# A feminist project of belonging for the Anthropocene

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At the core of J.K. Gibson-Graham's feminist political imaginary is the vision of a decentralized movement that connects globally dispersed subjects and places through webs of signification. We view these subjects and places both as sites of becoming and as opportunities for belonging. But no longer can we see subjects as simply human and places as human-centered. The 'arrival' of the Anthropocene has thrown us onto new terrain. Feminist critiques of hyper-separation are pushing us to move beyond the divisive binaries of human/nonhuman, subject/object, economy/ecology and thinking/acting. The reframing of our living worlds as vast uncontrolled experiments is inspiring us to reposition ourselves as learners, increasingly open to our interconnections with earth others and more willing to intervene in adventurous ways. In this article we begin to think about more-than-human regional development and regional research collectives that have the potential to perform resilient worlds. For us the project of belonging involves both participating in the vast experiment that is the Anthropocene and connecting deeply to specific places and concerns.

**Keywords:** climate crisis; regional development; research collective; more than human

## Our challenge

In this article we are trying to do something we are not ready to do – which is to begin to rethink regional development as a way of belonging differently in the world. Regional development has been a longstanding interest for us. Our first jointly authored research article written as graduate students at Clark University in 1978 was about the decline of manufacturing in Fitchburg Massachusetts, as an example of deindustrialization in the New England region of the USA. Our political-economic take on regional development was later broadened by a feminist perspective on household and industry regional restructuring, and then by a Foucauldian interest in genealogies of regional identity. More recently we have taken up action-oriented research on alternative pathways for regional development both in our respective 'local' regions as well as at some distance in regions of the majority world (Gibson-Graham 2010). In all our work thus far the focus has been on economic activities and human political subjects – hence our unreadiness to write a paper that displaces the assumed primacy of humans to the project of regional development.

We have come to see that the scale of the environmental crisis we are part of is creating a new 'we' and convening new publics on this planet. No longer can J.K. Gibson-Graham avoid the challenge of how to live differently with others on the earth. In the words of ecofeminist Val Plumwood (2007, 1),

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> If our species does not survive the ecological crisis, it will probably be due to our failure to imagine and work out new ways to live with the earth, to rework ourselves and our high energy, high consumption, and hyper-instrumental societies adaptively ... We will go onwards in a different mode of humanity or not at all.[1]

While Plumwood's challenge is seemingly directed at all of humanity, we read it as targeting some more than others – most notably those living in Australia and the US who have the largest carbon footprints in the world, and whose lifestyles would require three or more planets if replicated globally.[2] Plumwood's provocation spoke directly to the amalgamated US–Australian, J.K. Gibson-Graham, and called us into action as specific located beings. Today our familiar slogan 'start where you are' has never had more personal or planetary resonance. But how do we start in the US and Australia to enact a different mode of humanity? How do we proceed as researchers who specifically engage in rediscovering and reenacting economy in particular places and regions?

We hope that our familiar methods will still serve us here – for years we have undertaken projects of deconstructing existing local economies to reveal a landscape of radical heterogeneity, populated by an array of capitalist and noncapitalist enterprises; market, alternative market and nonmarket transactions; paid, unpaid and alternatively compensated labor; and various forms of finance and property – a diverse economy in place (Gibson-Graham 2006, 2008). In this diverse multiplicity we find glimmers of the future, existing economic forms and practices that can be enrolled in constructing a new economy here and now, one that is more focused on social wellbeing and less on growth and profitability. This kind of exploratory, place-based method still seems like a useful way to proceed.

Our methods may feel right, but the way we use our core theoretical categories – subjects, communities, places – betrays our alignment with Plumwood's old 'mode of humanity'. No matter that we treat these categories as empty of prior meaning, as potentialities, as openings for a politics of possibility and becoming, they are still fully human-centered. Each time we invoke them we perform the human/nonhuman binary alongside that of subject/object, constituting a world made up of conscious and acting humans and unconscious or passive others.

Feminists and others have seen such binary thinking as deeply implicated in the crisis of life that now engulfs our planet. In Plumwood's (2002, 49) view, the binary habit of thought creates 'hyper-separation'; Bruno Latour (2001, 61) sees it as producing 'hyper-incommensurability'. According to Jessica Weir (2009, 3), thinking hyper-separation places humans in a relation of mastery with respect to earth others and 'limits their capacity to respond to ecological devastation'. Humankind loses 'the ability to empathise and see the non-human sphere in ethical terms'; we gain 'an illusory sense of autonomy' (Plumwood 2002, 9 quoted in Weir 2009, 3). Nature remains our dominion, our servant, our resource and receptacle.

Deconstruction identifies and breaks down binary hierarchies, opening up a field of radical heterogeneity. Useful though this technique has been to us, we feel that what is required at the moment for our feminist project of belonging is not something deconstruction can provide. What critics of separateness and separation thinking are asking us to do is to think connection rather than separation, interdependence rather than autonomy. In this way we may imbue our categories and practices with a 'different mode of humanity'.

Thinking 'connection' involves sensory and intellectual receptivity and suggests to us a number of ethical projects:

(1) The project of actively *connecting* with the more than human, rather than simply *seeing* connection. Interestingly, this ethical act is not just the prerogative of human beings. In a

wonderful article called 'watching whales watching us', we read of the gray whales of Baja initiating a connection with humans, who are receptive and responsive. Whale scientists note that this is relatively new behavior – the whales seem to have learned that people in that part of the Pacific no longer intend to harm them. A mother gray approaches the whale-watching boat and checks out the passengers, turns away briefly and returns with her newborn calf who raises its head above water and looks the author in the eye. 'At precisely the time (calving) when you'd expect them to be most defensive, they're incredibly social', says Toni Frohoff, a marine mammal behavioralist. 'They'll come right up to boats, let people touch their faces, give them massages, rub their mouths and tongues' (Seibert 2009, 2). To our whale-watching receptivity, whales respond with an overt act of connecting. The connection here is not just in the act but in the parity, the mutuality, the reciprocity between the species. As Seibert (2009, 3) writes, 'I'd never felt so beheld in my life'.

