and Change*, 37 (1), 29–56. doi:10.1111/j.0012-155X.2006.00468.x
- Mol, A.P.J., 2009. Environmental deinstitutionalization in Russia. *Journal of Environmental Policy & Planning*, 11 (3), 223–241. doi:10.1080/15239080903033812
- Morton, K., 2005. *International aid and China's environment: taming the yellow dragon*. London: Routledge.
- Morton, K. and Wu, F., 2019. Policy case study: the environment. In: W. Joseph, ed. *Politics in China: an introduction*. Oxford: Oxford University Press, 383–398.
- Musora.Bol'she.Net', <http://musora.bolshe.net/page/about.html> [Accessed 15 January 2019].
- Newell, J. and Henry, L., 2016. The state of environmental protection in the Russian Federation: a review of the post-Soviet era. *Eurasian Geography and Economics*, 57 (6), 779–801. doi:10.1080/15387216.2017.1289851
- ONF, <https://onf.ru/category/events/ecology/> [Accessed 15 January 2019].
- ONF Ploshchadka Ekologiya, <https://onf.ru/category/events/ecology/> [Accessed 15 January 2019].

- Peng, L. and Wu, F., 2018. Building up alliance and breaking down state monopoly: the politics of non-governmental disaster relief in China. *China Quarterly*, 234, 463–485. doi:10.1017/S0305741017001333
- Plantan, E., 2018. Mass mobilization in China and Russia: from unexpected victories to unintended consequences. *Russian Politics*, 3 (4), 513–547. doi:10.1163/2451-8921-00304004
- President of Russia, 2019. *Presidential address to federal assembly*, 20 February. Available from: <http://en.kremlin.ru/events/president/transcripts/messages/59863> [Accessed 4 March 2019].
- Proshkin, M., 2018. V Podmoskov'e zaderzhali protestovavshikh protiv svalki "Sychevo". Obnovleno. *Novaya Gazeta*, 31 May. Available from: <https://www.novayagazeta.ru/news/2018/05/31/142140-v-podmoskovie-razognali-stihiyny-miting-protiv-svalki-sychevo> [Accessed 15 January 2019].
- Razdel'nyi sbor', <https://rsbor-msk.ru/about/> [Accessed 16 January 2019].
- Reprintseva, Y., 2018. V Kolomne vnov' zaderzhali protestuyushchikh protiv svalki "Volovichi". *Novaya Gazeta*, 7 May. Available from: <https://www.novayagazeta.ru/news/2018/05/07/141485-v-kolomne-vnov-zaderzhali-protestuyuschih-protiv-svalki-volovichi> [Accessed 15 January 2019].
- RIA Novosti, 2016. Putin poprosil aktivistov ONF zanyat'sya problemoi musornykh svalok. 14 April. Available from: <https://ria.ru/20160414/1410613498.html> [Accessed 12 January 2019].
- Schreurs, Miranda A. (Miranda Alice), 2002. Democratic Transition and Environmental Civil Society: Japan and South Korea Compared. *The Good Society*, 11(2), 57–64. doi:10.1353/gso.2002.0032
- Shahar, D.C., 2015. Rejecting eco-authoritarianism, again. *Environmental Values*, 24 (3), 345–366. doi:10.3197/096327114X13947900181996
- Sofronova, E. Holley, C. and Nagarajan, V., 2014. Environmental Non-Governmental Organizations and Russian Environmental Governance: Accountability, Participation and Collaboration. *Transnational Environmental Law*, 3(2), 341–371
- Sokolov, A. and Solov'eva, A., 2012. Setevye granzhdanskije dvizheniya (na primere ekologicheskogo dvizheniya Musora.Bol'she.Net). *Vlast*, 12, 40–41.
- Spires, A.J., 2011. Contingent symbiosis and civil society in an authoritarian state: understanding the survival of China's grassroots NGOs. *American Journal of Sociology*, 117 (1), 1–45. doi:10.1086/660741
- Spires, A.J., 2012. *US foundations boost Chinese government, not NGOs*. YaleGlobal Online. Available from: <https://yaleglobal.yale.edu/content/us-foundations-boost-chinese-government-not-ngos>
- Steinhardt, H.C. and Wu, F., 2016. In the name of the public: environmental protest and the changing landscape of popular contention in China. *The China Journal*, 75 (1), 61–82. doi:10.1086/684010
- Stern, R., 2013. *Environmental Litigation in China: a study in political ambivalence*. Cambridge: Cambridge University Press.
- Tarrow, S., 2010. The strategy of paired comparison: toward a theory of practice. *Comparative Political Studies*, 43 (2), 230–259. doi:10.1177/0010414009350044
- Tokunaga, M., 2010. Environmental governance in Russia: the 'closed' pathway to ecological modernization. *Environment and Planning A*, 42 (7), 1686–1704. doi:10.1068/a42285
- Tong, Y., 2005. Environmental movements in transitional societies: a comparative study of Taiwan and China. *Comparative politics*, pp.167–188.

- Tynkkynen, N., 2010. A great ecological power in global climate policy? Framing climate change as a policy problem in Russian public discussion. *Environmental Politics*, 19 (2), 179–195. doi:10.1080/09644010903574459
- Tynkkynen, N., 2014. Prospects for ecological modernization in Russia: analysis of the policy environment. *Demokratizatsiya*, 22 (4), 575–603.
- van Rooij, B., Stern, R.E., and Furst, K., 2016. The authoritarian logic of regulatory pluralism: understanding China's new environmental actors. *Regulation & Governance*, 10 (1), 3–13. doi:10.1111/rego.12074
- Wang, A., 2018. *Explaining environmental information disclosure in China*. Los Angeles: UCLA School of Law, Public Law Research Paper No. 17-14.
- Weiner, D., 1999. *A little corner of freedom. Russian nature protection from Stalin to Gorbachev*. Berkeley: University of California Press.
- Wong, N.W.M., 2013. Advocacy coalitions and policy change in China: a case study of anti-incinerator protest in Guangzhou. *VOLUNTAS*, 27 (5), 2037–2054. doi:10.1007/s11266-015-9603-1
- Wu, F., 2013. Environmental activism in provincial China: comparative evidence from Guangdong and Guangxi. *Journal of Environmental Policy and Planning*, 15 (1), 89–108. doi:10.1080/1523908X.2013.763634
- Wu, F., 2017a. Evolving state-society relations in China: introduction. *China Review*, 17 (2), 1–6.
- Wu, F., 2017b. Crisis and a new chapter: what the new INGO law means for China's expanding NGO sector. *Online Journal of the China Policy Institute*, University of Nottingham. Available from: <https://cpianalysis.org/2017/07/13/wei-ji-crisis-and-a-new-chapter-what-the-new-ingo-law-means-for-chinas-expanding-ngo-sector/>
- Wu, F. and Yang, S., 2016. Web 2.0 and political participation in China. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27 (5), 2055–2076. doi:10.1007/s11266-015-9627-6
- Zhang, J. and Li, Y., 2011. 'Junk-besieged City' and the urban environmental protection in West China: a case study of Kunming. *Journal of Yunnan University of Nationalities (Humanities and Social Science)*, 28 (5), 118–126.
- Zhang, W., 2018. The new strengthened regulations of INGOs in India and China: comparative analysis and reflections. *The China Nonprofit Review*, 10, 319–348. doi:10.1163/18765149-12341350
- Zhou, M., 2018. Dislocating the radical: the changing structure and culture of the labor movement community in the Pearl River Delta. In: *Manuscript presented at the international workshop "Rights Consciousness and Civil Society in Asia" at the Asia Institute, University of Melbourne*, 30 November. Melbourne.