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Contemporary Discourses on the Environment-Economy Nexus.

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Introduction

The concept of 'sustainable development' has had a long and solid career. Introduced by the Brundtland Commission in 1987, the term was quickly embraced in the global North and South by policy makers and civil society alike. It has established a firm footing in national and international policy agendas, international negotiations, and political and popular discourse. Promising to reconcile environmental sustainability, social welfare, and economic development, the allure of this concept is easily understood. Yet, throughout its thirty-year career, this promise has on the whole proven elusive. Certainly there have been development achievements to celebrate (for instance, since 2000 the proportion of people living in extreme poverty has halved, as has the proportion of people without access to safe drinking water). But the global environment is hardly in a healthy state. Scientists now warn that four of nine planetary boundaries have now been crossed as a result of human activity (Steffen *et al.* 2015). 'Sustainability' may well mean different things to different people, but the enduring capacity of the planet to support human life must be at the core of any sustainability discourse. While it may be too soon for obituaries, it is evident that the language of sustainable development is falling out of favour in many quarters. Perhaps owing to the evident gap between the promise and reality of sustainable development, new language, concepts, and strategies are emerging. There are those who talk of green economy and green growth, and others who promote wellbeing, gross national happiness, inclusive wealth, harmony with nature, de-growth, steady-state economy, and *buen vivir* (living well). There is good reason to question whether this rhetorical diversity represents anything new or is simply 'old wine in new bottles'. The aim of the research presented here is to determine the substance underlying these diverse rhetorical labels, and the extent to which they represent genuinely new ideas about how to reconcile economic development and environmental sustainability. The animating assumption was that beneath these labels lies a set of discourses about how the international community should pursue economic development under conditions of continuing environmental degradation. I refer to these as discourses on the environment-economy nexus.

A number of scholars have approached the study of environmental politics and policy from a discourse analytic perspective (e.g. Adger *et al.* 2001; Barry and Proops 1999; Connelley 2007; Dryzek 1997/2013; Hajer 1995; McManus 1996).[1] Discourse analysis is, of course, a broad church, and such studies have been influenced by the works of Foucault, Laclau and Mouffe, Dryzek, Hajer, and others. Perhaps the most widely cited definitions of discourse are those of Maarten Hajer and John Dryzek. Which definition one chooses has implications for how one conducts discourse analysis as these definitions focus the analyst's attention in slightly different ways. Hajer defines discourses as 'specific ensembles of ideas, concepts and categorization that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities' (1995: 44). Analysis informed by this definition focuses on the *social practices* through which discourses are produced. Dryzek defines discourse as 'a shared way of apprehending the world. Embedded in language, it enables those who subscribe to it to interpret bits of information and put them into coherent stories or accounts.... Each discourse rests on assumptions, judgements, and contentions that provide the basic terms for analysis, debates, agreements, and disagreements' (2013: 9-10).

This definition directs attention not to practices but rather to identifying how assumptions, values, and ideas fit together into coherent discourses that can coordinate action. The present paper is informed by Dryzek's definition of discourse.

Nearly two decades have passed since Dryzek first mapped environmental discourses. His seminal text *The Politics of the Earth* described four basic environmental discourses defined by two dimensions: reformist versus radical, and prosaic versus imaginative. The resulting four discourses of 'problem solving', 'sustainability', 'survivalism', and 'green radicalism' are then dissected to reveal nine specific discourses, including Promethean discourse, administrative rationalism, sustainable development, ecological modernisation, and green consciousness (1997, 2005, 2013). In Dryzek's vision of ecological democracy, these various discourses might be engaged in open communicative spaces or deliberative institutions that he calls 'discursive designs' (2005: 233; 1994). Inclusivity, on this account, becomes a matter of ensuring that all known discourses are represented in deliberative debate and decision-making (Dryzek and Niemeyer 2006). It is certainly not my intention in this article to build on a model for including all environmental discourses in debate and decision-making. But recalling these normative concerns is useful for recognising the importance of mapping contemporary discourses on the environment-economy nexus. Given the proliferation of new ways of talking about environmental sustainability and economic development, we should not assume that the discursive terrain first mapped by Dryzek in 1997 (or more recently by Adger *et al.* and Barry and Proops 1999) has not changed.

This paper reports on a bilingual 'Q study' of international environmental discourses. This is designed to catalogue the discrete ways in which the relationship between the environment and economy has been problematized in contemporary times, specifically in the period surrounding the Rio+20 Summit in 2012. The following section (Method) introduces 'Q methodology' and documents how this was used to get beyond the different terminology used in debates on the environment-economy nexus, and reveal the actual discrete discourses that exist on this topic. The study revealed three discourses (Radical Transformationism; Cooperative Reformism; and Statist Progressivism), which are detailed in a subsequent section (Results). This is followed by a short reflection on how the discursive terrain of the environment-economy nexus has altered in recent years.

Method

Developed by William Stephenson in the 1930s, Q methodology combines quantitative and qualitative techniques to access personal experiences, preferences, and beliefs. In short, Q is a method for discerning a set of discourses within the 'universe of subjective communicability surrounding any topic' (Brown and Good 2013: 1149). It is designed to discover the finite range of viewpoints (or discourses) within the vast amount of communication about a particular issue (referred to as *concourse*); in this case, the issue of how to approach economic development under conditions of continuing environmental degradation. There is no one single way in which concepts like sustainable development, green economy and green growth are understood; in fact, one of the key stumbling blocks during the Rio+20 negotiations was over the precise meaning of 'green economy'. There may also be

numerous overlaps between understandings of existing and alternative economic paradigms. Q methodology allows the identification of such distinctions and overlaps, and thereby enables the identification of discrete perspectives or discourses.

A Q study comprises six steps: (1) define the research question; (2) design the Q-set; (3) select participants; (4) administer the Q sort; (5) conduct a factor analysis using specialised Q software; and (6) interpret the qualitative meaning of the factor structure. Each of these steps is explained below.

Research question: The first step of the study was simply to define the research question as 'what different discourses currently exist about the environment-economy nexus?' In other words, what are the different perspectives on how we should pursue economic development under conditions of continuing environmental degradation?