What is this encounter but a moment of recognized kinship? As Nikolas Kompridis (2009, 259) puts it, 'The world – my kin, my twin'. To acknowledge 'the world as one's 'kin' and 'twin' is to see that a change in one's condition is coextensive with a change in the condition of the world'. Or as Fransisco Varela (1999) puts it, to change ourselves is to change the world. Our whale-watching receptivity, so different from our former murderous mastery, is a world-changing stance, 'coextensive' with whales reaching out in connection.[3]
(2) A second project of thinking connection might involve embracing what Jane Bennett calls a 'vital materialism' in which humans and nonhumans alike are 'material configurations'. This involves an ethical act of subsuming ourselves within others' as well as our own materiality and tuning into a dynamism that does not originate in human action. 'Materiality is a rubric that tends to horizontalize the relations between humans, biota, and abiota' (Bennett 2010, 112). We are all just different collections of the same stuff – bacteria, heavy metals, atoms, matter-energy – not separate kinds of being susceptible to ranking. Bennett's vital materiality captures the alien quality of our own flesh – we are not fully or exclusively human but an array of substances of different types, we are made up of 'its' more than 'mes'. Her vibrant materiality depersonalizes agency, shifting its locus onto the behavior of assemblages rather than discrete beings. From this perspective the connection of human and nonhuman is not only reciprocity, kinship, resemblance – it is a shared identity (of a substantive rather than symbolic sort). Bennett (2010, 122) encourages connections that will lead to another concept of belonging: 'I believe that encounters with lively matter can chasten my fantasies of human mastery, highlight the common materiality of all that is, expose a wider distribution of agency, and reshape the self and its interests.'

Each of these projects of connection constructs a form of belonging – the first is like belonging to the world as one does to a family, suggesting an affect of love and an ethic of care (one that seems to go both ways); the second involves belonging within a 'heterogeneous monism of vibrant bodies' (Bennett 2010, 119), a vital pluriverse, suggesting an affect of uncertain excitement and an ethic of attuning ourselves more closely to the powers, capacities and dynamism of the more than human. Each form of belonging offers a sense of relief – it is not all up to us – something else is caring for us and the earth, or contributing vitality to our complex co-being.

Bennett (2010, 111, emphasis added) frames these two slightly different orientations as a distinction between environmentalists and vital materialists:

> If environmentalists are selves who live on earth, vital materialists are selves who live as earth, who are more alert to the capacities and limitations – the 'jizz' – of the various materials that they are. If environmentalism leads to the call for the protection and wise management of an ecosystem that surrounds us, a vital materialism suggests that the task is to

engage more strategically with a trenchant materiality that *is us* as it vies with us in agentic assemblages.

We see these two projects as potentially in productive conversation with each other. While we might feel love for other earth creatures and want to accept a responsibility to care for them, might we also extend our love to parasites, or inorganic matter, or to the unpredictability of technical innovation? And might not an ethics of attunement to vibrant matter produce a more sensitive, experimental mode of assembling within the 'jizz' of our living environments?

The question that arises for us is: what might these different conceptions of connectivity and belonging mean for our practice of regional development, and for the action research that is our avenue of entry into that practice? Indeed, how could a different sense of belonging lead to a very different form of regional development? We have no definitive answer, though we sense the importance of thinking connection, convening wider publics, and enrolling lively matter in the 'hybrid research collectives' (Callon and Rabeharisoa 2003) that we hope will emerge.

Fortunately, there are great precedents for proceeding in the face of not knowing how to proceed. Eco-philosopher Freya Mathews (2009, 351) points to the Chinese sage who proceeds by cultivating a sensitivity to the 'field of influences ... in which he is immersed'. She calls his practice 'conformational'; he inhabits 'a jigsaw world, everything shaped by and shaping everything else' (Mathews 2009, 12). Mathews' jigsaw puzzle metaphor conveys an up-close, piecing-it-together, participatory approach to understanding (or performing) the world rather than a big-picture, spectator approach that captures and reduces everything via universal laws. Mathews calls it 'strategy' as distinct from 'theory'. The piecing-it-together approach is a way of *being in* the world; it is improvisational and experimental.[4]

From our perspective, to adopt an experimental orientation is simply to approach the world with the question 'What can we learn from things that are happening on the ground?' This is very different from the question of 'what is good or bad' about these things that informs so many investigations. The experimental orientation is another way of making (transformative) connections; it is a willingness to 'take in' the world in the act of learning, to be receptive in a way that is constitutive of a new learner-world, just as Latour's (2004; Gibson-Graham and Roelvink 2009) concept of 'learning to be affected' describes the formation of new body-worlds. In experimentation there is no active transformative subject 'learning about' a separate inert object, but a subject-object that is a 'becoming world'.

The Anthropocene calls to us to recognize that we are all participants in the 'becoming world', where everything is interconnected and learning happens in a stumbling, trial and error sort of way. In the spirit of this participation, many offer the experiment as the only way forward:

> the only way to approach such a period in which uncertainty is high and one cannot predict what the future holds, is not to predict, but to experiment and act inventively and exuberantly via diverse adventures in living. (Dumanoski 2009, 213 quoting C.S. Holling)

This resolute and confident statement brings us to what we tentatively hope to do in this article – which is to outline an experiment, a set of 'adventures in living', that could potentially proliferate in the form of diverse pathways of becoming in different places and regions. In *A Postcapitalist Politics* we introduced a feminist political imaginary. We identified three simple but powerful ingredients of a world-shaping political movement: 1) the decentralized attempts by women to change themselves, 2) the ubiquity of women, and 3) the global compass of a new discourse 'woman'. In a similar vein we posit parallel

ingredients of a new world-shaping movement: 1) assemblages that are experimenting with new practices of living and being together, 2) the ubiquity of these assemblages, and 3) the potential global compass of a new discourse of 'belonging' linked to a more-than-human regional development imaginary. Our working definition of regional development is:

> how 'we' (that is, all the human/nonhuman participants in the becoming world) organize our lives (or how life organizes us) to thrive in porously bounded spaces in which there is some degree of interconnection, a distinctively diverse economy and ecologies, multiple path-dependent trajectories of transformation and inherited forms of rule.

Not much to go on, but not much is needed. Just enough to bring us down to earth and put us in place.

## Adventures in living

Since we are at a loss when it comes to thinking about the big picture of 'more-than-human regional development' for the Anthropocene, we take up the strategic piecing-it-together approach as a way to begin. We start with a few jigsaw pieces and see where we go from there. Our first adventure is an experiment in regional development led by individuals and institutions that are motivated in part by an ethic of caring for place and environment.

### Capturing and democratizing wealth to care for people and environments in place[5]

The Evergreen Cooperatives are a set of new employee-owned businesses, based on the cooperative model, that hire local residents and contribute to environmental sustainability. In the Greater University Circle of inner city Cleveland, Ohio, investment flows easily into world renowned cultural, educational and health institutions that were originally established by philanthropic industrialists of a past era. Up against these well-endowed institutions are run-down neighborhoods housing some 43,000 residents whose average median household income is under $18,500 per year (Evergreen video 2010). Little of the massive institutional investment in salaries, procurements and real estate development stays within these inner ring neighborhoods. According to Bob Eckhardt (2009, 14), senior vice president of the Cleveland Foundation, each institution acts 'as if the world ended at its respective property line'. The Cleveland Foundation, established as the 'world's first community foundation in 1914', decided in the mid 2000s to concentrate funding and capacity building activities on the Greater University Circle to make sure that 'as the big institutions grow and prosper, the neighborhood prospers as well' (Ekhardt 2009, 14). Its mission was to create jobs for local residents in green industries and to generate wealth that would circulate within and help stabilize the neighborhood. The Evergreen Cooperatives are the result. Ronn Richard, CEO of Cleveland Foundation puts it this way 'We're catalyzing something. Were catalyzing, you know, a whole new group of companies' (Evergreen video 2010).

