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Competition, Conflict, and Compromise: Three Discourses Used by Irrigators in England and Their Implications for the Co-Management of Water Resources

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ABSTRACT: In this paper we use discourse analysis to explore the current dynamic that exists among farmer irrigators in England, and between irrigators and water managers in order to understand the potential for co-management to develop. To do this we employ two concepts from the field of critical discursive psychology – 'interpretive repertoires' and 'subject positions' – and apply them to a qualitative analysis of 20 interviews with farmers who are members of irrigator groups and two focus group discussions with farmers thinking about forming an irrigator group. The findings reveal that the participants drew upon three interpretive repertoires when talking about the relationship between farming and water resources management, namely the 'competition', 'conflict', and 'compromise' repertoires, with the latter being the least dominant. We situate the repertoires in their wider historical context to reveal the ideological forces at play, and conclude that the relative dominance of the competition and conflict repertoires serve as a barrier to co-management. In particular, this is because they engender low levels of trust and reinforce a power dynamic that favours individualism and opposition. At the same time, the less-dominant compromise repertoire challenges the power of the other two, providing some hope of achieving more participatory forms of water resources management in the future. To this end, we discuss how the restructuring of current agri-environment schemes and government water programmes may be used to promote the adoption and institutionalisation of the compromise repertoire in order to facilitate the emergence of co-management.

KEYWORDS: Water resources, co-management, farming, discourse, power, England

INTRODUCTION

The broader context within which water resources management in England operates is changing, and with it the task of managing water resources is becoming increasingly complex and uncertain. Not least among the causes is population growth, changing lifestyle preferences, and the effects of climate change, including more extremes (Weatherhead and Howden, 2009; Barker and Turner, 2011). Already there are signs of the sorts of weather-related challenges that may lie ahead: since 2010 the country has experienced a period of prolonged drought, unseasonal cold snaps, record levels of rainfall, and severe flooding. These changes are putting further pressure on water resources. At the same time, a shrinking national budget has resulted in cuts to the Environment Agency (EA), the organisation charged with managing water resources. This strongly suggests that the system governing water resources will need to become more flexible and adaptive in order to cope with the situation. Given limited government resources and new discourses that champion more local and collaborative

approaches, it would appear there is now an onus on water users in England to play some part in managing change and sharing scarcity.

In contrast to many other countries, irrigated agriculture in England accounts for a small proportion – around 1.5% – of annual water use (Weatherhead, 2006). However, during the growing season water for irrigation can amount to 70% of the total used in some catchments (Holman and Trawick, 2011). This water is taken in the hotter summer months when it is scarcer and there is greater all-round demand, placing added strain on the environment. In more recent years there has also been increasing emphasis given to home-grown food production. This has been encouraged by volatile global food markets brought on by extreme weather events and changing dietary patterns in countries like the BRICS (Lobley and Winter, 2009). These trends and uncertainties suggest water for food is an issue in England that will only become more central in time.

In many low-lying parts of England there is strong competition for water both within and between different sectors. This has been heightened by a growing awareness of the needs of the water environment, which has resulted in more stringent regulations designed to protect it (Barker and Turner, 2011). Responding to the threat that greater demand and a changing regulatory context has posed to commercial agriculture, since the 1990s a small number of farmer irrigator groups – known as 'water abstractor groups' in England – have formed, with the aim of protecting their members' rights to abstract water. Despite a strong lobby focus, over time abstractor groups have contributed to water management by lowering transaction costs for the regulator, encouraging water efficiency measures, and voluntarily reducing water use during periods of scarcity (Leathes et al., 2008). Yet the extent to which farmer groups like this may become more involved in water resources management is not well understood.

In this paper we investigate farmer participation and cooperation in water resources management in England, by focusing on water abstractor groups (including farmers considering forming an abstractor group). We adopt a discourse analysis approach, where the intention is to investigate the present-day power dynamic and levels of trust that exist among irrigators, and between irrigators and government water managers. Our approach is framed by the concept of 'co-management', defined as a process where "the government shares power with resource users, with each given specific rights and responsibilities relating to information and decision-making" (OECD, 2001). In the sections that follow, we firstly discuss the theory and method that underpins the research before outlining the findings of our analysis. We then situate these findings in their wider historical context in order to gain an understanding of the ideological forces at play, and discuss how this dynamic may constrain or enable the process of co-management between farmer groups and government water managers. We end by outlining the main conclusions of the research.

THEORY AND METHOD

In this section we locate the research topic within a body of knowledge known as commons theory, paying particular attention to the concept of co-management and its relevance with respect to farmer abstractor groups and water resources management in England. We then go on to discuss the theoretical underpinnings of our discourse analysis approach, before concluding the section with an outline of the methodology employed.

Co-management and water resources in England

From a theoretical perspective, the participation of farmer abstractor groups in water resources management is well framed by the field of commons theory. Scholars working in this tradition have documented a wide range of cases in which resource users have averted a 'tragedy of the commons' scenario by devising self-governing arrangements in order to manage common pool resources such as water. A significant area of interest has been irrigator groups (Ostrom, 1990; Tang, 1992; Dietz et al.,

2002), where in countries like Nepal research has consistently demonstrated that "on average, farmer-managed irrigation systems outperform agency-managed irrigation systems on multiple dimensions" (Ostrom and Basurto, 2010: 320).

