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“In the context of researching local environmental changes, what do Ashevilleian discourses on population growth and development tell us about their relationships and interactions with the environment?”



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Contents

Acknowledgements	2
Abstract	5
First section: Introduction and Context.....	6
Introduction and general context of the study: socio-ecological transformations in the Southern Appalachians	6
Presenting the urban research site: Asheville, NC	10
Theoretical framing.....	13
The Research Question: Discourses on population and development in Asheville reveal human-nature interactions and transformations	14
Discussing the methods used in the fieldwork and the analysis.....	17
Second section: Results and Discussion.....	23
Chapter 1: Asking about local environmental changes in the Asheville urban setting entails talking about the social and built environments.....	23
1.1. Why did so many respondents talk of population change and the related themes of development, traffic and more?.....	23
1.2. Accounting for different answers and perceptions: a first look at differences in gender, age, length of stay and occupation.....	24
1.3. Asheville: the number one city for tourism and retirement, yet also more and more Millennials.....	27
Chapter 2: Glimpsing differences in people's relationships with their environment through discourse - their perceptions of population growth and development - and their use of the land and the natural resources.	28
2.1 Experiencing gentrification as the main cause and consequence of population and development transformations in Asheville.....	28
2.2 A house with (or without) a view: when different types of development create social and environmental tensions with regards to land use.....	38
2.2.1. Social tensions.....	38
2.2.2. Material tensions	41
2.3 A river runs through it: using the river-resource illustrates different human-nature relationships	43

Chapter 3: Bear hugs and turkey sandwiches: Even when animals and “nature” do occur in these changes, they occur in relation to human development and population.....	47
3.1 Asheville: Beer or bear city?	47
3.2 The example of raccoons and deer shows the same causality in terms of human food and hunting practices	50
3.3 Other wildlife like birds: biodiversity as an indicator of environmental and social changes due to human activity	51
General conclusion	55
Tying all loose ends: bringing the three chapters together	55
Perspectives, contributions to the PIAF project and making the transition to the other American research sites	57
Reflection on how the research went	59
What next?	59
Bibliography	60
Appendices	66
Appendix 1: Table of informants met in Asheville	67
Appendix 2: Poster of themes emerging half-way through the fieldwork, presented at the Coweeta LTER Summer Symposium, 3-4 June 2015.....	69
Appendix 3 : Semi-structured interview guide.....	70
Appendix 4: Example of required PIAF Informant Data sheet after interview and transcription.....	71
Appendix 5: Some photos of the field.....	74
Appendix 6: Example of a “full” semi-structured interview transcription using the PIAF timeline model.....	76

Abstract

The city of Asheville (North Carolina, USA) is facing increasing social and environmental pressures like many other popular destinations. They include population growth that is most noticed through the processes of gentrification and exurbanization (mountain-side-top building), with all of those linked to amenity migration. The social and economic dependency on the natural environment is clear, and yet how do people perceive the local environmental changes that are due to these pressures? The research question here is *“In the context of researching local environmental changes, what do Asheville discourses on population growth and development tell us about their relationships and interactions with the environment?”* The research was led to contribute to the PIAF project, “Programme Interdisciplinaire sur les indicateurs Autochtones de la Faune et de la flore », (ANR-13-JSH1-0005-01), and will later be used in comparisons with research sites in 3 other countries to try to see to what extent local biodiversity can serve as an indicator of wider environmental changes.

Two and a half months were spent in Asheville to carry out the shared PIAF fieldwork methods. This resulted in a total of 45 semi-structured interviews and 20 free-lists with follow-up interviews, some participant observation as well as a full ethnographic immersion in the city life. The sample was constructed through a snow-ball method on-site without the aim of being representative.

The first chapter exposes the way that the majority of respondents chose to speak of local changes through the lens of population growth and development, and how they associated these to tourism, house prices, traffic, half-backs and more. We found that the growth of the urban population is not just restricted to Asheville, but that the perceptions of the processes of gentrification and mountain-side development, for example, varied from one respondent to the other often because of how differently they had been personally affected by them. The second chapter focused on detailing the perception of the changes to the social and built environments, using the example of gentrification, as seen through the opinions expressed and the use of the land. We found that the arrival of different ideas brought conflicts that served to point out different relationships with the environment, namely between locals and new amenity migrants. The third chapter looks more precisely at how discourses on changes in local biodiversity show a one-directional representation of human-wildlife interactions. The examples of black bears, deer, raccoons and turkeys entering into Asheville illustrated, for the respondents, how development is perceived to encroach on wild habitat.