The Evergreen Cooperative Laundry was the first experiment to get off the ground. It is an 'industrial-scale, environmentally advanced, state-of-the-art, commercial laundry providing services to area hospitals and assisted living centers' (Yates 2009, 15). A feasibility study showed that commercial laundries could pay reasonable wages if they were not under pressure to generate profits for owners and shareholders:

> Making the employees owners through a cooperative meant that an employee-owned laundry could immediately offer jobs paying a little better than the going rate for such work, offer better benefits and also be a wealth-builder for employees over the years. (Yates 2009, 17)

With help from the Ohio Employee Ownership Center the feasibility team found that in the 10 county region around Greater University Circle there were '53 hospitals and 259 nursing homes washing an estimated 246 million pounds of laundry per year' (Yates 2009, 17). There was an opportunity to offer cheaper and greener laundry to these institutions, allowing them to use their in-house laundry space 'for profitable activities and retrain and redeploy their current laundry employees into better jobs in their growing businesses' (Yates 2009, 17). The idea was to enter the market with a modest objective of supplying 10 million pounds of laundry per year and employing a workforce of 25 employee-owners (see Figure 1). Set-up was financed with a mix of private, public and philanthropic funding. Equipment was intentionally sourced from the US. The production process has been designed to conserve energy by recycling used water to heat clean water, to use 'green' chemicals and natural light, and ultimately rooftop solar power (Yates 2009, 17).

Two more employee-owned businesses have started or are in the set-up phase – Ohio Cooperative Solar, which will own, install and maintain solar panels on the roof tops of major non-profit institutions in the University Circle, and Evergreen City Growers, which is a 5.5 acre greenhouse gardening business growing lettuce and herbs for the local hospitals and other institutions. Both will generate additional employment for neighborhood residents and opportunities for them to become equity owners.

The Cleveland experiment is attempting to activate a very different development pathway than the export base model that most regional development projects follow. Export base theory posits that in order to grow regions must market exports that bring in money so that regional consumers can buy from the larger external economy things that are not produced locally (Power 1996, 7). If there are no existing export industries, regional development incentives are usually offered by city governments to enterprises in sectors like manufacturing and tourism (even prisons) to lure them to locate in the region. The dollars they bring in are supposed to circulate through the region, producing the famous multiplier effects of employment and income growth, before eventually exiting to purchase goods and services from outside. This framing of economic development dynamics positions locally oriented economic activity as only ever 'derivative or secondary' while 'export-oriented economic activity is basic or primary' (Power 1996, 7).

The Cleveland adventure flies in the face of this hierarchal valuation and targets local rather than export markets. The familiar criticism that non-exporting regions are 'just taking in each other's laundry' is creatively turned on its head in this urban experiment. Dirty laundry is a local asset that has become the means for generating social wealth. But the Evergreen industries are not just providing goods and services for the local hospitals, nursing homes and educational institutions. They are experimenting with strengthening the enterprise diversity of the economy. All new businesses are worker-owned cooperatives rather than capitalist firms. These businesses create local rather than absentee wealth and will not relocate in search of cheap labor. With the Evergreen cooperatives, Cleveland is explicitly emulating the Mondragon Cooperative complex, a hugely successful grassroots regional development experiment in the Basque region of Spain (Alperovitz, Howard, and Williamson 2010). Starting in 1956, the Basques of Mondragon began establishing worker-owned cooperatives, first in manufacturing and later in all the other sectors that are key to a thriving regional economy – finance, agriculture, social services, health care, education (including a university), housing, and retail. The Mondragon cooperatives now employ over 100,000 workers and gross around €20 billion per annum (http://www.blip.tv/file/2749165; Gibson-Graham 2010).

A key strategy for building the cooperative complex has been marshalling and pooling the surplus the workers produce, over and above their wages and costs of production.

"This is a laboratory for a new kind of economic development." Ted Howard, Founding Executive Director, Democracy Collaborative

"I envision being one of the owners, making decisions about everything and expanding..." Mienyon Smith, Employee of Evergreen Laundry

"This is [an] opportunity program. This is not just about getting back into a job habit or something like that. This is an opportunity for me to get ahead." Edward Code, Employee of Evergreen Laundry

"It's going to be a great day to be knowing that we are helping to generate power in a clean, environmentally friendly way." Barbara Snyder, President, Cape Western Research University, Cleveland

"Market driven, but instead of being investment driven, we're worker-owner driven." Jim Anderson, CEO of Evergreen Cooperative Laundry

Figure 1.   Stills from the Evergreen Cooperatives introductory video (2010) showing stakeholders in the Cleveland experiment.

Rather than being distributed as profit to capitalists, or dividends to shareholders, or bonuses to managers, surplus is distributed to the workers themselves, who have democratically decided to deposit it in the Mondragon bank until they retire. This gives Mondragon a large pool of funds to finance the development of new worker-owned cooperatives. Money does not just circulate within the region, it becomes people-centered

investment into the region's productive capacities. The vision here is of work creating wealth that, rather than being siphoned off, can be used to further the livability, prosperity and dignity of a region.

In addition to being guided by the goal of creating employment, Mondragon's economic decisions are shaped by the shared ethical principles of open admission, democratic organization, sovereignty of labor, instrumental and subordinate nature of capital, self-management, wage solidarity, inter-cooperation, social transformation and education (Gibson-Graham 2006, 104–5).[6] What we would like to highlight is the open-ended nature of such a list. The Cleveland cooperatives have purposefully added 'care for the environment' to whatever principles they have adopted from Mondragon. In fact, they have put it very high up among their priorities, making all their businesses contribute to this green agenda. Here we have a quite well-developed scenario for regional development that is driven by human intentionality and realized through ethical practices of cooperativism and environmental care. A new kind of belonging has the potential to arise from a process of investing in the wellbeing of inhabitants and environments, replacing the sense of abandonment to environmental and social degradation.

The second adventure portrays a vibrant materiality that is leading sociality – offering many possibilities but no clear pathway to regional development.

### Peer-to-peer exchange and the internet/information commons

We draw here on a video report on the rise of peer-to-peer exchanges by the *Wall Street Journal*'s tech reporter Andy Jordon.[7] Jordon presents a series of interviews that begin with young corporate executives who trade in Ven, a virtual currency used to 'buy, share and trade knowledge, goods and services' (Jordon 2010). Tamara Giltsoff, a sustainable business consultant, is one of the 'urban influentials' who are members of Hub Culture, one of many meshworks that have grown out of the social networking capacities of the internet. In selected world cities Hub Culture members flock to Hub Pavilions where they can book space to work, meet, trade non-tangible value and recreate (bookings can be made for a personal chef for 10 or more people, a personal trainer, or a reflexologist/reiki/polarity therapist) (see Figure 2). Giltsoff describes using Ven: 'It begins to put a value on intangible exchanges, I guess. I have gained Ven by making introductions to other people or doing favours for people in the network.' Dan George, a promoter for international music recording stars says: 'With fluctuating exchange rates you know that if you have a certain amount of Ven you can, sort of, count on it when you are working between countries.'