Several commons scholars extended the analysis beyond situations of local community governance, to a consideration of 'co-management' between a community or group of resource users and the government (Pinkerton, 1989a; Berkes et al., 1991; Pomeroy and Berkes, 1997). It is proposed that this form of power-sharing arrangement is able to improve the legitimacy, equity, and effectiveness of natural resources management (Pinkerton, 1989b; Reed, 2008; Berkes, 2009), although such (often normative) claims have not been without their critics (Castro and Nielsen, 2001; Conley and Moote, 2003; Nadasdy, 2007). Seven broad management activities are considered commensurate with co-management (Pinkerton, 1989b), including water allocation, resource protection and enhancement, and longer-term decision-making (Table 1). Furthermore, over time there is the potential for co-management to evolve into 'adaptive co-management', through dynamic processes of networking, problem-solving, and joint learning (Olsson et al., 2004; Armitage et al., 2009). Adaptive co-management, which combines the linkages dimension of co-management with the learning dimension of adaptive management, has been portrayed as a means of achieving the "dual outcomes of ecosystem protection and livelihood sustainability" under conditions of change and uncertainty (Armitage, 2007: 72). With respect to water resources management in England, the emergence of such a process would appear to be desirable, given the issues outlined in the introduction.

Table 1. Seven co-management activities (Pinkerton, 1989b).

Co-management activities						
1	2	3	4	5	6	7
Data-gathering and analysis	Logistical decisions such as who can abstract water and when	Water-allocation decisions	Protection of resource from environ-mental damage	Enforcement of regulations	Enhance-ment and long-term planning	Broad policy decision-making

However, England is a country characterised by a strong regulatory regime and a history of increasing centralisation and bureaucratic water management (Parker and Sewell, 1988; Watson and Treffny, 2009). To this extent, co-management represents a distinct challenge to water managers and users alike. Yet forthcoming institutional developments may provide a window of opportunity. In particular, the licensing system which was first introduced to regulate water abstraction in the 1960s is in the process of undergoing major reforms. The system has been modified previously, most recently, with the Water Act 2003 which introduced several changes, including the time-limiting of new abstraction licences. Yet the current reform proposals are more radical. Although two alternative systems are being debated, key objectives of both are to link abstraction licences to the real-time availability of water and to allow abstractors to trade water more effectively (DEFRA, 2013a).

As a result, the reform proposals potentially confer a degree of decision-making power to water users, most obviously with respect to the task of water allocation. Several stakeholder representatives have suggested this could allow for a more participatory and cooperative approach. For example, the National Farmers Union proposes that the new system should "encourage user groups, such as abstractor and water resources groups, to become more involved in collectively managing water" (NFU, 2013: 3). In a similar vein, the Royal Society for the Protection of Birds has stated that the reform has

the potential to "encourage cooperative water management between shareholders in each catchment" (ENDS, 2013).

The co-management literature provides theoretical support for the notion that farmer collaborations, such as water abstractor groups, could co-manage water resources in a system of licence trading. Rose (2002) discusses the possibility that in the future we may witness more examples where communities or groups of resource users become liberalised and evolve to operate by way of a tradable permits approach. Tietenberg (2002) echoes these sentiments, claiming that the properties of a common pool resource like water mean it is actually suited to arrangements of this sort. Yet as the literature also makes clear, the emergence of co-management is dependent on communication, trust, and the prevailing power dynamic for partnership building (Berkes, 2009; Graham and Ernstson, 2012; Whaley and Weatherhead, 2014). In the following section we discuss the theory underpinning the discourse analysis approach used to investigate these issues.

Discourse analysis: Interpretive repertoires and subject positions

Proponents of discourse analysis share the view that far from being a passive medium for conveying meaning and information, language is instead understood to be constitutive – to construct the meaning humans attribute to the social and physical world – as well as action-oriented, in the sense that language is capable of 'doing things' (Taylor, 2001). The endeavour to study language through discourse analysis has resulted in a broad field encompassing a range of theoretical and methodological approaches (Wetherell et al., 2001a, b). In this paper we utilise two analytical concepts associated with critical discursive psychology, namely 'interpretive repertoires' and 'subject positions' (Wetherell, 1998; Davies and Harre, 1990; Edley, 2001; Harre et al., 2009). A central premise of critical discourse analysis is that people are both the products and producers of discourse (Billig, 1996). That is, discourses exert power over the speaking subject by delineating what can be said and thought, and at the same time the subject exhibits agency by drawing upon the discursive resources a culture made available to them to negotiate and construct meaning, exercise power, and thus produce effects in the world: humans are both slaves to, and masters of, language (Barthes, 1982).

It is this dual understanding of how language operates which leads us in this paper to speak not about 'discourses' but 'interpretive repertoires'. Although the two terms share much in common, in some analytical traditions a discourse is conceived of as having a broad, structuring effect which tends to marginalise the agency of the subject: "the 'subject' is produced within discourse" (Hall, 2001: 79). In contrast, interpretive repertoires are conceptualised as smaller and less overbearing; they are ensembles of ideas, categories, and concepts "used for characterising and evaluating actions, events and other phenomena" where "often a repertoire will be organised around specific metaphors and figures of speech" (Potter and Wetherell, 1987: 149). Edley (2001) discusses how interpretive repertoires largely contribute to a community's common-sense understanding of the world. They can be thought of as being like books on a library shelf which are always ready to be borrowed during the course of social interaction. This metaphor also stresses the point that "when people talk (or think) about things, they invariably do so in terms already provided for them by history" (Edley, 2001: 198).

The second concept we draw upon in this paper, subject positioning, was developed by social psychologists in an attempt to move beyond the restrictive notion of 'roles' and to instead consider 'positions', and how they help to "focus attention on dynamic aspects of encounters in contrast to the way in which the use of 'role' serves to highlight static, formal, and ritualistic aspects" (Davies and Harre, 1990: 43). From this perspective, people are involved in an ongoing argumentative exchange (Billig, 1996), a process of negotiation in which they attempt to position both themselves and others during the course of social interaction. The different positions that can be attributed to a person or thing in the world are themselves located in the various interpretive repertoires the speaking subject has at his or her disposal. Therefore, in the way we use them here, interpretive repertoires can be

thought of as embodying a particular story about the phenomena, activity, or event they construct – a version of events – and it is within these different storylines that agents are positioned. However, interpretive repertoires and their related subject positions do not just 'float in space'. Instead, as noted above, these repertoires and subject positions are embedded in history. As they become dominant, they are not only adopted by many people as a way of conceptualising the world but they also 'solidify' into particular institutional and organisational practices (Hajer, 1995). In doing this, they come to represent distinct social, political, and economic privileges for different people.