Q-set design: The Q-set is a set of statements presented to participants that are sorted into a matrix to reflect their view on a given issue. These statements should as closely as possible represent the totality of communication on this issue (referred to as the *concourse*). Researchers typically interview participants to compile these statements. Interviews were not used in this study to identify the concourse due to the fact that a considerable amount of published material was already available (in the form of online reports, blogs, and statements). To minimise the requested time commitment of my target participants, it was considered preferable to draw on this existing written material for this stage of the study. The most important aspect of compiling statements is to ensure that they reflect the tone and substance of public communication, rather than the voice or perspective of the researcher. Rigorous and extensive data collection and sampling processes were conducted to maximise the validity of the Q-set as reflective of the wider public debate. The data collection strategy was aimed at identifying material published in the two years bracketing the Rio+20 Summit (20 June 2011 to 20 June 2013), in English and Spanish.[2] This was a period during which the environment-economy nexus was widely debated (often in the context of anticipating or reflecting on the summit). Material was first sourced from the websites of relevant events and inquiries (the UN High Level Panel on the Post-2015 Development Agenda; the World Happiness Report 2013; the Interactive Dialogue of the General Assembly on Harmony with Nature, 2013); existing compilations of material were then consulted (UN-DESA's guide to recent publications on the green economy, green growth, and low-carbon development (UN-DESA 2012); and the 'Why Green Economy?' database (Kenner n.d.); and finally a series of internet searches was conducted.[3] Relevant documents accumulated in the lead-up to the study complemented these purposively compiled documents, resulting in a total of 451 documents. I considered this data to be an adequate representation of the totality of public communication on the environment-economy nexus.

Distilling the substance and tone of this communication into a Q-set of 40-80 statements required close content analysis, which (for practical purposes) was precluded by the size of the data.[4] To produce a sample for content analysis and statement extraction, NVivo was used to classify all the documents. A classification system of four attributes was used (author region; author type; key concept; and relevance).[5] A sample of 147 documents was then selected primarily on attributes of relevance and key concept, and secondarily on attributes of author type and author region.[6] A

close reading of these documents was then carried out to highlight statements that were representative of the sentiment and message of each. The resulting list of 270 statements was then categorised, and reduced to 48 statements through several rounds of synthesising similar statements.[7]

Participants: Non-random sampling techniques are used to select participants (the 'P-set') in Q methodology. Opportunity sampling and random sampling are generally inappropriate because most Q investigators are interested in determining the range of viewpoints of a specific community of people. Q methodology is often identified as an inversion of R methodology, and this has important implications for participant selection. Unlike in R methodologies, whereby the participants constitute the sample and the attributes constitute the variables; in Q methodology, the statements constitute the sample and each participant becomes a variable. Randomly selecting participants would therefore be as absurd as randomly selecting variables in a traditional survey (Watts and Stenner 2012).

The authors of my original Q-set data (i.e., the 451 documents) constituted a body of potential participants for this study.[8] In the first instance, only those individuals associated with the smaller sample (i.e. 147 documents) were contacted by email and invited to participate. Invitations were subsequently extended to individuals associated with the wider collection of documents. A total of 173 individuals were invited to participate; forty accepted the invitation and completed the online Q sort (see below).[9] Participants included both English and Spanish speakers, from countries of the global North and global South, and included members of civil society, intergovernmental organisations, bloggers, and publicly engaged academics.

Administering the Q sort: Participants were directed to the online platform 'PoetQ',[10] which was adapted to function entirely in both English and Spanish. This programme took the participants through multiple sorting rounds in which they indicated their agreement, disagreement, or neutrality with each statement. The scale of opinion ranged from -4 (most disagree) to 4 (most agree). Responses were forced into the distribution formula shown in Table 1.

	Most disagree			Neutral			Most agree		
Value	-4	-3	-2	-1	0	1	2	3	4
Frequency	2	3	6	8	10	8	6	3	2

Table 1: Sorting distribution

The online sorting process produces a unique matrix for each participant (shown in Table 2). Each cell represents a statement, as identified by its number. Participants were given an opportunity to rearrange their matrix to best reflect their subjective position on the environment-economy nexus (i.e., to best reflect the statements with which they felt most strong and indifferent about). In the final stage of the Q-sort, participants were asked to explain how they felt about the statements they had ranked at -4 and 4 (i.e. to explain why they most agreed and disagreed with these statements).

-4	-3	-2	-1	0	1	2	3	4
36	31	32	9	30	2	6	1	10
44	33	41	43	22	3	12	37	11
	21	7	14	4	5	20	39	
		8	48	13	17	23		
		45	16	19	18	29		
		15	24	27	28	42		
			25	34	35			
			26	38	47			
				40				
				46				

Table 2: Q-sort matrix (Completed by participant THVK)

Factor analysis: Dedicated Q methodology software, PQMethod, was used to perform correlation and factor analysis of the forty completed Q-sorts. A three-factor solution was ultimately accepted through an iterative process of factor extraction, rotation, and interpretation. While a set of statistical criteria can ultimately determine whether a solution is accurate and valid, Q methodological factor analysis is a deeply interpretive and qualitative process. It is therefore important that considerations of statistical significance do not preclude qualitative judgements about appropriate factor solutions. The scope for interpretation is by no means boundless; the data will only reveal relationships among the variables that actually exist, it is then role of the researcher to decide which relationships make most substantive sense. The most commonly used indicator of a statistically sound factor solution is the Eigenvalue (EV) (i.e. the sum of its squared factor loadings). Generally only factors with an EV of more than 1.00 are considered significant. Additionally, a factor is only considered viable if it has at least two significant factor loadings (i.e. at least two participants are highly correlated with that factor and no other). For this study, a significant factor loading was calculated at 0.37 (at the level of $P<0.01$).

Initial extractions of five and four factors were rejected on the basis of insufficient significant loadings. Although the Eigenvalues in both cases were over 1.00, the fourth and fifth factors each had only one significant loading. Three factors were subsequently extracted using the Centroid method and Varimax rotation. Although this solution captured 54% of the variance (i.e. the full meaning and variability within the data), and produced factors with appropriate EVs and significant loadings, it too was rejected because Factors 2 and 3 were quite highly correlated (0.48). Correlation at this level is generally taken as a sign that too many factors have been extracted or that the two correlated factors are 'alternative manifestations of a single viewpoint' (Watts and Stenner 2013: 141). Extracting two factors produced a plausible solution (plausible both statistically and substantively). Nevertheless, this extraction offered visual evidence to suggest that a three-factor solution would be preferable to a two-factor solution, as revealed in Figure 1.