According to the Hub Culture website (2010):

> The price of Ven is made up of a weighted basket of currencies, commodities and carbon futures and trades against other major currencies at floating exchange rates. Ven is the first currency to include carbon externalities in its pricing factor, making it the first environmentally linked currency in existence.

Jordon reports that the founder of Hub Culture and Ven, Stan Stalnaker 'has an interesting theory about rock, pebble, sand currencies. The dollar would be a rock, a corporate currency would be a pebble and any peer-to-peer currency would be sand.' Says Stalnaker:

> The ocean, in the sense of the internet, breaking down those rocks, essentially breaking down those pebbles, makes everything sand. So we think that at some point there will be millions of different currencies, essentially everyone will have their own personalized currency, and we will trade in some kind of, you know, NASDAQ for personal currencies. ... You are going to see the movement inexorably toward peer-to-peer finance. People will trade individually or
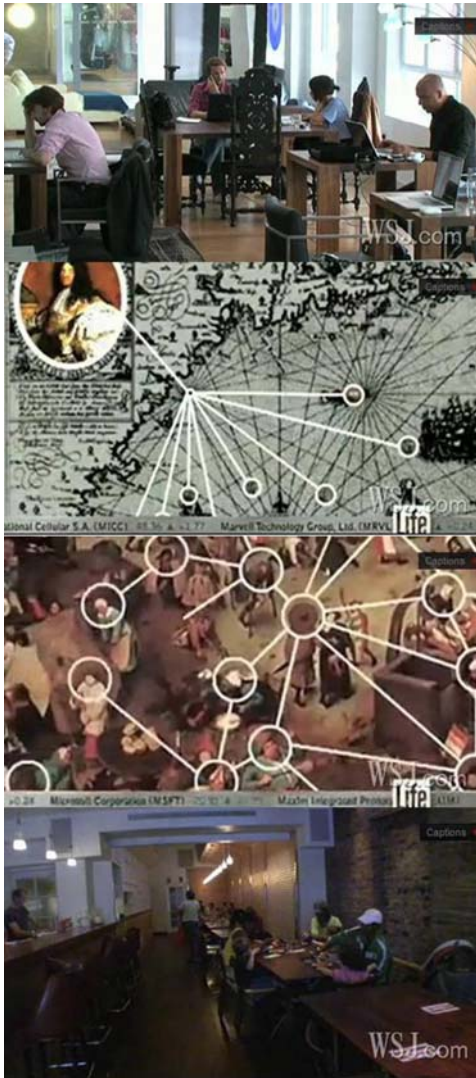
Figure 2.    Selected stills from the *Wall Street Journal*'s video Tech: Jordon's diary (Jordon 2010).

independently among each other all around the world instantly and digitally. It's going to happen, there's no denying it. (Jordon 2010)

This prediction is supported by Eric Harris-Braun, founder of the Metacurrency Project and New Currency Frontiers, who is developing open source software for new currencies. He tells reporter Andy Jordon:

If what we do is create an alphabet that allows any community at any size to issue currencies and to declare what the meaning of that currency is and what kind of value it's tracking then we will have the possibility of an economic democracy. (Jordon 2010)

Author of *Life Inc.: How the World Became a Corporation and How to Take it Back*, Douglas Rushkoff, is another advocate. He is pushing for an ecosystem of local and complementary currencies. He says

> If anything the democratization of finance is required because of the democratization of everything else. . . . You know the centralized currency was developed by monarchs in the 12th and 13th century to prevent peer-to-peer transaction and promote individual to central authority transactions. What people want is the ability to transact. The money they want to use to transact is also used by speculators to extract value from communities. And it's not something that can do both jobs well. (Jordon 2010)

The report ends with a community-supported restaurant in Hastings on Hudson in New York. The owner of Comfort Restaurant, John Halko, needed to raise $25,000 to start his business that he could not access from a bank. He did so by offering a local VIP currency card that could be purchased for $500 and used to recoup $600 worth of meals. Not only did this strategy raise the initial capital to start the business but it marshaled a clientele for the business. John relates how he did not have the money to pay for the restaurant website so the design consultant who created it suggested she be paid in VIP cards.

There is something in this video that speaks to us of new possibilities for regional development. What is striking is the inventive vitality unleashed by personal computers and the internet. Open source internet access and software is facilitating new forms of sociality at an unprecedented level. While some might be wary of the quality of that sociality when it comes to Facebook or Second Life, this report illustrates how it has enabled the flourishing of alternative currencies that facilitate exchanges based on new registers of value. As the Comfort Restaurant shows, these currencies are being used as a regional development tool to strengthen local enterprise, increase access to services in cash-poor communities, and plug leaks of value out of localities. The rise of complementary currencies over the last two decades has been fueled by the technical capacity for intense interconnection. Whether it is trading in scarce attention or accounting for haircuts and massages, the internet is an actant in regional development: 'an actant never really acts alone. Its efficacy or agency always depends on the collaboration, cooperation, or interactive interference of many bodies and forces' (Bennett 2010, 21). Might we belong differently now that the vibrant materiality of the internet and open source software allow for new interconnections in a potentially democratized world?

## Distributed systems and hybrid connections

Our last jigsaw pieces are adventures in living present and past that combine both kinds of connection – to a world of kin and to a vital pluriverse. At a regional level, the internet facilitates complex economic experiments such as the Community Supported Agriculture (CSA) social business, Food Connect. Food Connect uses a website and 20 employees to link some 1500 urban consumers in direct marketing arrangements with 80 farmers in a two to five hour radius around Brisbane, the capital of Queensland, Australia. Urban 'subscribers' become connected to their farmer producers who appear on the website explaining their methods of sustainable farming. One farmer includes a film clip with a close-up of a ladybird crawling over his hand and a description of its important role in combating aphids on his celery crop. Dairy farmers Ross and Karen describe how they spray their nitrogen deficient pasture with whey, a waste by-product of their cheese making operation, and thereby feed beneficial soil organisms that would have been destroyed by artificial fertilizers (Food Connect website 2010).

Implicit in the work of Food Connect is a different vision of regional development, energized by human, nonhuman, organic and inorganic actants that interact to produce and distribute healthy, fresh food. Overlaid on this vibrant materiality is an ethic of care for

both human and nonhuman participants. Subscribers sign up to absorb the losses usually shouldered by farmers when seasons and crops fail. Through this new economic relationship farmers are supported (not subsidized) to provide the best possible care for country and consumers by promoting agricultural polycultures, genetic diversity, low tillage and low fossil fuel farming, yielding 'a local/regional food system that looks after our farmers, subscribers and environment' (Food Connect website 2010).