Thus in a number of ways, discourse is intimately bound up with power. By considering interpretive repertoires and subject positions we can see that the issue of trust also becomes relevant, where some repertoires and their positions serve to undermine trust between different actors, whilst others reinforce it. With this in mind, we can state here that the central aim of this study is to understand what the interpretive repertoires and subject positions that farmers utilise in the course of speaking about farming and water resources management reveal about "the broader ideological context in which talk is done" (Edley, 2001: 217). In so doing, we reflect upon what this implies for developing relationships of trust in a way that encourages farmers to co-manage water resources. To this extent, although we recognise the ways in which discourse is employed by the speaking subject within the local context of the interpersonal exchange, the focus is instead on providing a general account of the various interpretive repertoires and their related subject positions as evidenced in the talk of the farmers in this study. Nonetheless, we will return to one implication of this dual conception of discourse in the discussion.

Research approach

The data for this study comprise 20 interviews and two focus groups. All interviewees were members of water abstractor groups, whilst the focus groups were made up of farmers from two separate catchments who were considering forming an abstractor group. All abstractor groups were located in the low-lying east of the country, where irrigated agriculture is most prevalent and competition for water tends to be greatest (Barker and Turner, 2011). The locations of the two focus groups were a catchment in the east of England and another in the west, near the border with Wales. As so few water abstractor groups exist in England – perhaps as few as six (EA, n.d.) – we adopted a non-probability 'snowball' sampling strategy (Bryman, 2012), which involved interviewing the perceived 'gatekeeper' of each group (typically the chairman), through whom contact was made with other group members. In almost all cases the interview and focus group participants were medium to large-scale industrial farm owners, tenants, or managers.

Interviews lasted on average one hour, and focus groups two hours. The sessions were recorded, transcribed, and analysed using the qualitative data analysis programme NVIVO. We adopted an abductive research strategy (Blaikie, 2010), whereby the analysis started with the language of the participants, from which were derived the categories and concepts that comprise each interpretive repertoire. Interpretive repertoires and their subject positions are delineated according to a modified schema developed by Dryzek (2005), where for each repertoire we sought to identify: 1) the basic entities recognised or constructed, 2) assumptions about natural relationships, 3) agents and their subject positions, and 4) key metaphors and other rhetorical devices (Table 2). With respect to point 3, the 'agents' we focus on in this study are the key government water managers and regulators (in England these are the EA and Natural England), farmer irrigators, as well as water and the water environment itself.

Table 2. Checklist of elements for the analysis of interpretive repertoires. Adapted from Dryzek (2005).

| Elements of interpretive repertoires	Explanation of each element
Basic entities recognised or constructed	The ontology of the repertoire – the basic features of the world as it relates to farming and water resources management
Assumptions about natural relationships	The defining features that characterise relationships between people, things, and processes to do with farming and water resources management. In this study we give special attention to cooperation*
Agents and their subject positions	The 'actors' involved in water management, including water and the water environment, and how they are positioned within the storylines associated with the different interpretive repertoires
Key metaphors and other rhetorical devices	The central rhetorical devices, which an interpretive repertoire relies upon to convey its understanding of the world, to convince or persuade others of its legitimacy, and to make it appear self-evident

* By cooperation, we mean situations where farmers are working together towards some end. In a co-management situation, this end would be a contribution to one or more of the seven broad co-management activities given in Table 1.

Our analysis followed the approach outlined by Edley (2001). It entailed reading and re-reading the transcripts to thoroughly familiarise ourselves with the data, after which we moved on to the coding stage. Initially, coding was guided by the four broad categories detailed in Table 2. We then read and re-read the excerpts in these broad categories, and slowly began to develop secondary categories into which all statements of a similar type could be placed. For example, all subject position statements that portray the government as a 'complicated bureaucracy'. From these secondary categories emerged what appeared to be relatively distinct interpretive repertoires, although with further readings these too were modified until we arrived at the findings in Section 3. This approach necessarily entails a degree of reflexivity (Silverman, 2004), where researcher and research are involved in a reciprocal relationship. The findings and conclusion are therefore situated and partial; they are the result of a process guided and influenced by our own life experiences, training, interests, and understandings.

RESULTS

Our analysis of the interview and focus group transcripts revealed that the farmers in this study employed three interpretive repertoires when talking about their relationship with water managers and the water environment. In this section we detail the three repertoires, using excerpts from the transcripts by way of illustration, before proceeding to situate them in their wider social and historical context. Figure 1 portrays the relevant dominance of each repertoire. The proportions in this figure are not exact measurements, but rather estimates intended for the purpose of illustration. The qualitative nature of the study and the theoretical position we take with respect to discourse and discourse analysis do not lend themselves to a formal quantitative assessment of the data.