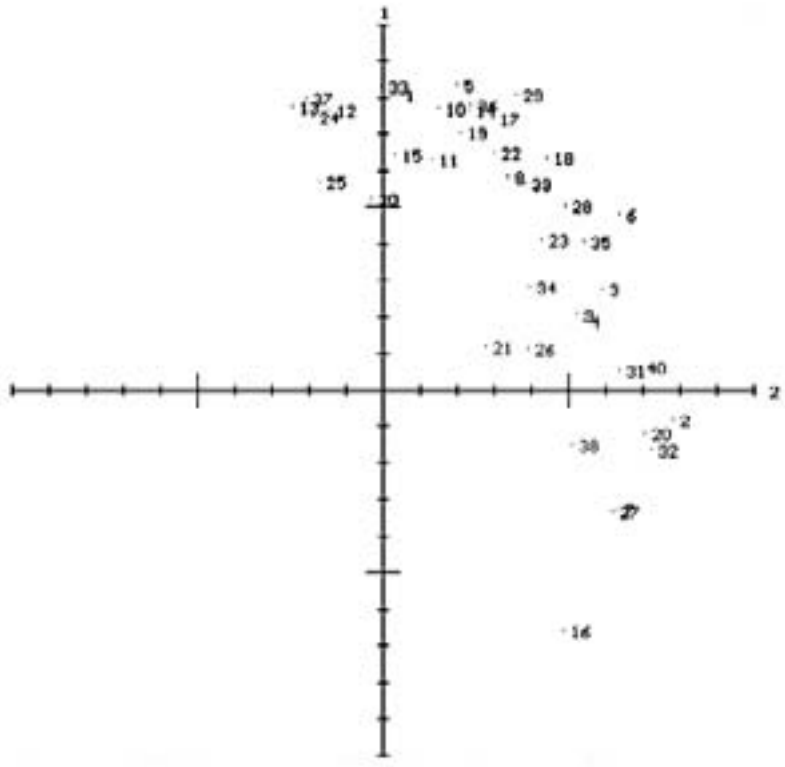

Figure 1: view of all sorts on Factors 1 and 2

This figure shows the correlations of all the Q sorts with Factors 1 and 2. Factor 1 accounts for a particularly large proportion of the variables. This in itself is unsurprising. Yet, two fairly distinct clusters of participants are evident within this Factor, suggesting there may be substantively significant differences within the participants loading on Factor 1. To determine whether these clusters were different in any meaningful way, the Factor 1 loadings were isolated and subjected to an additional Centroid factor extraction and Varimax rotation. This revealed that these clusters largely diverged on the issue of valuing nature in economic terms and the importance of pursuing new measurements of progress. This points to the importance of qualitative judgement in determining a correct factor solution. Familiarity with debates about the environment-economy nexus informed my judgment to take this distinction seriously by pushing the Q-sort clusters onto separate factors. This was achieved by extracting three factors (Centroid method and Varimax rotation) and subsequently hand rotating Factors 1 and 3 by -8°. This pushed the lower right-hand cluster onto Factor 3, while keeping the upper left-hand cluster on Factor 1. The resulting solution was statistically sound: 55% of the variance is explained by these factors; factor correlations range from -0.0975 to 0.4296; Factors 1, 2, and 3 have significant EVs of 13, 7, and 1 respectively.[11]

McKeown and Thomas argue that 'it does not understate the case unjustly to stipulate that all that... factor analysis does is lend statistical clarity to the behavioural order implicit in the correlation matrix by virtue of similarly (or dissimilarly) performed Q sorts' (2013: 52). The statistical actions performed in Q methodology sup-

port us in interpreting the discrete subjective views on any given issue. Ultimately the plausibility of any solution rests on the coherence and insight provided by the substantive account of each factor. In the following section I aim to demonstrate that this factor solution is substantively sound by providing a narrative account of each factor. First though, it is important to clarify how these narratives were drawn from the factorised data. Just as each Q-sort produces its own correlation matrix, so does each factor produce a composite correlation matrix. Van Exel and de Graaf explain: '(t)he composite Q sort of a factor represents how a hypothetical respondent with a 100% loading on that factor would have ordered all the statements of the Q-set' (2005: 9). Table 3 below shows the position (or value) of each of the statements in the composite correlation matrix of each factor. As explained earlier, a value of -4 signifies strong disagreement, while a value of 4 signifies strong agreement. The substance of each factor was interpreted on the basis of four considerations, each of which can be seen in Table 3:

a) The statements valued at -4 and 4;
b) The statements valued *higher* in each factor than any other factor;
c) The statements valued *lower* in each factor than any other factor;
d) The significance of each statement's Z-score.[12]