In Boulder, Colorado, the CSA model has been transposed into the suburbs, bringing food production and new connections to plant and insect species much closer to home. This Neighborhood Supported Agriculture (NSA) initiative converts a small portion of backyards and front yards of houses and churches into a local food system. Suburban householders become urban farmers growing their own vegetables, sharing their produce with neighbors and other NSA subscribers, selling the surplus product at the local farmers market, or gifting it to families in need (Community Roots website 2010).

Alongside the emergence of these local food systems, all over the world individual households have begun to take charge of their own water collection and energy generation. Using cheaper, widely available technologies and prompted by government subsidies, people are building distributed systems:

> In the distributed systems model, infrastructure and critical services (for water, food and energy) are positioned close to points of demand and resource availability and linked within networks of exchange. Services traditionally provided by a single, linear system are instead delivered via a diverse set of smaller systems – tailored to location but able to transfer resources across wider areas. (Biggs et al. 2008, 3)

This last point is important for regional development because these distributed systems can feed their surplus into regional supply grids, relieving pressure on the centralized infrastructure of modern urbanism. Might we be able to work with the potential these systems offer to develop a whole new urban and regional sociality, spatiality and mode of belonging?

These new adventures in urban living remind us of the intense experiments with living pioneered by 'material feminists' that flourished at the beginning of the twentieth century, as documented by Dolores Hayden in her 1981 book *The Grand Domestic Revolution*. At that time feminists and communitarians embraced new technologies of industrial food production, mechanized cleaning and laundering and central heating with enthusiasm. They set out to 'socialize' women's private domestic labor by building houses and apartment complexes whose inhabitants accessed communal dining rooms, public kitchens and laundries, and built in vacuum cleaning systems and refrigeration. Mechanization and intelligent sharing of new technology could, they thought, enable collectivism and the liberation of women's time and labor. Hayden reminds us of the innovative visions for the future of civic engagement and urban and regional development that flourished at that time.[8]

Soon, however, the sprawl of what Hayden (2004) calls 'sitcom' suburbs became the name of urban development in much of the US and most of Australia. A landscape of privatized consumption emerged based on cleverly miniaturized mass-produced industrial appliances. The domestic sphere retreated from public view and even knowledge of collective living experiments was buried. Demands for efficiency and industrial scale development saw the centralization of electric power generation, water provision and food production. And that agent of personal liberation, the private automobile, rewrote the urban landscape, stretching it out over rich river alluvium, rugged mountain terrain and scenic coastlines (see Figure 3). The seeds of our energy-greedy ecological footprint were sown.

We find ourselves at the beginning of our new century encumbered by a built environment that ties us to an oil-drunk, individuated lifestyle, hyper-separated from earth
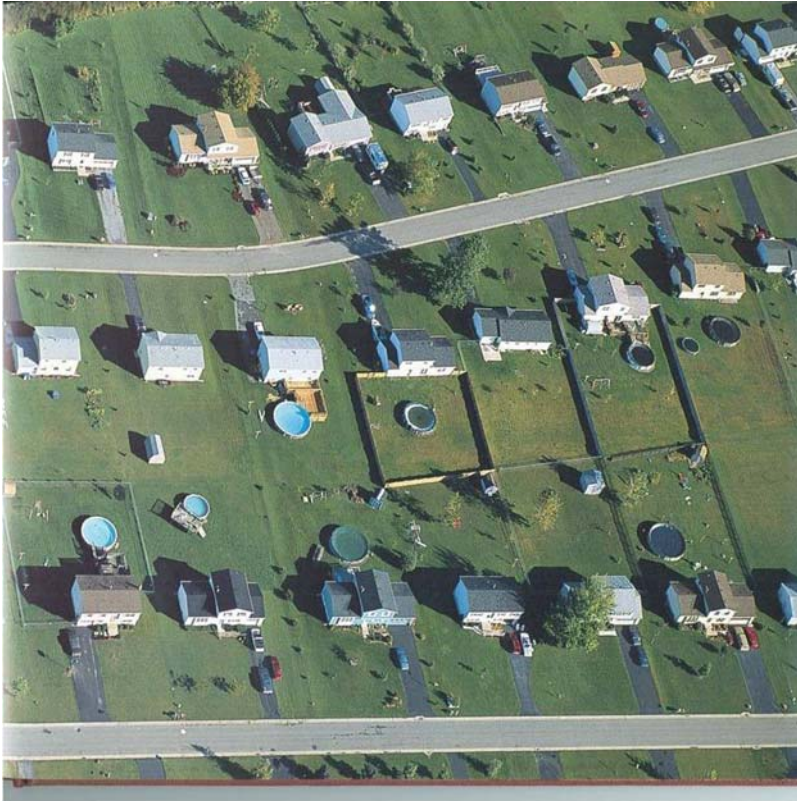
Figure 3.    Jim Wark's aerial photograph of 'sitcom suburbs' in the US (Hayden 2004).

others and earth processes. Can we belong in this habitat in new ways? How might we retrofit our suburbs so as to reshape our high consumption lifestyles? How might new forms of social and ecological connection arise? How might we work with the 'vital materiality' that is prompting the self-organization of diverse, decentralized currencies and local food, energy and water distribution networks? The spatiality of production, consumption, reproduction and exchange is potentially up for grabs as new technologies, old ideas and the vital capacities of human and nonhuman agents combine in experiments with living in a different mode.

## Piecing it together through research: 'belonging' to a new mode of humanity

We are suggesting experiments in regional development. But who or what is it that experiments? Who or what learns and transforms? How is the becoming world initiated in an intentional, responsive, responsible way? Elsewhere we have nominated for this role something Callon calls a 'hybrid research collective', 'an assemblage that, through research, increases possibilities for (being in) the world' (Gibson-Graham and Roelvink 2009, 11; Callon and Rabeharisoa 2003; Roelvink 2008, 2010).

Research is a site where new publics are marshaled around matters of concern, and university-based research is where experimentation is supported. So why not conceive of university-based action research as a potential catalyst for going on in a different mode of humanity, starting where we are, in our own regions? What have we got to lose? If we

accept our belonging to a planet made up of complex matter that cuts across personhood, animality and objecthood, what kind of regional development might emerge?