What is at stake is to display the perceptions people have of local changes to their environment as they contribute significantly to their individual, and altogether collective, actions in the human-environment interactions. Local policies aimed at addressing population growth and pressure on resources benefit from understanding what is attracting people to the area, what is the range of values displayed by locals and newcomers. This helps to explain what may be causing conflicts or alliances between people and between people and their environment.

First section: Introduction and Context

Introduction and general context of the study: socio-ecological transformations in the Southern Appalachians

Global and local environmental transformations and interdisciplinary research

The American southern Appalachian region, including Buncombe County in western North Carolina, is facing rapid socio-economic and environmental transformations due to its popularity: urban sprawl and exurbanization¹, gentrification², a population that is aging, growing and diversifying, combined with a transformation of the regional economic activity³. What is attracting most of these geographic and socio-economic changes are immigrants from the Southern and Northern states who are often more educated, wealthier, and have more “urban interests”⁴, and are attracted to states such as Georgia and North Carolina because of the amenities⁵ (qualities or conveniences). These socio-economic transformations altogether change land-use practices, put pressure on natural resources and potentially disrupt the environment, while also inducing a change in local social dynamics even to the point of “*culture clash*” between native and new values⁶. In a context of global and local socio-ecological transformations, this study will be looking generally at what relationship the users and managers of the environment of Asheville in Buncombe County have with their natural environment. How do they use it and engage with it? The research question will be narrowed down as we consider the specificities emanating from the fieldwork, which are that most changes are seen through the lens of population growth and development.

The total population in rural and urban areas in the southern Appalachian region is “*expected to grow by more than 45 percent from 2000 to 2030*”⁷ which has considerable implications in terms of demand on land use and resources, human-wildlife contact, and will for example “*impact the dispersal and migration of local native wildlife*”⁸. The results of Theobald’s⁹ data analysis show that the rate of exurban development outstrips the rate of population growth by 25% (from 1980 to 2000), showing significant land-use changes. Inhabitants are perfectly happy to commute long distances so they can live “*on a lot large enough to function as a small farm*”¹⁰, and nowadays expect to benefit from the opportunities of the city without its density. In this context, the development of more megalopolises such as “*Charlantingham*”, which surrounds Atlanta (Georgia), is foreseeable. But the increased commute to the city of Asheville, in Western North Carolina, is also due to its lack of housing, a development in part constrained by the area’s topography (the mountains). Cramer says the “labor

¹ Theobald, D. (2005)

² “*a process by which marginal urban neighborhoods are rehabilitated and revitalized by incoming middle- and upper-class residents*” in Baione, A. B. (2009); Other definition: aging, often poor locals are “subdividing former agroforestry lands into recreational properties for sale to relatively affluent residents from the large urban centers in the Piedmont.” (Gragson and Bolstad, 2006, p178).

³ Davis (2000), Gragson and Bolstad (2006) note the change of the southern Appalachians from an agricultural to a service economy from the 1960s, and today the mountains attract increasing numbers of tourists. Moreover, the logging, mining and farming industries have profound environmental impacts (Gragson, Bolstad and Welch-Devine, 2008).

⁴ Gragson and Bolstad, (2006), p.184

⁵ Gosnell, H. and Abrams, J. (2009)

⁶ Smith, M. D. and Krannich, R. S. (2000)

⁷ Lang and Dhavale (2005), in Gustafson et al. (2014); see also Wear and Bolstad, (1998)

⁸ Vercoe, et al. (2014)

⁹ Theobald, (2005)

¹⁰ Id., p.185

shed” draws workers from 10 surrounding counties every day¹¹. The economic activity in the Southern Appalachians has turned from farming and industry to the service sector: in 2012 “*Approximately 14.2% (1 in 7) of all jobs in Buncombe County were sustained by tourism. [...] An estimated 25% of tourism-supported jobs were in the food and beverage sector, 18% in lodging, 13% in retail, and 12% were in recreation*”¹². The tourism industry also has a strong emphasis on the outdoors, notably with the Appalachian Trail that runs from Georgia to Maine (roughly 2180 miles¹³), the Blue Ridge Parkway, and the great number of national parks and forests within driving distances of Asheville like The Great Smoky Mountains National Park and the Pisgah National Forest, for example.