Shortened statement	Factor 1	Factor 2	Factor 3
1. Poor and marginalised to control environmental resources	3 (1.327)	1 (0.624)	1 (0.706)
2. Inequality undermines sustainability; redistribution necessary	2 (1.018)	2 (1.373)	3 (1.642)
3. Gender equality essential for environmental sustainability	2 (0.850)	1 (0.612)	0 (-0.095)
4. Governments responsible for transitioning workers into fair and sustainable work	0 (0.099)	1 (0.487)	2 (0.897)
5. Working week should be reduced	0 (0.346)	-2 (-1.048)	3 (1.017)
6. Progress should be measured in terms of 'wellbeing' and 'happiness' criteria, not GDP	1 (0.697)	0 (0.196)	3 (1.695)
7. 'Happiness' too subjective and problematic to pursue as a policy goal	-1 (-0.767)	0 (0.050)	-4 (-1.983)
8. Strong economic growth is necessary in all countries	-3 (-1.532)	0 (-0.026)	-3 (-1.687)
9. Should focus on decoupling rather than abandon growth-based economies	-1 (-0.830)	1 (0.676)	-2 (-0.854)
10. Wealthy countries need to move away from growth-based economies	4 (1.410)	-3 (-1.122)	4 (2.250)
11. Economic growth is a major social and environmental problem	2 (1.134)	-3 (-1.151)	0 (0.134)
12. Cooperative-based economies more sustainable than market-based economic relations	3 (1.309)	0 (-0.155)	2 (0.832)
13. Our economic system should be less anthropocentric	1 (0.751)	2 (0.725)	0 (0.014)
14. The poor need to be safeguarded against impacts of a sustainable transition	0 (0.242)	2 (1.351)	1 (0.717)
15. Energy-intensive sectors should be compensated in countries with ambitious policies	-2 (-1.047)	-2 (-0.769)	-1 (-0.387)
16. Most effective way to protect nature is to put an economic value on it	-4 (-1.738)	-1 (-0.325)	1 (0.576)
17. Putting an economic value on nature is necessary, but nature shouldn't be commoditised and traded	-1 (-0.639)	1 (0.649)	4 (1.854)
18. Putting a price on nature is dangerous and undesirable	4 (1.513)	0 (-0.074)	-2 (-1.315)
19. We need to accelerate technology transfer from North to South	-1 (-0.294)	2 (1.125)	0 (0.051)
20. We cannot rely on 'technological fixes' to reconcile economic development with planetary limits	1 (0.714)	1 (0.473)	2 (0.805)
21. 'Green growth' should be promoted by reducing barriers to international trade and foreign investment	-3 (-1.529)	0 (-0.163)	-1 (-0.525)
22. Some countries are using environmental standards as an excuse for restricting trade	-1 (-0.432)	-2 (-1.054)	-2 (-1.192)
23. We need to abandon market liberalisation which damages the environment and exacerbates inequalities	1 (0.655)	-2 (-1.066)	0 (-0.094)
24. Leading businesses are already integrating sustainability into their corporate culture and decision-making	-2 (-1.228)	1 (0.647)	2 (0.963)
25. SMEs are better suited to promoting sustainability and human wellbeing than MNCs	0 (0.407)	-1 (-0.392)	-1 (-0.327)
26. Capitalism is the only viable economic system	-4 (-2.030)	-1 (-0.425)	-1 (-0.526)
27. Sustainable development cannot exist within a capitalist system	1 (0.771)	-4 (-2.118)	-3 (-1.456)

28.	We need policies to reduce the power of TNCs	2 (0.923)	0 (-0.196)	2 (0.755)
29.	Governments need to eliminate subsidies for environmentally damaging activities	1 (0.793)	3 (1.468)	2 (0.833)
30.	No more fossil fuel energy infrastructure should be built anywhere	1 (0.790)	-2 (-1.036)	-2 (-0.775)
31.	Low-income countries will need to continue to use fossil fuels for the foreseeable future	-2 (-1.110)	-1 (-0.419)	-2 (-1.184)
32.	Human nature is a major impediment to living sustainably	-1 (-0.917)	0 (-0.210)	-1 (-0.296)
33.	The only sustainable economy is a steady-state economy	0 (0.152)	-2 (-0.974)	0 (-0.190)
34.	People should be legally prohibited from engaging in behaviour that damages the environment	0 (0.570)	-1 (-0.533)	1 (0.413)
35.	Industrialised countries have an 'ecological debt' which must be paid to developing countries	0 (0.282)	-1 (-0.473)	0 (0.330)
36.	We don't need to choose between environmental sustainability and economic growth	-2 (-1.509)	4 (1.976)	0 (-0.083)
37.	We should be aiming to consume less rather than just use resources more efficiently	2 (0.883)	2 (0.760)	1 (0.600)
38.	The Earth is a living sentient being and deserves the same rights as are accorded to human beings	1 (0.592)	-1 (-0.475)	-1 (-0.561)
39.	Our economies should become much more regionalised and localised.	3 (1.314)	0 (-0.140)	0 (0.199)
40.	Collaborative governance is essential for envisaging and implementing a sustainable economy	0 (-0.110)	3 (1.440)	1 (0.475)
41.	Democracy is an impediment to transitioning to a sustainable economy	-3 (-1.547)	-4 (-2.410)	-3 (-1.631)
42.	All forms of life, nature, and scientific knowledge should be considered common property	0 (0.472)	-1 (-0.435)	-1(-0.316)
43.	Ideas like 'green economy' promoted by Western governments only benefit the rich and big business	2 (0.902)	-3 (-1.922)	-4 (-2.281)
44.	By greening our economies we can accelerate growth, generate new and decent jobs, and reduce poverty	-1 (-0.784)	2 (0.716)	1 (0.627)
45.	We can integrate sustainability concerns into production without abandoning markets or free trade	2 (-0.953)	3 (1.434)	0 (-0.008)
46.	Developing a truly green economy is probably not possible; should aim for '*greener* economies'	-1 (-0.568)	0 (0.073)	-2 (-0.623)
47.	Everyone contributes to environmental degradation so everyone should reduce their individual impact	0 (0.007)	4 (1.791)	1 (0.500)
48.	The global economy is slowly but surely becoming green	-2 (-1.360)	1 (0.466)	-1 (-0.498)

Results

The statistical analysis and interpretation described in the preceding section produced the following set of discourses on the environment-economy nexus.[13]

Factor 1: Tradical Transformationism

Factor 1 reflects a post-growth vision of a sustainable economy that is very different to the status quo. From a Radical *Transformationist* perspective we need to accept that environmental sustainability is completely incompatible with continuing economic growth; we cannot expect to reduce pollution and preserve ecosystems while simultaneously growing the economy (36). Even if it were possible to reconcile economic growth and environmental protection, it would be desirable to rethink our commitment to growth-based economies because growth in itself can be problematic (8, 11). As one respondent argued, '(i)t's harmful and is part of what has caused us to be so spectacularly unsustainable in the first place' (P.25). Another respondent couldn't imagine 'how strong economic growth could deliver a just and sustainable global economy given the current impacts of growth policies, including on the thousands of communities affected by industrial-scale mining, oil, and agricultural projects' (P.37) Often further growth just results in greater inequality, which is undesirable from both social and environmental perspectives (11, 2). To mitigate the existence and effects of inequality, governments ought to be pursuing redistributive policies such as agrarian reform, fiscal transfers, progressive taxation, and other public spending (2). Capitalism is certainly not the only viable economic system; in fact, it 'absolutely *not* viable' and is actually only 'a very new