Again, we have no concrete idea. But we are interested in outlining some steps toward answering that question by enrolling activities we have employed in regional action research and recalibrating them with sensitivity to the more than human. Our community partnering research has usually begun 'starting where we are' by inviting participants to inventory the range of economic practices and 'assets' that are often overlooked as potential contributors to regional development. Let us think about starting with this intervention and extending our regional inventory to encompass the more than human.[9]

First, there would be the task of compiling a regional profile. Usually this includes marshaling official statistics about demographic characteristics and trends, housing stock, community services, transport, infrastructure, local government and, most importantly, mainstream economic structure, including capitalist and self-employed business activity, paid employment and income levels. Our project would build on this regional profile by including elements of the diverse economy (see Figure 4). Such an expanded vision of the economy is not easily available as there are few official statistics on many activities in the lower cells of any of the diverse economy columns. The process of generating a diverse economic regional profile would involve enrolling people to collect indicative data about the economic activities they care about. There might be little chance of conducting a comprehensive survey of diverse economic activities, but this may not matter. In the process of compiling and mapping, teams of hybrid researchers would form collective learning assemblages that would potentially become open to belonging in new ways.

We have examples at hand of the kinds of diverse economy data that are already being collected and mapped in various parts of the world:

- Non-capitalist enterprises: in the Pioneer Valley of Western Massachusetts, USA, solidarity economy enterprises and initiatives have been inventoried and mapped (http://maps.google.com/maps/ms?ie = UTF8&msa = 0&msid = 112892358 918251834205.000442d4624ee318c9b1d&ll = 42.420415,-72.491913&spn = 0. 84955,1.867676&z = 9&om = 1).
- Unpaid labor: in metropolitan Melbourne, Australia, community gardens and other public spaces in which people are growing their own food for self-provisioning are mapped (http://www.communitywalk.com/veil-map).

| ENTERPRISE | LABOR | PROPERTY | TRANSACTIONS | FINANCE |
|---|---|---|---|---|
| CAPITALIST | WAGE | PRIVATE | MARKET | MAINSTREAM MARKET |
| **ALTERNATIVE CAPITALIST** State owned Environmentally responsible Socially responsible Non-profit | **ALTERNATIVE PAID** Self-employed Reciprocal labor In-kind Work for welfare | **ALTERNATIVE PRIVATE** Publicly accessible privately owned property State-managed assets Customary (clan) land Community land trusts Indigenous knowledge | **ALTERNATIVE MARKET** Fair trade Alternative currencies Underground market Barter | **ALTERNATIVE MARKET** Cooperative Banks Credit unions Community-based financial institutions Micro-finance |
| **NON-CAPITALIST** Worker cooperatives Sole proprietorships Community enterprise Feudal Slave | **UNPAID** Housework Volunteer Self-provisioning Slave labor | **OPEN ACCESS** Atmosphere International Waters Open source IP | **NON-MARKET** Household sharing Gift giving Gleaning Hunting, fishing, gathering Theft, piracy, poaching | **NON-MARKET** Sweat equity Family lending Donations Interest-free loans |

Figure 4. The diverse economy.
Note: The items in each cell are only examples of what could be included.
Source: Gibson-Graham, Cameron, and Healy (2011).

- Gleaning and gifting: in a number of cities in the US residents can register their fruit trees with http://neighborhoodfruit.com/home and arrange for others to gather fruits when they come in season. Maps of fruit trees that grow in or over public space are produced by http://www.fallenfruit.org to encourage 'new forms of located citizenship and community'. Each map includes the community rules: take only what you need; say 'hi' to strangers, share your food, take a friend and go by foot. In the Blue Mountains west of Sydney a fruit and nut tree network is also encouraging new gleaning practices (http://www.sustainablebluemountains.net.au/our-actions/local-sustainability-action/blue-mountains-fruit-and-nut-tree-network/).
- Alternative private property: in San Francisco an NGO interested in planning and urban research has produced a map of privately owned public open spaces and a walking tour of these sites (http://www.spur.org/files/u7/POPOSGuide.pdf). These are publicly accessible spaces owned and maintained by the owner of an office building. Making these spaces visible enables new ways of belonging in largely privately controlled urban space.
- Non-mainstream finance: in New Brunswick, Canada there is an inventory and map of all the credit unions that supply finance in the alternative finance market (http://www.creditunion.nb.ca/index_map.html).

The effect of mapping exercises like these would be to get a sense of the mass, spread and power of 'other' economic relationships that sustain our lives. Each map is just one way of representing a community of practitioners and users. With more complex mapping techniques we might be able to portray the place-based networks whose nodes are the points on maps such as these.

Our regional profiling might then move to the challenge of including all those ecological and geomorphological systems that coexist with us in any one region. While some of this data is available from official sources, such as topographical, geological and vegetation maps, we would need to include more fine-grained data drawing on the local knowledge of scientists and 'researchers in the wild' (Callon and Rabeharisoa 2003). Matters of concern in any one region, such as air and water quality, vegetation loss or species extinction may have already brought citizens, species and natural systems together in a research assemblage to map, monitor, repair and care.[10] The following are just a sample of the matters of current concern in one of our regions of planned research interest.

In Western Sydney, for example, there is increasing concern for eight 'hanging' swamps on the sandstone plateau of the Dharawal State Conservation Area south of Campbelltown. These huge natural sponges provide habitat for endangered native animals and store and filter the fresh water that feeds the Georges River. Already 11 Aboriginal rock art sites in the southern coalfields have been damaged by subsidence from underground coal mining. The proposed expansion of coal mining under these swamps by the multinational BHP Billiton will most certainly drain these ancient storage systems. BHP is threatening that the financial viability of its operations (and jobs for miners, truckers and port workers in nearby Wollongong) will be in question if further expansion under Sydney's water supply is not approved (Cubby 2010a,b). Nearby, another mining company is testing out the viability of hydraulic fracturing of old coal seams to extract gas. This controversial 'fracking' technique is attracting a great deal of concern for Sydney's water supply and the land near the extraction holes (Cubby 2010d).

On another front New South Wales government scientists are already predicting a worsening of ozone levels over the next 15 years 'in the region stretching from Richmond in the north to Macarthur in the south, centered on Bringelly', the designated major growth

area for the Sydney metropole – an area that already experiences higher ozone levels than in the rest of the city (Robins 2010). On alert are the Asthma Foundation, public health advocates and community activists in the region.

Meanwhile white ibis, deprived of nesting grounds by drought and agriculture, have migrated to Sydney's Centennial Park and the Georges River near Bankstown. These displaced birds have started scavenging at tips, creating a potential cross-species disease threat to humans, domestic birds and other wild birds. University researchers and local government environmental officers are working together with the bird colonies on management strategies (Bankstown City 2004).

Through a regional profiling activity it may be possible to recognize that 'we' are entangled in webs of life and death, vitality and materiality that both constrain and enable movement (or development, in its simplest understanding). From this standpoint, research for the Anthropocene requires that we find innovative and creative ways of inviting ourselves and earth others into a different developmental relationship, one that denies domination and explores mutuality and interdependence.