The region has a rich history of socio-environmental interactions, which has led many to explore the impact of human settlement on that particular landscape and ecosystem, for example Davis¹⁴, Williams¹⁵, and Gragson, Bolstad and Welch-Devine¹⁶. From 16th century European settlers to 20th century “*back to the landers*” or “*lifestylers*”¹⁷, the migration patterns offer interesting social tensions, like when “*neo-natives*” along with the “*natives*” form a common dislike for the next wave of newcomers, “*the residential tourists who “built new homes in the mountains, often perching them in unaccustomed place on ridgetops, driving up land prices”*”¹⁸. The region has the reputation of being opposed to regulations, like zoning, and suspicious of newcomers¹⁹.

There are also related environmental impacts associated with the newcomers as more roads are built and impervious surfaces increase at the expense of forests, there is more runoff, erosion, sedimentation and possible landslides with mountain-side houses²⁰ that tend to have fewer infrastructures to face these impacts. To what extent might Ashevilleans put two and two together? What might their perception of the causes be? The rare or nonexistent zoning restrictions in the southeast of the USA means there is no systematic approach or boundaries to urban sprawl²¹ which is “*the most commonly identified cause of changes to the structure and function of biodiversity across the region*”²². The lack of zoning restrictions is symptomatic of the importance placed on private property that is inherited from Southern Appalachian tradition of “*individual and family independence*”²³.

These issues are often related to exurbanization, “*the process by which urban residents move into rural areas in search of unique natural amenities and idealized lifestyles*”²⁴ that seems almost synonymous with amenity migration, “*the movement of second homeowners and retirees to historically rural areas of notable natural beauty, recreation opportunities, and comfortable lifestyles*”²⁵. More precisely in the Southern Appalachian Mountains, second home owners are attracted by the “*high elevations, temperate climate, access to streams and open spaces, and*

¹¹ Burgess, J. (2014)

¹² Buncombe County Tourism Development Authority (2012), *The Economic Impact of Tourism in Asheville, North Carolina, 2012 Analysis* [pdf], Tourism Economics, An Oxford Economics Company

¹³ Appalachian Trail website: <http://www.appalachiantrail.org>

¹⁴ Davis, D. E. (2000)

¹⁵ Williams J. A., (2002)

¹⁶ Gragson T.L., Bolstad P.V., and Welch-Devine M. (2008)

¹⁷ The Australian term for amenity migrants: Gosnell, H. and Abrams, J. (2009)

¹⁸ Cockerill, K. and Groothuis, P. (2014)

¹⁹ Gustafson et al. (2014); Vercoe et al. (2014)

²⁰ Burke, J. B., Welch-Devine, M. and Gustafson, S. (2015)

²¹ Gragson and Bolstad, p.185

²² Id., p.185

²³ Id., p.184 ; for further studies on local values see also Cho, S. H., D. H. Newman, and D. N. Wear (2003) and Jones, L.

“Appalachian Values” (1975), *In Voices from the Hills*, ed. by Robert J. Higgs and Ambrose N. Manning

²⁴ Vercoe et al (2014)

²⁵ Burke, J. B., Welch-Devine, M. and Gustafson, S. (2015)

*recreational opportunities*²⁶ such as hiking and fly fishing. Both exurbanization and amenity migration go hand in hand with rural gentrification²⁷, a change in the community as local households are displaced due to increased living and housing costs. This is also linked to tourism, and the term “residential tourist” refers to second home owners and tourists who come again and again and eventually settle there. But what if there are “rural-type” amenities within the boundaries of a city, like mountains and forests on the outskirts? Some of the mountain-side homes that are popping up in southern Appalachia are actually part of cities if the mountain is, thus we can envisage exurbanization in the sense of sprawl, meaning it is not dense development but it is still technically “urban”, part of the city. So we can speak of urban gentrification too, and amenity migration as not only defined as the movement of people to rural (separate from the city) areas but also to urban ones.