invention in the history of humanity' (P.37; P.12). Therefore, it would be a mistake to limit ourselves to trying to make an unsustainable system sustainable (26). Lessons can be drawn from historical and contemporary experiences where communities have lived well under non-capitalist economies (P.12; P.30). In general terms, an alternative to our existing market-based economies lies in strengthening economic relations based on cooperation and sharing (12). A sharing-based economy could be a sustainable economy (12), especially if it relies on renewable energies rather than fossil fuels; this is possible in developed *and* developing countries. We should not assume that low-income countries will need to continue to use fossil fuels for the foreseeable future to reduce poverty and promote development (31). Insofar as market-based economic relations persist, these should become much more regionalised and localised. Re-localisation, one respondent stressed, is 'the only sustainable way forward.... Having lengthy just-in-time supply chains is a recipe for disaster - they are brittle and rely on cheap fuel' (P.12). 'In the context of peak oil, re-localisation is an imperative' (P.25); and this may require resisting pressure to reduce barriers to international trade and foreign investment (21, 39). Small-scale economies are inherently better for both people and the environment (39). They allow people to have greater control over the environmental resources on which their wellbeing depends, and this is especially important for poor and marginalised communities (1). A radical shift is needed because despite several decades of talking about sustainable development, the global economy is certainly not becoming greener (48). Existing market-based environmental solutions are part of the problem not part of the solution. The idea of protecting nature by pricing it is both dangerous and undesirable; 'it leads to the commodification of the natural world and legitimizes the privatization of essential common natural resources.... This attitude ignores the necessity for the conservation, restoration and protection of essential life supporting ecosystems' (P.15). For another respondent, this approach to environmental protection should be rejected because it is 'a dangerous extension of prioritizing economic growth' (P.11). In short, protecting nature is too important to be left to the whims of the market (18; 16). This perspective is also associated with a fairly high level of scepticism about the existing sustainability initiatives of businesses, governments, and international institutions (43).

Factor 2: Cooperative Reformism

This vision of a sustainable economy stresses the importance of cooperating to sustainably reform the economic system that we have (40). *Cooperative Reformism* differs from *Radical Transformationism* most significantly on the assumption that sustainability, capitalism, and economic growth are compatible. *Cooperative Reformism* strongly rejects the suggestion that we need to abandon capitalism and growth-based economies in order to live sustainably; such ideas are considered unnecessary and certainly unrealistic (36, 9, 45, 23, 27). As one respondent explained, '(t)here is no causality between profit and degradation. The economic system has simply not considered its consequences before, but is now beginning to. There will be innovation that satisfies new sustainability goals as well as economic growth' (P.7). In short, 'environmental sustainability and economic growth are compatible' (P. 32). Radical ideas like reducing the standard working week or shifting to a steady-state economy were equally dismissed (5, 33). Instead, we need to recognise the sensible and realistic opportunities that are available to us to ensure win-win outcomes. In contrast to the negative view of economic growth associated with

Radical Transformationism, in the *Cooperative Reformism* discourse economic growth is important for improving lives and should be pursued (10, 11). Indeed, economic growth 'generates wealth and wellbeing' (P.32). Continued improvements in technology and efficiency will allow us to increase GDP, profits, and jobs while still reducing pollution and preserving ecosystems (36). Greening the economy does not have to threaten either workers or companies: '(i)t is being demonstrated that "green" jobs are on the increase. Fighting climate change and other environmental problems requires qualified people. At the same time, sustainable companies are more efficient in the long-term' (P.31). We should be looking to redirect existing fossil fuel-based subsidies towards investments in new clean technologies (2). Energy-intensive sectors in countries with ambitious environmental policies should not be compensated or protected (15). At the same time, however, we must be 'practical' and 'realistic' (P.2) and not assume that we can immediately break our dependence on fossil fuels (30). Moving towards a more sustainable economic system requires a concerted and collaborative effort in which everyone contributes to reducing their impact on the earth (40). Such '(c)ollaboration… is vital for sustainability to be acceptable for all affected' (P.27). Everyone consumes, often on an unsustainable scale, so everyone has a responsibility to reduce their individual impact (47). In the context of governance, this means that governments, business, and civil society should collaborate to envisage and implement policies for a sustainable economy (40). This will not happen automatically or immediately, but instead needs to be promoted over time: '(t)here exists a lack of citizen consciousness in relation to environmental problems. We need more education and awareness-building' (P.31); 'generation by generation we must build a more self-conscious society' (P.2). While recognising our common responsibilities, we must keep in mind that the costs and benefits of transitioning to a sustainable global economy will not automatically be distributed evenly. We need to explore opportunities for fair burden sharing. The interests of poor people and low-income countries ought to be safeguarded in this transition to ensure that they are not negatively impacted (14). In 'equal societies', one respondent observed, 'it is easier to ask everyone to bear the "burden" of sustainability' (P.4). There is no reason for developing countries to continue to rely on fossil fuels for their economic development (31), but they will need assistance to shift course. In this respect, greater technology transfer from industrialised countries to developing countries is important, and indeed 'obligatory' (P.27) (19). Furthermore, given that inequality undermines sustainability, we ought to be pursuing a range of redistributive policies to mitigate inequalities and ensure that everyone can enjoy the benefits of a sustainable economy (2). In contrast to *Radical Transformationism*, *Cooperative Reformism* considered it unhelpful and unnecessary to be suspicious of governments' efforts to promote ideas like the 'green economy' (43, 22). We should not assume that the 'green economy is a "western imposition", it is a concept that makes sense for all countries… because all are affected by natural resource scarcity and environmental impacts' (P.32). Such initiatives are genuinely needed to move us closer to a sustainable global economy.