Figure 1. The relative dominance of the three interpretive repertoires
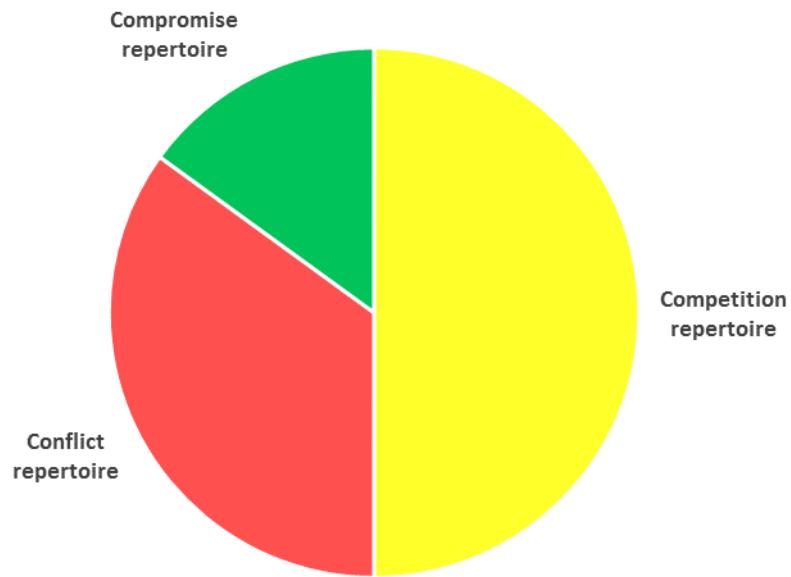
The competition repertoire

The interpretive repertoire that most dominated the interviews and focus groups is what we have called the 'competition repertoire'. This repertoire takes a utilitarian approach to the water environment, where water management should be about supplying and removing water in keeping with the needs of commercial farming, although this process tends to get interfered with when other interests get in the way (Table 3).

Table 3. The elements of the competition repertoire.

Basic entities recognised or constructed	Assumptions about natural relationships	Agents and their subject positions	Key metaphors and other rhetorical devices
Competitors	Competition	Water as commodity	Food security
Homo economicus	Cooperation as business opportunity	Water environment as competition, business asset	Mechanistic
The market			Tidy environment /countryside
Individual farm businesses	Nature as secondary/ subordinate	Government regulators as authority figures, complicated bureaucracies, meddlers	
Time and money			
Commodities, assets, and products	Relationships dictated by rules and regulations	Farmers as individualistic, self-interested, cost-benefit businessmen	
Rules and regulations			

Basic entities recognised or constructed

The competition repertoire is strongly business oriented, adopting an atomistic view of a world populated by economic actors – '*Homo economicus*' – and individual farm businesses geared towards profit and material gain through the market-driven production and consumption of commodities. Strictly applied rules and regulations concerning water management are a fundamental aspect of this repertoire, as are time and money which are recognised as inherent constraints on behaviour. The water environment itself receives little recognition as an entity in its own right.

Assumptions about natural relationships

According to the competition repertoire the natural world is subordinate to the needs of man, where the water environment, when it is recognised, is seen as something to be competed with: "In this part of the world our competition is the environment". Competition also characterises the relationship between groups and individuals, where different farm businesses compete to secure a share of the market:

> But how the hell you get ten people on a river all to talk to each other (…) you've got to remember that when you get down to individual catchments you're never going to get a farmer to give up any of his [water] rights if his neighbour has got all his rights because actually they're in competition to grow their crop for the market place.

> …it's that looking over the hedge and seeing what they're doing next door situation, which I think we'll struggle to get away from.

Cooperation, on the other hand, is viewed only as a business opportunity, a way of becoming more competitive in the market, or even as a business imperative – "it's business-driven" and "there's got to be a benefit" – but beyond this it is of little use or value.

Agents and their subject positions

Within the competition repertoire, water is positioned as a "commodity" and a business input that can be "tapped" or "mined". Water therefore becomes a "factor of production" that needs to be "secured", where a farmer may store water "on the basis that they have a commodity to sell", and where even rainwater "is a very variable commodity". Alongside being a competitor, the broader water environment is also positioned according to its economic function in a system of government subsidies and agri-environment schemes, where "like any other business asset" the consideration concerning an area of wetland is "how do I make the most amount of money?" Beyond this the water environment has no intrinsic value and receives little recognition: "something that is actually worthless is artificially being made worth quite a lot of money".

Given the strong emphasis the competition repertoire attributes to rules and regulations, it is not surprising that the government bodies charged with enforcing the rules concerning the water environment – the EA and Natural England – are typically positioned as 'authority figures'. Perhaps most prominently, the EA is positioned as a policeman – "deep down we need a policeman, the EA, to run this" – but other similar positions of authority are also present, such as the schoolmaster who can "take your name down in the book" or give you a "slapped wrist".

A second subject position sees these regulatory bodies as "complicated bureaucracies" which tend to be "very fragmented", making dealing with them "a fraught and really time-consuming process" because there is "no joined up thinking between different departments". A degree of scepticism may accompany this subject position as it is even possible that the EA actively seeks to promote high levels of bureaucracy because "the more complicated they make it the more stable their job is". Furthermore,

the subject position is associated with unnecessarily high costs when it comes to managing the environment, which tends to get "gold plated" so that "costs escalate enormously".

A final subject position for government water managers sees them as 'meddlers', interfering in the affairs of agriculture and obstructing it from doing what it is supposed to be doing: "farmers are getting pretty fed up with being told what to do (…) they just want to get on and do what they do, which is growing crops". You therefore have Natural England "sticking their oar in", and the perspective that "having dealt with people like the EA, I would just dig my heels in and say I'm not going to agree to anything, ah because in the past you agree to something, in return for it they've taken that away as well".

In the competition repertoire farmers themselves are positioned as individualistic businessmen where decision-making relies upon cost-benefit analyses, where action is predicated on whether ''the economics make sense', where 'it's all risk-reward', and where 'professionalism' and a 'professional approach' are highly valued. In keeping with the business-oriented nature of this repertoire, the farming sector as a whole is positioned as an 'industry'.

Key metaphors and other rhetorical devices

Several key metaphors and other rhetorical devices are associated with the competition repertoire. The first is that of 'food security', which features prominently and underlines the imperative to at least maintain, but ideally increase levels of food production in England. As a result farming should not be held back by environmental regulation or denied access to the water required to achieve this. The quote below effectively outlines the way in which the concept of food security has been adopted within the competition repertoire:

> I think the UK as an economy has got some big decisions to make, um you know, how much do we want from our home production? How much is home production giving us security? You know we've had a whole generation whereby there's been a surplus of food. You know we could find the next generation, or further down the line supply and demand is much tighter, and there's some difficult questions to actually balance. So I think coming back to this, we have to do everything possible to make sure there's enough water that the agricultural industry needs.