To continue with our jigsaw approach we can imagine two (among potentially a myriad of) strategies for proceeding. In the Australian context it would be important to invite Indigenous elders to explain the regional landscape in terms of its meaning as 'country' that sings and tells stories or suffers and calls out for care (Rose 1999). Establishing a connection with people of the land is one way to begin to listen to country/place differently, to learn from the vital materiality of all of its elements. Our desire to explore regional development in metropolitan Sydney from the perspective of the Georges River catchment is inspired by the conversations that Heather Goodall and Alison Cadzow had with Aboriginal people who have maintained continued relationships with each other and this now largely urbanized water way throughout the last 222 years of white occupation (Goodall and Cadzow 2009). Rivers connect people, animals, plants and earth-shaping forces. In Sydney the Georges River connects areas with very different socio-economic profiles and the water brings very different species and vibrant materialities together – swimmers, stormwater, bull sharks, plastic bottles, fishermen, e-coli, cockatoos, tidal salt water, jet skiers, kayakers, river rats, junkies, luxury cruisers, 'tinnies' (small aluminum boats with outboard motors), walkers, bush carers, people who are homeless, river keepers, rubbish and pollutants of all sorts, river birds, and on and on. Along this river we could attempt to open up regional development to the vitality of enlarged, diverse assemblages, both ones already in existence and ones to be formed.

In both the US and Australia we might experiment with techniques that render the familiar unfamiliar, and the impossible perhaps possible. Dolores Hayden's 2004 *Field Guide to Sprawl* is an inspiring example of such an invitation. Her book is an illustrated vocabulary – an architectural and environmental 'devil's dictionary' – that teaches us to

- observe sprawl as an exercise in understanding habitat (Hayden 2004, 8);
- listen for the slang phrases for everyday places that help to sharpen observation (Hayden 2004, 10);[11] and
- get a new bird's eye perspective on the landscape of our unsustainable urban growth.

With its fabulous aerial photographs by Jim Wark, this field guide provides one window on the vital materiality (as well as the political economy) that has animated the built environment we have to work with. It is easy to see this landscape as an inert, durable, obstruction to living differently. But our expanded regional profile might act as an antidote field guide, one that begins to identify emergent habitats, develop new lexicons and get a worm's eye view of possible landscapes of sustainable growth. From this inquiry we
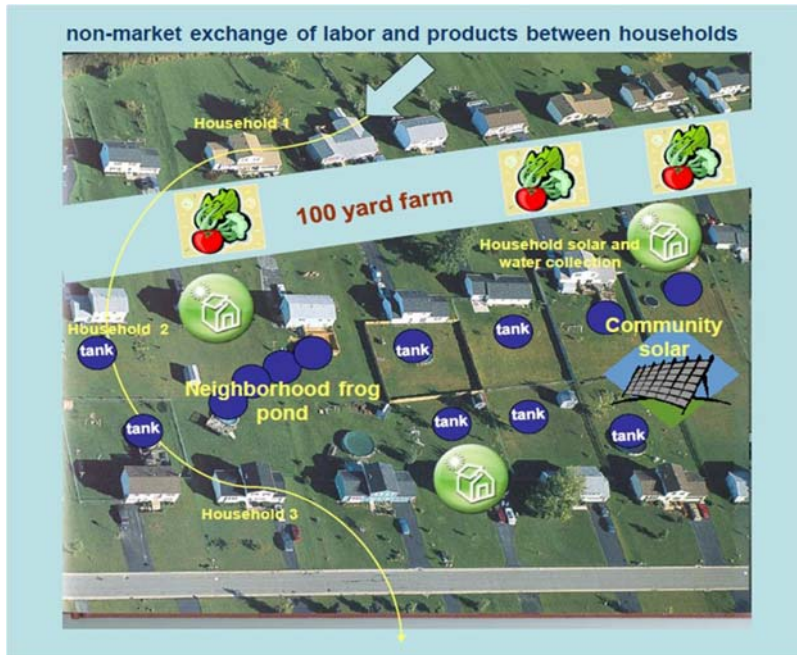
Figure 5.    A fanciful retro-fit of the 'sitcom suburb'.

might discover vibrant matter we can work with, new dynamics of change that we can move with and against. We might work with people in place to push at elements of the assemblages we are part of to enact new modes of living. Figure 5 gives a slapdash illustration of the kind of antidote field guide we might compile. It shows Wark's aerial photo of Hayden's 'sitcom suburb' fancifully modified to show networks of economic reciprocity and non-monetized exchange, distributed systems of food, energy and water production and habitat restoration for frogs and other animals. These pieced-together, imagined connections are potentially the emerging habitats in which a new mode of humanity might be nurtured into life.

## Conclusion

Regional research and mapping may seem like feeble interventions in the face of the challenges of global climate change. But to research and compile an antidote field guide is to marshal a collective of concern around a vital materiality (the region). It can also be seen as triggering a self-organizing process of more-than-human regional development. Such a process is already happening with the solidarity economies that are mushrooming and mapping themselves in regions around the world. The spread of solidarity economy mapping and the power it has to bring new regional economies into another stage of being reminds us not to be too certain about what is weak and what is strong.

For a powerful example, we might take a look at regional development in Quebec, which has been 'piecing it together' since the mid-1990s, guided by a research collective they call 'Chantier de l'economie sociale' (Mendell 2009). The Chantier is made up of participants in the solidarity or social economy. It provides a full range of research services, including continuous mapping throughout the province as well as coming up with

innovations in finance and social accounting, the promotion of new sectors, developing policy initiatives, identifying problem areas, and creating new markets. It nurtures an economy that since 2002 has provided over 160,000 jobs in 20 sectors and included 7000 social enterprises (Mendell 2009). While the Chantier is largely government funded, governments in the US and Australia are unlikely to fund such a grassroots organization, suggesting that the home of first resort for a comparable organization in these countries might be the university. In that context, it should be possible to extend solidarity to the more-than-human world, inviting scientists and activists to participate as spokespersons for the nonhuman stakeholders and vibrant materialities in our regions.

So we end with our questions somewhat refined. Can our solidarity extend to the more than human? Can we imagine regional social economies connected to ecologies, to country, to place? Can we begin to see regional development as creating ethical connections between species, and between all sorts of life forms (Weir 2009; Rose 1999). Can we engage in development that sometimes demands that we 'back off or ramp down our activeness' and sometimes calls for 'grander, more dramatic and violent expenditure of human energy'? (Bennett 2010, 122). Can we welcome these overtures and challenges? If we can, that would certainly usher in a new mode of humanity and a new form of belonging.