The example of Vercoe *et al.*’s study in Macon County, North Carolina, demonstrates what is at stake for decision makers when investigating issues related to land-use changes like exurbanization, “*to succinctly analyze both the social as well as the ecological impacts of development in their regions*”²⁸. There is the need to reconcile development and preservation of the natural resources (that are driving the development in the first place) which requires multiple perspectives.

It is also worth noting the great number of controversies on environmental justice and human impacts on the environment, from the local to the national (and global, considering that pollution has no boundaries). These include coal-fired power plants, coal ash ponds and hog farming in North Carolina²⁹, to cite only a few. Environmental justice implies notions of social inequalities in the face of the environment but with a base in moral ethics rather than simple laws. The fact is that certain populations, often low-income ethnic minority groups, are most impacted by adverse environments (polluting activities), which goes against the natural right to live in a healthy environment. One may reflect on the fact that mountain-side owners have all the amenities for a healthy environment, but not everyone can access this. Rather on the contrary some people live next to the Duke coal power plant in South Asheville (Skyland) exposing them to the risks of coal ash polluting their water wells³⁰.

The disappearance of southern Appalachian native forests would “*spell the end of traditional mountain culture*”, showing how the environment and social life are intertwined and influence each other: “*Nature was never entirely opposed to social life, and mountain culture has always exhibited ecological aspects.*”³¹ Many efforts have been made, notably by the Forest Service, since last century’s intense logging and deforestation, and today the mountains surrounding Asheville are covered in trees.

What is at stake is having a better understanding of the local dynamics in socioeconomic and ecological relations in order to better anticipate future conditions and improve our response to them better so as to guarantee the sustainability of conservation efforts (eg. Legay (2006): forest management in the face of climate change).

Human-nature interactions in a more global context: why study them and how?

World conferences on climate and development have generalized the imperative to consider social and environmental issues together since the 1990s. The Rio Conference in 1992 popularized the term biodiversity and its utilitarian functions, recognized human impacts on biodiversity along with the

²⁶ Verco et al (2014)

²⁷ Gosnell, H. and Abrams, J. (2009)

²⁸ Vercoe, R. *et al* (2014)

²⁹ See Bullard, R. D. (2001); Wing, S., Cole, D. et Grant, G. (2000); Rudek, J. (2008)

³⁰ Diaz, S. (2011)

³¹ Davis, D. E. (2000) p.213-214

need to slow its erosion³². One definition of biodiversity is “*la diversité de toutes les formes du vivant, c’est-à-dire la totalité des gènes, des espèces et des écosystèmes*”³³, which translates as the diversity of all forms of life, in other words all the genes, species and ecosystems. Manceron³⁴. argues that the loss of biodiversity is often seen as “*un symptôme, expressif de la dégradation de l’environnement naturel, qui rend à son tour visibles d’autres phénomènes mettant en danger les humains de manière plus directe et évidente : nocivité de la pollution et de l’urbanisation sur la santé humaine, risques croissants de catastrophes naturelles liées au réchauffement climatique, etc.*” (p32). This point of view is echoed by the World Health Organization asserting the strong dependency between biodiversity loss, human health and access to natural resources³⁵. Since the World Summit on Sustainable Development³⁶ in Johannesburg, 2002, international conservation managers have recognized the need to include the social aspect of biodiversity into conservation programs, as well as local actors and their knowledge³⁷ as the implementation of conservation policy often depends on local amateurs³⁸. That is also why Anthropological research highlights the need to study global transformations such as climate events from a local perspective, as people’s assessments of environmental variations “*are grounded in localized contexts and processes of livelihood adaptation*”³⁹, especially when their livelihood depends on natural resources. Studying local values and meanings as well as representations and knowledge – all participating in one’s perception of what is experienced – helps to understand culture-environment interactions, which ultimately helps understand adaptative responses.

In fact local biodiversity can serve as an indicator of the relationships between ecosystems and anthropogenic factors in a specific location, showing relationships of causality. We can therefore justify asking to what extent do the people use biodiversity as an indicator of local and global socio-environmental changes? This question applies to the population of the city of Asheville, at the intersection of the Southern Appalachian Mountains and the State of North Carolina, as well as to other areas facing comparable socio-environmental transformations.

This explains also why interdisciplinary research is important, as researching interactions at different levels between different entities (humans, birds, weather, climate change and more) requires a systemic approach with a variety of enquiry methods.