The competition repertoire also associates strongly with a mechanistic metaphor that conceives of the social and natural world in terms of component parts that can be manipulated and where solutions to problems require engineered or technical fixes. According to this metaphor water becomes an input into the mechanical workings of the agricultural industry, where the job of rivers is to act as a 'conduit' for transporting, supplying, or removing excess water: "Getting rid of water; land drainage and abstraction are what you want a river for". The metaphor extends to farmers themselves, who are seen as a 'vehicle' for achieving food security, and to cooperation which becomes a 'mechanism' for acquiring additional water or for trading it.

A final metaphor is that of the 'tidy environment' or countryside, where unkempt natural growth is seen as waste or 'trash', as a sign of poor management on the part of the environmental regulators and non-governmental groups – "but their ponds aren't clean, so there's no, there's no… you know they're overgrown and whatever" – and as obstructing agricultural production, for example where natural growth such as reeds becomes problematic because "they are choking the supplies or the [water] courses".

The conflict repertoire

The second of the three interpretive repertoires, the 'conflict repertoire', is founded upon a logic of opposition and stresses the place of conflict and difference in water resources management (Table 4).

Table 4. The elements of the conflict repertoire.

Basic entities recognised and constructed	Assumptions about natural relationships	Agents and their subject positions	Key metaphors and other rhetorical devices
Opponents	Conflict	Water environment as threat or challenge	Warfare or battle
Designated environment	Winners and losers		Survival
Pressure/lobby groups	Cooperation to lobby	Government as having a 'different agenda'	Court case
Rules and regulations	Agriculture as secondary in relation to Public Water Supply (PWS) and water environment	Government regulators as the enemy, incompetent	Imbalance
			Brick wall /environmental wall
		Farmers as wrongfully blamed, insular, uncommunicative	

Basic entities recognised or constructed

Unsurprisingly, 'opponents' are recognised as basic entities in the conflict repertoire. Other basic entities recognised are 'pressure' or 'lobby groups'. Thus, although farmers might view each other as opponents, when individuals do join forces the resulting group or organisation is itself seen as an individual designed to speak with 'one voice'. These groups are often pitted against one other, with particular emphasis given to the conflict between environmental and farming lobbies. Like the competition repertoire, the conflict repertoire also strongly recognises 'rules and regulations', but unlike the competition repertoire which sees rules and regulations as a hindrance, but nonetheless something to work with in a quest to maximise profit, the conflict repertoire sees them as a threat and a direct challenge, as something to be overcome. Finally, in the conflict repertoire the water environment is recognised, but only as particular areas of the countryside that have received an environmental designation: "…and suddenly there was this thing that was quite important and what used to be a muddy, wet reed bed has now got environmental protection".

Assumptions about natural relationships

In the conflict repertoire relationships between both people and groups are predicated upon a logic of opposition, where change is seen as the result of the coming together of different or opposing forces, resulting in winners and losers: "Now is the time and the opportunity to influence the process, and if we sit back at this point and say well let's see what they produce, then I think we could be the losers again". In this context cooperation is undertaken "because of the threat of losing what we've got" and as such lobbying is considered the basic relational feature between farmers and government bodies: "…we're in there to lobby, we're not in there to necessarily do what the EA wants us to do". Finally, agriculture is considered to be secondary, to "play second fiddle" to the needs of both the environment and public water supply because of the way in which the rules and regulations appear to unfairly favour these other interests.

Agents and their positions

In the conflict repertoire the water environment is positioned as a challenge or "threat" that "overruns the interests of agriculture", throwing up "problems to sort out". As is also typical of the oppositional nature of this repertoire, government regulators are positioned as having a "different agenda" to that

of farming. According to the conflict repertoire, government regulators and managers assume the position of "the enemy" – "you know the Agency is the enemy, and you do not contact the Agency, not even on a last resort, you just do not contact the Agency".

Moreover, blame is a regular feature of the repertoire, where farmers position themselves as being wrongfully "blamed for everything" when it comes to damage inflicted upon the water environment. Instead, the EA and Natural England are often themselves positioned as being at fault because of their incompetence and general inability to manage water resources and the natural environment in the 'correct' way: "The problems with the SSSI (site of special scientific interest) are not our problems. We've changed what we're doing, if you've got a problem in there then look at your management". In part the blame attributed to these bodies arises because they may be focusing on the 'wrong' issues, such as an environmental problem which lies outside of a designated area, whilst at the same time failing to properly manage the areas that have been designated: "…so they get quite excited by minor things, whereas to me they should be managing their sites better". In the conflict repertoire, alongside being wrongfully blamed, farmers are also positioned as insular – "If you don't want additional water, you've got enough of what you want, you're quite happy being in your little bubble and staying protected" – and uncommunicative: "I mean farmers don't talk to each other, that's one of the problems".

Key metaphors and other rhetorical devices

The dominant metaphor around which the conflict repertoire revolves is that of 'warfare' or 'battle' – with the positions of water managers outlined in the previous section already attesting to this – and the notion that farmers are 'fighting for survival' in the current political and economic climate. Indeed, the interviews were peppered with allusions to the warfare metaphor. For example, communicating with the EA was considered to be putting your "head above the parapet"; helping out a non-group member was "going above and beyond the call of duty"; offering an early voluntary agreement to the EA to reduce agricultural water use in a catchment was described as a "pre-emptive strike"; intervening in disputes between other farmers was "stepping into the firing line"; farmers operating in water-stressed catchments were "on the front line"; prospective abstractor group members needed to be "captured" and then "marshalled"; farmer cooperation was seen to be the result of having your "backs against the wall"; for one farmer, reporting back to other farmers about the outcome of a meeting with the EA involved making "a phone call back to base [to tell] the troops about it"; and it was suggested that "we shall go to war over water, never mind oil".