## Acknowledgements

## Notes

1. Sadly Val died in 2008, at the age of 68. She was buried on her beloved Plumwood mountain in southeastern New South Wales amidst the majestic rainforests that she had fought so valiantly to save. A white butterfly hovered as she was lowered into the earth and as it flew over those of us gathered we took solace and meaning from the life spirit it embodied. J.K Gibson-Graham was thus affected, and our research mysteriously realigned (Roelvink and Gibson-Graham 2009).
2. In a recent lecture on the ethics of climate change Peter Singer, (not) coincidentally an Australian ethicist based in the US, compellingly conveys differential national responsibility for global warming (http://www.abc.net.au/rn/bigideas/stories/2010/2837901.htm, accessed 10 March 2010). One way of equitably distributing the burdens of addressing climate change, he suggests, is to calculate the allowable carbon emissions that would bring us to just two degrees of warming over the next 30 years, and then to apportion those emissions to countries based on population. In this thought experiment, at current rates of energy use Australia and the US will use up their quota in just six years, whereas it will take Burkina Faso more than 2000 years to exhaust their 30 year allotment.
3. Another recent finding of whale science is that over the last 40 years blue whales around the world have dropped their singing register. 'The best documented song type, that observed offshore of California, USA, now is sung at a frequency 31% lower than it was in the 1960s' (McDonald, Hildebrand, and Mesnick 2009, 13). Of the various explanations under consideration is the hypothesis that with less pressure from commercial hunting, whale populations are healthier

and male songs need not travel so far to attract mates. One science reporter fancifully suggested that the more baritone frequency was a mark of 'relaxed whales mellowing with age' (Sydney Morning Herald 2010, 3).

4. Kate Rigby (2009, 141) suggests that thinking and acting in relation to climate change could resemble a kind of dance called 'contact improvisation' where 'you cannot enjoy the comfort of distance, but are obliged to endure the risk of constant touch. To do it well – and nobody can do it perfectly – you need to be responsive, but not passive; ready to take the initiative, but able to go with the flow; strong, but flexible; and, above all, you need to know how to fall in a way that causes minimum harm both to yourself and your partner.'

5. In the Jan Monk Distinguished Lecture, this story was presented using the Evergreen Cooperatives Introductory video which can be viewed at http://www.blip.tv/file/2749165. Readers are urged to access this clip and experience the dynamism and excitement of this adventure.

6. For a more in-depth overview of the critical debates surrounding Mondragon's 'success' see Gibson-Graham (2003).

7. Readers are urged to view this fascinating clip at http://online.wsj.com/public/page/0_0_WP_3001.html?currentPlayingLocation = 0&currentlyPlayingCollection = Tech& currentlyPlayingVideoId = %7b25225F5A-B979-4609-A55D-1BAE9A1BA158%7d.

8. At the regional scale there was heated debate about the merits of centralized or decentralized power and water provision. In London, for example, in the early part of last century Fabians resisted the move to centralized electricity generation, much to the dismay of engineers like Charles Merz who argued for the technical efficiency of mass produced coal-fired power and were busy building large-scale centralized systems all over the world (Gibson 2001, 646).

9. For the moment we are leaving aside any abstract definition of a region. While this is a topic of theoretical interest to geographers and is worth reflecting on, it is not necessary to have the regional boundaries set in advance of the research as these may well emerge from the inventory and networking analysis. What is necessary is a place to start and a method for containing the initial exploration. In thinking about future research in this vein Julie was imagining building on her research partnerships in the Pioneer Valley of Massachusetts. Katherine is looking into the feasibility of research partnerships that touch on the Georges River catchment, an area that cuts a swathe through southern and south-western Metropolitan Sydney and extends into the city's bushy hinterland.

10. Members of the public in Sydney have recently been called upon to become 'backyard scientists' and to look for 'subtle shifts in the timing of natural cycles across the country' (Andy Donnelly, quoted in Cubby, 2010c). The aim is to register changes in flora and fauna species populations, and monitor possible effects of climate change.

11. We particularly loved these phrases: 'snout house' for houses where protruding garages dominate the streetscape, 'greenfield' for streets of identical houses laid out across green farm pasture, 'privatopia' for gated 'communities' of huge residences all in full view of each other, and 'tract mansions' for even more ostentatious residential establishments situated cheek by jowl (Hayden 2004).

## Notes on contributor

J.K. Gibson-Graham is the pen-name of Katherine Gibson and the late Julie Graham, feminist political economists and economic geographers based at the University of Western Sydney, Australia and the University of Massachusetts Amherst. Their 1996 book *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy* was republished in 2006 by Minnesota Press along with its sequel *A Postcapitalist Politics*. They have co-edited collections with Stephen Resnick and Richard Wolff: *Class and Its Others* (Minnesota 2000) and *Re/Presenting Class* (Duke 2001).

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## ABSTRACT TRANSLATIONS

### Un proyecto feminista de pertenencia para el Antropoceno

En el centro del imaginario político feminista de J. K. Gibson-Graham está la visión de un movimiento descentralizado que conecta sujetos y lugares globalmente dispersos a través de redes de significación. Vemos a estos objetos y lugares tanto como sitios del llegar a ser como oportunidades para pertenecer. Pero ya no podemos ver a los sujetos como simplemente humanos y a los lugares como centrados en lo humano. El 'arribo' del Antropoceno nos ha arrojado a un nuevo terreno. Las críticas feministas de la hiperseparación nos están empujando a ir más allá de los binarios divisivos humano/no-humano, sujeto/objeto, economía/ecología y pensamiento/acción. El replanteamiento de nuestros mundos vivos como grandes experimentos no controlados nos inspira a reposicionarnos como educandos, cada vez más abiertos a nuestras interconexiones con los otros de la tierra y más dispuestos a intervenir en formas innovadoras. En este artículo, comenzamos a pensar sobre el desarrollo regional más-que-humano y los colectivos regionales de investigación que tienen el potencial para realizar mundos fuertes. Para nosotros el proyecto de pertenencia incluye participar en el amplio experimento que es el Antropoceno y conectar profundamente con lugares y preocupaciones específicas.

**Palabras clave:** crisis climática; desarrollo regional; investigación colectiva; más que humano

## 属于「人类世」（Anthropocene）的女性主义计划

J.K. Gibson-Graham 的女性主义政治想象核心，是一个透过意义网络连结全球离散主体与地方的去中心化运动愿景。我们视这些主体与地方同为生成中的场域（sites of becoming），并为归属感提供契机。但我们已无法单纯视主体为围绕人类中心生成的人类与地方，人类世（Anthropocene）的来临引领我们迈向新的领域。女性主义对于他我分离（hyper- separation）的批判，促使我们扬弃人类／非人类、主体／客体、经济／生态以及 思考／行动的二元对立。将我们所生活的世界重构为广阔且不受控制的实验，启发着我们自我重新定位为 学习者，逐渐向地球的他者相互连结，且更愿意以冒险精神进行介入。本文中，我们开始思考人类以外（more-than-human）的区域发展 以及有潜力展现弹性世界 的区域集体研究。对我们而言，归属感计划同时包含参与人类世的巨大实验，以及与特定地方及考量的深 刻连结。

**关键词：** 气候危机、区域发展、集体研究、人类以外