Factor 3: Statist Progressivism

Factor 3 presents a vision of a sustainable economy based on the pursuit of well-being and happiness rather than gross domestic product (6). 'GDP', one respondent stressed, 'is an indicator that is increasingly partial and obsolete' (P.38). We should not assume that the concept of happiness is too subjective and problematic

to pursue as a policy goal; it can and should become the main measurement of progress. This is desirable from both an environmental and a social perspective (7). As one respondent summed up: '(y)ou get what you measure and we are measuring progress the wrong way' (P.8). Wealthy countries in particular need to move away from a system in which economic growth is pursued as an end in itself (10). Continued economic growth is not necessary for transitioning to a fair and sustainable global economy (8). This critical questioning of economic growth places *Statist Progressivism* at a middle point between *Radical Transformationalism* and *Cooperative Reformism. Statist Progressivism* does not share either the wholehearted rejection or support for economic growth, but rather questions the desirability of an economic system oriented so exclusively towards economic growth. The state is seen to have a fundamental role to play in moving society towards a new green economic order that pursues wellbeing over growth. In short, one respondent argued, '(i)t is the responsibility of governments to formulate environmentally friendly policies' (P.26). This will involve eliminating subsidies for environmentally damaging activities and use these funds to invest in new clean technologies (29); reducing the standard working week to share the benefits of employment more widely and reduce consumption (5); and potentially taking responsibility for moving workers out of unsustainable jobs and assisting them in moving into fair and sustainable work (4). This new wellbeing economy may still be based on some form of capitalism (27), a system that 'rewards innovation, which is necessary when dealing with global sustainability issues (P.9). This moderate position on capitalism distinguishes *Statist Progressivism* from *Radical Transformationalism*. It is evident that the model of capitalism supported by *Statist Progressivism* would involve much more state intervention and steering than dominant forms of liberal market capitalism. Such intervention will need to include redistributive policies because existing levels of inequality undermine sustainability (2). The state can and must play a central role in making our economies sustainable. It is therefore unhelpful and unnecessary to be sceptical about existing governmental sustainability initiatives like 'green economy' plans (43), environmental standards (22), the valuing of 'natural capital' (17), and the efforts of leading businesses to integrate sustainability into their corporate culture and decision-making (24). Indeed, we can already see 'lots of good examples of how the green economy is benefiting the poorest' (P.9). The rejection of green economy scepticism is what most sets *Statist Progressivism* apart from *Radical Transformationalism*. A further significant difference between the two concerns the issue of valuing nature. From the perspective of this factor, we should certainly be cautious about commoditising nature and opening nature up to trade (17), but we should not assume that putting a price on nature is inherently dangerous and undesirable (18). 'We should not confuse value and price' (P.8). Nature is intrinsically valuable, but it is also economically valuable. This value is evident, for example, in the various services provided by wetlands and forests, as well as the income generated from nature-based tourism. To recognise this economic value does not detract from nature's intrinsic value. Recognising the economic value of nature facilitates good policy making, and this does not necessarily have to entail market mechanisms like pricing and trading. In some cases it may be appropriate to develop market mechanisms, but '(c)are needs to be taken to assess when (this) is a suitable approach' (P.17).

Discussion

What this study has revealed are the meanings behind the terminology used in debates about economic development and environmental sustainability. The rise and renewal of terms such as green economy, green growth, inclusive wealth, harmony with nature, etcetera, reminds us that there is no single way of problematizing the environment-economy nexus. But the varied terminology itself obscures actual points of agreement and disagreement. Q methodology does have its limitations,[15] but it nevertheless has the potential to reveal agreement and disagreement that is otherwise obscured by rhetoric. Of course there are nuances in individual positions and narratives that have not been captured in the analysis above. What Q-based discourse analysis does is identify how groups of people align with different ensembles of ideas and beliefs. Just as the members of a political party will disagree in some respects, they do agree on a basic vision and set of fundamental values and principles. 'Discourse coalitions' (Hajer 1995) similarly articulate broadly shared visions, values, and principles. What is shared is ultimately more important than what is disputed.

Recognising these points of agreement and disagreement is important for global environmental governance. The idea of 'sustainable development' gained considerable traction throughout the 1990s and 2000s largely due to the fact that it was sufficiently vague to accommodate a range of distinct and incompatible interpretations. But, given that many indicators of environmental quality have continued to decline despite two decades of sustainable development policies, there is value in confronting tensions and inconsistencies within this idea. As I acknowledged earlier, it is beyond the scope of this paper to elaborate on a model of inclusive global environmental governance that draws in representatives of all known environmentalist discourses. But the analysis documented here can support precisely that endeavour.[16] The first step in including all relevant discourses in debate and decision-making is identifying what those discourses are. Human beings are reflexive creatures with a capacity to revise worldviews on the basis of changing circumstances and new information. In light of this, it is important to periodically review the discourses we assume to exist on any issue of political importance. On many issues it may well be a case of 'old wine in new bottles' or '*plus ça change, plus c'est la même chose*'. To some degree that is the case with discourses on the environment-economy nexus, but there are certainly some novel features revealed in the analysis above. *Cooperative Reformism* is clearly a close relation of *ecological modernisation*, which features in Dryzek's original analysis as an imaginative-reformist sustainability discourse. Both discourses are focused on making the capitalist economic system less resource- and waste-intensive through the close cooperation of government and industry. Yet, a salient feature that emerged in the analysis above was a concurrent concern with burden sharing, which is absent from Dryzek's (and others') characterisation of *ecological modernisation*. This emerged as a concern for ensuring that everyone 'does their bit' – all citizens, businesses, and nations – but in such a way that supports the less well-off and protects their interests in the transition to more sustainable economies.

Radical Transformationism is evidently a variant of what Dryzek identified as 'green radicalism'. Dryzek recognised the diversity of radical green discourse but argued that it is best distinguished along two lines: one focusing on the need to change

consciousness (*green consciousness*) and the other focusing on the need for directly changing political, economic, and social structures and practices (*green politics*). Nevertheless, he noted that sometimes the difference is just a matter of emphasis 'and the two join together to constitute a green public sphere' (2005: 181). With its focus on structural change, re-localisation, and redistribution, *Radical Transformationism* closely resembles *green politics*. The most notably novel aspect of this present analysis is the prominent objection to using monetary valuation to conserve nature; the values underpinning this rejection may be found in the older traditions of *green consciousness* and *green politics* (especially in their deep ecology and social ecology influences) but the salience of this issue has clearly increased in the past two decades. While payment-for-ecosystem-services (PES) initiatives were in place in the 1990s, it is only in the past few years that environmental accounting and ecosystem valuation has been widely institutionalised at the international level. This is evident, for example, in The Economics of Ecosystems and Biodiversity' (TEEB), the World Bank's WAVES Partnership (Wealth Accounting and the Valuation of Ecosystem Services), and the UN's Systems of Environmental-Economic Accounting (SEEA) framework. Questions of whether and how to value nature in monetary terms are therefore provoking stronger debate (e.g. Kenner 2014), and this is an important distinguishing element in *Radical Transformationism* and *Statist Progressivism*. Similarly, themes of wellbeing and happiness are much more salient in environmentalist debates now than in earlier years. GDP has long been a focus of green critique, but it is only in recent years that this critique has moved closer towards the policy mainstream from the radical margins. This is evident, for instance, in the proliferation of new measurements of progress (Happy Planet Index, Better Life Index, Gross National Happiness, etc.); initiatives such as the French Government's Commission on the Measurement of Economic Performance and Social Progress (headed by Joseph Stiglitz) and the UN's commission into 'Broader Measures of Progress'.