Another metaphor associated with the conflict repertoire is that of the court case, which serves to illustrate dealings with regulators within the current system of governance. According to this metaphor communication, primarily between farmers and government regulators, is seen as a means of dispute resolution between two opposing parties. The metaphor also serves to reinforce the discourse's notion of blame, and, in the case of farmers, wrongful blame, which must be defended against by "getting the evidence together" and putting forward your case: "It's almost like law case history isn't it, you know you're good when you're young but when you've been in case history for fifteen years you're even better because you've got all these cases you can refer to, and it's that sort of build-up of knowledge isn't it, of experience".

A key rhetorical device associated with the conflict repertoire is that of 'imbalance' and its two associated metaphors, a set of 'weighing scales' and a 'swinging pendulum'. According to these metaphors, the current system of governance is unbalanced, having swung 'too far' away from the needs of agriculture and in favour of the environment. To this extent, "some of its gone so far the wrong way you're never ever going to get it back again". The result is a system which has become 'irrationally' biased in its protection of water resources and the water environment. Farmers must therefore lobby and "shout as one voice" so as to secure their "fair share of water", and to "defend"

their rights in the face of another of the repertoire's metaphors, the 'environmental wall' or 'brick wall', where the job of lobbying is to 'keep chipping away'.

The compromise repertoire

The final interpretive repertoire, the 'compromise repertoire', was the least prominent of the three identified in the interviews and focus groups. Whilst continuing to stress the interests of agriculture, this repertoire is more accepting than the other two, conceptualising water management as a process of balancing the various needs of the different stakeholders who use water; a process which includes accounting for the needs of the water environment itself (Table 5).

Table 5. The elements of the compromise repertoire.

Basic entities recognised or constructed	Assumptions about natural relationships	Agents and their subject positions	Key metaphors and other rhetorical devices
Finite resources	Negotiation, dialogue, and compromise	Water as precious resource	The big picture
Wider environment			Holistic approach
Stakeholders	Different needs all with a valid claim	Water environment as something to be enjoyed	Jigsaw puzzle
A changing world	Cooperation as compromise		Negotiating table
Complexity and uncertainty		Environment Agency as flexible regulator	Water resources as bank account
	Flexibly applied rules	Farmers as more outward looking	Wise use of water
			Balancing act

Basic entities recognised or constructed

The compromise repertoire gives explicit emphasis to the limits of nature and its "finite resources": "there's only one lot of water, it's as simple as that". Furthermore, unlike the other two repertoires which only recognise the water environment in terms of its relationship to productive agriculture, the compromise repertoire also recognises the 'wider environment' and makes reference to the existence of ecosystems. To some degree, the repertoire also recognises that change, uncertainty, and complexity are fundamental aspects of the world. Finally, the compromise repertoire constructs those with an interest in the use or management of the water environment as 'stakeholders'.

Assumptions about natural relationships

The compromise repertoire accommodates the needs of a range of actors, including the water environment itself, where all are seen as having a valid claim to use water. As with the conflict repertoire there is an emphasis on the issue of balance, but although tensions exist the relationships between farmers and the other actors involved in water management are considered to proceed by way of negotiation and compromise, and not direct opposition or blame: "[s]o it is that balance between the two, and there will be conflict. You know you've got to resolve the conflict by balance. No one's all right". It is therefore a case of being able to "acknowledge each other's problems and requirements". In this light, cooperation itself is seen as a means of facilitating dialogue and allowing for compromises to be reached both within the farming community and between farmers and water managers under a more flexibly applied system of rules and regulations:

> I think we've never had a better framework to work under, so now I think it's up to the various stakeholder groups to make sure this is worked through in a workman-like way, in a way that recognises the needs of the different kinds of water users, including the ecology.

Actors and their positions

In the compromise repertoire the water environment is positioned as something whose significance extends beyond its relationship to agricultural production, as something also to be enjoyed, with the result that there is value in trying to conserve and maintain it. Due to its finite nature water itself is positioned as a 'precious resource' which must be used judiciously: "the wise use of a precious resource". In contrast to the other repertoires, the EA was positioned as a 'flexible regulator'. Part of the EA's flexibility stems from the fact that they are more "genuinely independent than they were" whereas before they were "really under the hammer of Natural England". In this repertoire the EA has a "much more balanced approach" where its officers on the ground seem "a bit less red-taped" and where "there's been a huge sea change of sort of cooperation" and "a real sense of having to work together". Finally, according to the compromise repertoire farmers themselves are positioned as "more outward looking", where "cooperation is in their vocabulary more than it ever used to be".

Key metaphors and other rhetorical devices

A few key metaphors are central to the compromise repertoire. The first is 'the big picture' which is closely related to having a 'holistic approach' to water management: 'the bigger holistic picture'. According to these devices there is a breaking down of some of the perceived barriers between farming, the water environment, and its management:

> Some people say we must divorce environmental issues from irrigation, irrigation sits on its own; no it doesn't, irrigation is using a resource which is a very key part of the ecology forever, you know of our wider environment. And water is such an important part of the wider environment, and so important to other sectors of the community, that I think we have to engage holistically, as they say these days.

A recognition of the bigger picture also draws attention to how this picture is constituted, and here the use of the 'jigsaw puzzle' metaphor becomes relevant, where cooperation is envisaged as helping to piece the puzzle together:

> what [water] they don't use and what they'd like to use is a huge jigsaw, which none of us have any ideas of the pieces really, and the group is there largely, to begin with anyway, to fit some of those jigsaw pieces together. So we have a picture of what... I don't think even the EA have that knowledge. They have certain knowledge, but they certainly don't have the whole picture.

A metaphor associated with the compromise repertoire that serves to illustrate the finite nature of water as conceived of in the discourse is 'water resources as a bank account'. According to this metaphor, water is "a bit like money", where surface water flowing in rivers is analogous to a "current account" in which "the water's flowing past and you either use it or you don't", and where groundwater is akin to a "savings account" where "once the summer starts, as a general rule no more water is going to be added to that, that's it, that's your stock, and we're all drawing off it. So if we all draw off it at a lower rate then it will last longer for everybody".

DISCUSSION

Having identified three interpretive repertoires – the competition, conflict, and compromise repertoires – here we discuss what they imply about the potential for water abstractor groups (and other farmer collaborations) in England to co-manage water resources. During the analysis, the consideration of interpretive repertoires and their respective subject positions revealed to us how, on the one hand,

'meaning making' and the exercise of power are bound up in the local dynamics of the interpersonal exchange, as positions were negotiated and arguments were rhetorically constructed by the participants. Yet, as discussed earlier, our intention in this study is to focus not on the local dynamics of language in use but to gain an understanding of what the interpretive repertoires and subject positions we identify tell us about levels of trust and the broader ideological context in which irrigators operate. As we noted, each repertoire can be thought of as a historical resource that the farmers drew upon during the course of the interview or focus group (Edley, 2001). Thus, in concerning ourselves with what the three repertoires imply about a broader ideological power structure, it is useful to consider the historical processes they most directly relate to.

Briefly then, the competition repertoire is perhaps best situated in light of the system of rationalised and individualistic large-scale farming that emerged after World War II in England when there was a huge drive to increase food production through an efficient, competitive, and technologically sophisticated farming sector (Newby, 1979; Brassley et al., 2012). The 'productivist' ideology underpinning these developments has continued to hold sway over many farmers as food production has become increasingly integrated into a vertical, corporation-dominated supply chain mirroring broader developments on the world stage (Mazoyer and Roudart, 2006; Lobley and Winter, 2009). Alternatively, the roots of the conflict repertoire may lie in the wide-ranging dispute between farmers and environmentalists during the 1960s and 70s – many concerning the reclamation of wetlands – engendering deep feelings of resentment and mistrust on both sides of the divide (Cox and Lowe, 1983; Lowe et al., 1986). Then from 1989 the formation of a new body, the National Rivers Authority, which in 1996 became the Environment Agency, quickly established itself as a figure of contempt for many irrigators as new water resources legislation was implemented uncompromisingly and without regard for the effect it would have on farming (Hamett, 2013). The conflict repertoire has most likely been reinforced by the increasing distance and mistrust that has come to characterise the relationship between farmers (and the wider public) and the government (Dobbs and Pretty, 2008).

Finally, the compromise repertoire reflects developments which stem from international discourses championed in particular by the UN through such agreements as the Aarhus convention and Agenda 21, which promote integrated water resources management "based on an approach of full public participation" (UNCED, 1992: para 18.9). These outputs have been translated into key EU water legislation, most notably the Water Framework Directive (WFD) which was introduced in England in 2000. The WFD has in turn prompted the introduction of the Catchment Based Approach in England during 2013, espousing the value of collaboration and partnership working (DEFRA, 2013b).

It was clear from our analysis that especially the competition repertoire, but also the conflict repertoire, were dominant in the talk of the farmers we interviewed (Figure 1). This dominance is reflected in the way the repertoires have solidified into the institutional and organisational practices of these farmers, witnessed by their involvement in large-scale commercial farming (the competition repertoire) and their participation in water abstractor groups with a strong lobby focus (the conflict repertoire). One important consequence of this dominance concerns the subject positions both repertoires provide for government water managers, which suggests they are viewed by these farmers with a distinct lack of trust. Given the importance attributed to trust in developing co-management arrangements (Olsson et al., 2004; Plummer, 2006), this represents a significant challenge to partnership building. Furthermore, the positions that the competition and conflict repertoires hold for water and the water environment, as well as many of the basic entities they recognise and their assumptions about natural relationships (Tables 3 and 4), point to inherent difficulties when considered in light of a co-management approach.

In the case of the competition repertoire, the focus is on rational self-interest and farm profit, with an instrumental, rule-governed conception of natural relationships based primarily on the notion of competition, and a portfolio of subject positions that depict government water regulators and managers as 'authority figures', 'fragmented bureaucracies', and 'meddlers'; farmers as 'individualistic';

water as a 'commodity' or input for the mechanical workings of agriculture; and the water environment either as 'competition' or as an economic resource or 'business asset' in a system of government subsidies and agri-environment schemes. The competition repertoire therefore points to government rules, regulations, and incentives as the only real way of encouraging farmer participation in the management of water, where the pursuit of wider environmental objectives must be married with short-term gain. More challenging still, the conflict repertoire – characterised as it is by a strong oppositional logic and the positioning of government regulators as 'the enemy' and the water environment as a 'threat' – instead serves to obstruct any opportunity for constructive, pluralistic dialogue and a more cooperative, local approach to water management.

It is only in relation to the less dominant and more recent compromise repertoire that real opportunity for cooperation between farmers and water managers appears to exist. Although the compromise repertoire continues to stress the interests of agriculture, it also makes room for an approach to water management which appreciates the needs of others and perceives negotiation, dialogue, and compromise as a necessary part of the process of piecing together the 'jigsaw puzzle'. Within the compromise repertoire the EA is positioned as a 'flexible regulator', where at times rules may be applied as circumstances dictate. Farmers themselves are positioned as 'more outward looking'. The repertoire also recognises the 'wider environment', and positions water as a 'precious resource' which must be used wisely. However, despite our focus on the broader ideological aspects of the three interpretive repertoires, here we must also consider how repertoires are employed during the local interplay of social interaction. To this extent, the compromise repertoire must also be seen as a discursive resource which the participants drew upon because of its rhetorical power – a means of challenging others or defending one's position in the course of the conversation – and not because it is a true reflection of the 'intentions' of the person uttering it.