Implications for Environmental Governance

It is not my intention here to critically evaluate the substance of each discourse, or to promote one over the other. The question of how to pursue economic development given persistent environmental degradation cannot be treated purely as a technical matter. There are diverse visions for a sustainable economy, and these encompass different social and political values. The assumptions associated with different discourses may be contested or invalidated, but not in such a way that will reveal one true and legitimate discourse. The take-home message for policy-makers is that diversity in debate and decision-making is important. Acknowledging and engaging with different perspective can reveal the blind spots, inconsistencies, and problems in policies and dominant policy paradigms. Existing research provides evidence that institutional enclaves and decision-making among like-minded individuals tend to produce poorly reasoned decisions (e.g. Sunstein 2006, 2008). Unless opposing positions are vocally represented, there is a danger of what Sunstein calls 'ideological amplification' and 'group polarisation': the tendency for individuals to reinforce their commitment to existing convictions when they are supported by the majority (Sunstein 2003, 2007). Regardless of the plurality of perspectives privately held, groups will become more polarised in the direction of the majority of publicised perspectives. Homogeneity replaces diversity and

produces 'informational cocoons' – 'warm, friendly places where everyone shares our view' (Sunstein 2006: 9). The importance of this was reflected in the findings of the International Monetary Fund's Independent Evaluation Office's (IEO) study of its failure to anticipate the global financial crisis. The IEO found that a number of 'cognitive biases' contributed to the failure, including a high degree of 'groupthink', 'intellectual capture', and 'lack of incentives to… raise contrarian views' (IEO 2011:1). There are plenty of warning signs of a future 'global environmental crisis'. We are not in danger of not anticipating this, but we are certainly in danger of failing to avert it. We do not yet have sufficient evidence about the precise degree of diversity within institutions of environmental governance. However, there are reasons to be concerned. Prominent plans, visions, and blueprints published in recent years are highly consistent with *Cooperative Reformism* with no evidence of engagement with alternative positions. This is true of the OECD's *Towards Green Growth*; the New *Climate Economy Report* from the Global Commission on the Economy and Climate; and the UK Government's Paris 2015 position paper on climate change. In Daniel Brockington's assessment of UNEP's *Towards a Green Economy* (Brockington 2012), that report also appears highly consistent with *Cooperative Reformism.* 'Many of the solutions proposed are technical … and there is a general expectation that markets will deliver these technological improvements to those who need them, particularly if given the right policy contexts in which to operate. There is repeated emphasis on the importance of free trade and free markets in order to bring green economic growth into effect. … Writ large across the entire Report is the desire to create more commodities out of nature, to increase their circulation and the speed of their circulation and to see a global economy which is sustainable because it is less dependent on finite resources whose use degrades the Earth's biocapacity' (ibid.: 414, 419). Brockington finds that the report avoids engaging with critics of the commodification of nature as well as with observers who question the necessity and desirability of growth-based economic systems (ibid.: 420). To simply dismiss the notion that economic growth and environmental sustainable are incompatible as a 'prevalent myth' is unjustified. This belittles the intelligence of those observers who advance discourses of *Radical Transformationalism* and *Statist Progressivism*. Policy makers should directly engage with these alternative positions, rather than either ignoring or dismissing them.

Conclusion

Identifying the range of contemporary discourses on the environment-economy nexus is a necessary step towards improving the representation and inclusiveness of debate, decision-making, and governance. This study has shown that the substance of this diversity cannot be gleaned simply by listening out for different language and concepts. Arguments might be advanced under the banner of many different terms such as green economy green growth, wellbeing, gross national happiness, inclusive wealth, harmony with nature, de-growth, steady-state economy, and *buen vivir*. My initial assumption that this terminology obscures the precise points of agreement and disagreement was supported by the study presented in this article. Three distinct perspectives were distilled by conducting a bilingual Q-study based on communication surrounding the Rio+20 summit in 2012 *Radical Transformationism* reflects a post-growth and post-capitalist vision in which economic relations become more localised, and in which there is no place for putting

a monetary price on nature. *Cooperative Reformism* sees capitalism and growth-based economies as potentially compatible with a sustainable environment. Fundamental social and economic change is rejected in favour of sensible and cooperative changes that promise win-win outcomes while protecting the needs of the poorest. Finally, *Statist Progressivism* acknowledges the limitations of growth-based economies and holds a vision of a sustainable economy based on the pursuit of wellbeing and happiness rather than gross domestic product. The state has a central role to play in redirecting society in this way, and ensuring that nature is valued carefully to capture its economic and intrinsic qualities. Adopting broad concepts like 'sustainable development' allow us to paper over these evident tensions and disagreements. But, given that many indicators of environmental quality have continued to decline over three decades of sustainable development policy, a more fruitful albeit challenging task would be to openly reflect on which of these policies and practices the planet can genuinely sustain in the decades ahead.

Notes

1. For a thorough albeit dated review, see Hajer and Versteeg 2005.
2. Spanish was included to increase the diversity of material; my own linguistic capacity was the determining factor in language selection. Academic peer-reviewed material was excluded given my interest in identifying only the perspectives of engaged stakeholders (material published by academics for public consumption, e.g., blogs, were included). To make the sampling more manageable, material focused only on a specific city or country was also excluded.
3. The following search terms were used in Google (with searches limited to my two-year period): 'green economy' 'green growth' 'sustainable development', low carbon economy' 'sustainable economy' 'economìa verde' 'crecimiento verde' 'desarrollo sostenible' 'economìa de bajo carbono' and 'economìa sostenible'.
4. A Q-set of 40-80 statements is standard (Watts and Stenner 2012: 61), but Q-sorting has traditionally been done in person. Feedback provided by participants in this study suggests that a Q-sort more than 50 statements is inappropriate for online sorting; several participants reported 'sorting fatigue' with 48 statements.
5. See Appendix I for the values assigned to these attributed.
6. A high relevance filter was applied. Remaining documents were then filtered by key concept. For each key concept collection, half was selected with a view to maximising diversity by author type and author region. The key concept category of 'other' was treated slightly differently to reflect its diversity; two-thirds of this collection was selected.
7. See Appendix II for a complete list of these categories. See Appendices IV and V for the complete Q-set in English and Spanish, respectively. The initial 270 statements included both English and Spanish statements; these were synthesised into English, and the final set was then translated into Spanish by a native speaker. Initially 50 statements were included, but this was reduced to

48 following a pilot study of the Q-sort. The pilot study was conducted among English- and Spanish-speaking colleagues in the Department of Politics, at the University of Sheffield. The statements were edited for brevity and clarity on the basis of feedback from pilot participants.

8. A database of authors was compiled using publicly available information. Most entries were authors directly named on the documents. Some documents only named an organisation; in these cases, relevant individuals were located on the organisation's website. Some document authors were not contacted because (a) their contact details could not be found; (b) there was no clearly identifiable author; or (c) the author was not an English or Spanish speaker (i.e. the document has been translated into one of these languages).

9. This included 29 English participants and 11 Spanish participants. The lower representation of Spanish speakers is explained by two factors: there was a higher proportion of English speakers in the list of potential participants; and a hyperlink malfunction created problems with accessing the Spanish version of the study. A P-set of 40 is entirely appropriate for a Q study. A P-set of 40-60 is generally considered adequate, but the most important consideration is that the number of participants is less than the number of statements (Watts and Stenner 2013: 73).

10. Developed by Stephen Jeffares of the University of Birmingham.

11. Appendix II shows how each of the Q study participants correlated with the final three factors.

12. A Z-score is a standardized score, which creates a 'level playing field' for cross-factor comparison. This allows us to compare the relevance of each statement for each factor, despite the fact that Factor 1 has ten defining sorts, Factor 2 has 9, and Factor 3 has 4. The Z-score shows how participants ranked each statement overall among the 48 statements. Statements with a Z-score of greater than 1 (relative agreement) and lower than -1 (relative disagreement) are considered characteristic of a factor.

13. Italicised numbers in brackets indicate the relevant statement in the Q-set. P numbers indicate anonymised participant identity). Quotes from participants 29-40 (P.29 – P.40) have been translated from Spanish to English by the author. The factors are written in a narrative form to show how the environment-economy nexus looks from each perspective; these should be read not as reflecting my own judgement, but as the assumptions associated with each factor.

14. In the academic literature, the idea that capitalism could be compatible with degrowth has been elaborated by Spangenberg (2013).

15. Perhaps the principal weakness is that rich and nuanced arguments have to be reduced to rather short statements to facilitate sorting. Lengthy statements with multiple clauses are impractical and undesirable. The opportunity for participants to explain in their own words how they feel about their strongest statements mitigates this problem.

16. Stevenson and Dryzek (2014) provide an account of what this might look like in the more specific context of global climate change governance.

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Appendix I: NVivo Classification System

ATTRIBUTE	VALUES
Author Region	Asia-Pacific
	Africa
	Europe
	North America
	International
	Latin America
	Middle East
Author type	NGO (civil society and bloggers)
	Intergovernmental
	Multiple
	Academic
	Trade Union
	Private sector
	Media
	Unknown
Key concept	Green economy
	Green growth
	Buen vivir
	Harmony with nature
	Steady state economy
	De-growth
	Sustainable development
	Environmental Sustainability
	Low-carbon development
	Other
Relevance	High
	Medium
	Low

Appendix II: Rotated Factor Loadings (Shaded cells indicate defining sorts)

Q-Sort	Loadings		
	Factor 1	Factor 2	Factor 3
LTW7THVK	0.7142	-0.0259	0.3809
DVNLFS41	-0.1635	0.7272	0.2629
3TLC1LYR	0.2317	0.5967	0.2377
VI9DYODC	0.1624	0.5638	0.1662
A3ANPQFZ	0.7355	0.1401	0.4251
4O2YUYVW	0.2727	0.4470	0.6263
2YWCJX6U	-0.3614	0.6148	0.0806
HUK2ZAM8	0.3463	0.0872	0.6810
LNETGH6V	0.0287	0.3407	0.4971
CEXB1Q2V	0.6947	0.1123	0.3559
UAZW9MHB	0.6599	0.2175	0.1035
51PDGNDY	0.7143	-0.1726	0.2598
UWUY8OET	0.7862	-0.2054	0.1260
PKTMJN0F	0.7200	0.2386	0.2998
I4O30QUQ	0.6812	0.1232	0.0776
GXOA0HTF	-0.7179	0.4026	0.0427
LYQVNMH7	0.6014	0.1807	0.5053
VGHUB3DO	0.4572	0.2810	0.5768
6HUDA0XP	0.5611	0.0785	0.4943
0AI24HSF	-0.1354	0.7301	0.1039
XHK2XNHJ	0.1995	0.4105	-0.0990
Q2GWNMSZ	0.5817	0.2777	0.3244
MJNV4PDY	0.2210	0.2327	0.5545
3O5N48KD	0.7382	-0.1678	0.1619
W0BWUPVL	0.5988	-0.1146	0.0479
PE4VLEFI	-0.1206	0.1234	0.5684
SXXD6KRQ	-0.3610	0.6035	0.0742
UP0AIZH8	0.3898	0.4068	0.4265
KMKODEW2	0.6168	0.1941	0.6250
E7PERDBA	0.5715	0.0604	0.0167
AMGSHVEX	-0.0087	0.6108	0.2255
FNUNCSHO	-0.2275	0.6886	0.1890
TBJ7GCNM	0.7145	-0.1042	0.4317
TD5PNKWJ	0.1773	0.3046	0.3399
R3OX0PEK	0.4312	0.6407	0.1195
VYJPNMIT	0.6420	0.1221	0.5003
GI4DRZ0C	0.8000	-0.1703	0.1479
QNQLVMOZ	-0.3411	0.2900	0.4323
05H6HGIS	0.3659	0.1881	0.5958
KQKBFNUI	-0.0678	0.5729	0.3859

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