Nonetheless, the presence of the compromise repertoire in the talk of the farmers in this study suggests that the power of the other more established repertoires has been and is being challenged as the 'discursive space' (Wetherell, 2001) surrounding water management in England is expanded to allow for more pluralistic and cooperative approaches to affecting change. A central challenge to developing co-management arrangements between farmer groups and water managers will be to move beyond the subject positions associated with the competition and conflict repertoires that currently undermine trust and act as obstacles to partnership building. To this extent Berkes (2007: 26) suggests that "the key may be the ability of co-management arrangements to facilitate a process of communication to overcome these barriers". This highlights the need to bring farmers and water managers together in fora which allow opinions to be voiced and differences to be discussed. As our findings suggest, both the competition and conflict repertoires demand that short to medium-term measures geared towards garnering the participation of farmers and farmer groups in such spaces will require financial incentives. This points to the funding sources underpinning the various agri-environment schemes and water programmes in England as a means of achieving such an outcome.

At present, the structure of agri-environment payments is geared largely to individual action at the scale of the farm or field (Emery and Franks, 2012). However, of the agri-environment schemes currently available to farmers, one Environmental Stewardship Scheme (ESS) option known as HR8 (Supplement to Group Action) provides some incentive for collective action. HR8 and measures for encouraging 'boundary spanning' approaches in England more generally, have been discussed by Franks and Emery (2013). At present, HR8 is geared towards landscape-scale action and the protection of biodiversity. Yet the authors underline the importance of maintaining the flexibility of the scheme because of the diversity of ways it may need to be applied on a case-by-case basis. Such flexibility could make it a potential mechanism for incentivising the formation and participation of farmer groups in water co-management activities (see Table 1 for potential activities). Given the changing structure of the system regulating water resources management (as discussed above), a suitable co-management activity to focus on initially could be water allocation. As we have mentioned, the likes of water

abstractor groups may be well placed to act as a broker or middleman in an enhanced system of water licence trading. Franks and Emery (2013) also propose a more ambitious agri-environment programme they call ESS-Plus, designed specifically to broaden the funding incentives available for promoting collaborative management approaches. Such a development would represent an opportunity to design schemes specifically tailored toward promoting pluralistic approaches that encourage constructive communication between irrigators and water managers.

A second consideration involves the nascent Catchment-Based Approach. Funding for this programme could go some way to encouraging the likes of water abstractor groups to attend catchment meetings and involve themselves more in relevant management issues, by at least covering the costs involved for attending. It would also be of use to consider ways of combining different programmes and schemes and thus minimising the plethora of options farmers are confronted with. For example, cooperative ESS initiatives like HR8 could merge with the Catchment-Based Approach to channel funding sources in a way that promotes co-management goals. Although such suggestions are speculative at present, this only underlines the importance of further research and the trialling of pilot studies in order to better understand the feasibility and design of approaches that may encourage communication and cooperation between farmers, and between farmer groups and water managers. Having developed the foundations for a more pluralistic management structure, research suggests that in the longer term, and given certain conditions of success, it is possible for the co-management process to become self-sustaining. This occurs as power asymmetries shift, new institutions and system linkages form, trust is nurtured, different interests are recognised, and participants learn to cooperate in order to solve problems and make decisions, potentially leading to the emergence of adaptive co-management (Olsson et al., 2004; Armitage et al., 2007; Armitage et al., 2009).

CONCLUSION

In this paper we have used critical discursive psychology to explore the ideological context in which water resources management in England is currently being conducted from the perspective of farmer irrigators. The intention has been to reflect upon the potential for developing co-management arrangements between farmer groups and water managers. The data set consisted of 20 interviews and two focus groups with medium to large-scale commercial irrigators who are members of water abstractor groups, or who are thinking of forming an abstractor group. Our analysis identified three distinct discourses, or 'interpretive repertoires', relating to how these farmers talk about the relationship between farming and water resources management, namely the competition, conflict, and compromise repertoires.

The relative dominance of the competition and conflict repertoires in the talk of the participants suggests that the relationship between irrigators and water managers in England is characterised by low levels of trust, and reflects a power dynamic that favours individualism and opposition. This situation presents only limited possibilities for the development of co-management. In effect, despite signs of a structural move in England towards more local and participatory forms of water management, a critical analysis of the discourse of these farmers reveals that from a social psychological perspective the system more closely represents that which emerged during the second half of the 20th century. At this time a productive, mechanised farming sector stood at odds with those concerned with the protection and enhancement of the water environment in England. In this respect, these findings support the claim of Burton and Wilson (2006) that to more critically understand rural change, research must move beyond studies that focus only on macro-level analyses of the political economy by also drawing upon the insights that fields such as social psychology can provide.

Yet our analysis also suggests that this power dynamic is being challenged by the compromise repertoire, which accounts for the needs of others, shows an appreciation for the wider environment, and views change in water resources management as a process of negotiation in which cooperation can

perform a useful function. Encouraging the widespread adoption and institutionalisation of this repertoire, whilst moving beyond subject positions in the other repertoires that at present serve to undermine trust, must start with better communication between farmers, and between farmers and water managers. The competition and conflict repertoires imply that in the short to medium term it will be necessary to encourage co-management through a focus on and restructuring of agri-environment schemes and water programmes. It is useful to think of the objectives of such an approach in terms of seven broad co-management activities (Table 1). Given current proposals to reform England's water licensing system in a way that facilitates the development of water markets, one activity that appears particularly well suited to farmer abstractor groups is water allocation. Here abstractor groups could function as trading brokers between group members, thus lowering transaction costs.

In finishing, we might note that a broader research programme concerned with understanding the dynamic that exists between farmers and water managers would need to incorporate the discourse of farmers outside of water abstraction, including smaller-scale farmers, as well as water managers. In this respect, we see this study as a useful early contribution to a critical approach for analysing the relationship between farmers and water management in England, one which we hope will encourage others to do the same.

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