The importance of combining methods and disciplines to reach a more holistic understanding of human-nature interactions: The PIAF project within this framework

The work presented in this document was led to contribute to the PIAF research project (Programme Interdisciplinaire sur les indicateurs Autochtones de la Faune et de la flore, ANR-13-JSH1-0005-01) which aims to provide insight into socio-ecological interactions and dynamics in the context of global change. It is a multidisciplinary and comparative project led by young researchers in four countries: France, The United States of America, Cameroon and Zimbabwe. The research exposed in this thesis was led in an American urban site in the southern Appalachian Mountains, the

³² Blandin, 2009, in Alphanhéry, P. and Fortier, A. (2011)

³³ Rovillé, M. (2005)

³⁴ Manceron, V. (2015)

³⁵ Cf. World Health Organization website: <http://www.who.int/globalchange/ecosystems/en/>

³⁶ Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. (UN World Commission on Environment and Development known as “Brundtland report” in 1987)

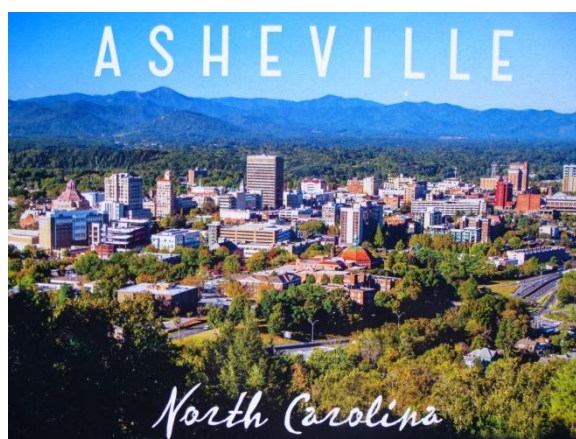
³⁷ Sourdril, A. and Welch-Devine, M. (2014)

³⁸ Alphanhéry, P. et Fortier, A. (2011)

³⁹ Roncoli (2009) p.95

city of Asheville in Western North Carolina. All four research sites, the regions of these four countries which include the Asheville area, are subject to rapid changes affecting rural and urban areas, including climate variations linked to global climate change, demographic shifts, and policy pressures in terms of environmental conservation. They were also selected as “Zones Ateliers” of CNRS or part of the Long Term Ecological Research program (Asheville is situated on the area covered by the Coweeta LTER program). In this context, PIAF asks: how do local populations (lay people as well as land managers) perceive and interpret changes to their environments, through the observation of biodiversity? And how do these diagnostics enable them to construct adaptation strategies, to manage and/or protect their environment? These questions lead into looking at how social, economic, political and environmental pressures affect individual perception of change, and how local and external knowledge combine to create management plans (with the underlying power relations). What the study will contribute to this field of research is the comparison of different actors’ local perceptions of local and global change, and it will provide a “general understanding of how people use biodiversity to understand environmental change – in the city and country, in the North and in the South.”⁴⁰ All in all, the project is innovative in its comparative methods, interdisciplinary component, and contribution to local and general knowledge useful to local managers up to the international conservation community.

Presenting the urban research site: Asheville, NC



A postcard bought in Asheville

Our research was led in Asheville, representing the urban site of the American field of research of PIAF that spreads from Macon County to Buncombe County in Western North Carolina. Asheville is the metropolitan area of Buncombe County, almost completely surrounded by the Appalachian Mountains (cf. Figure 2) which are one of the main attractions of the area. The county includes most of Western North Carolina and at the time of its formation in 1791⁴¹ had a population of about 1,000 people, though the boundaries were later enlarged slightly and the County is now 656.67 square miles. In 2015, the population was estimated at 258,706 inhabitants, an increase of 8.30% since 2010⁴². And

⁴⁰ Burke, B. J., Barnaud, C., Sourdril, A. and Wencelius, J. (2015)

⁴¹ Buncombe County website: history <http://www.buncombecounty.org/about-bc/buncombe-government/history.aspx>

⁴² Buncombe County Comprehensive Land Use Plan, 2013 Update, August 2013
<http://www.buncombecounty.org/common/planning/draftcomprehensivelanduseplan.pdf>

the growth is projected to continue to reach 312,373 inhabitants in 2030. Its economy has shifted to a predominantly service sector⁴³, which is also the case in Asheville.

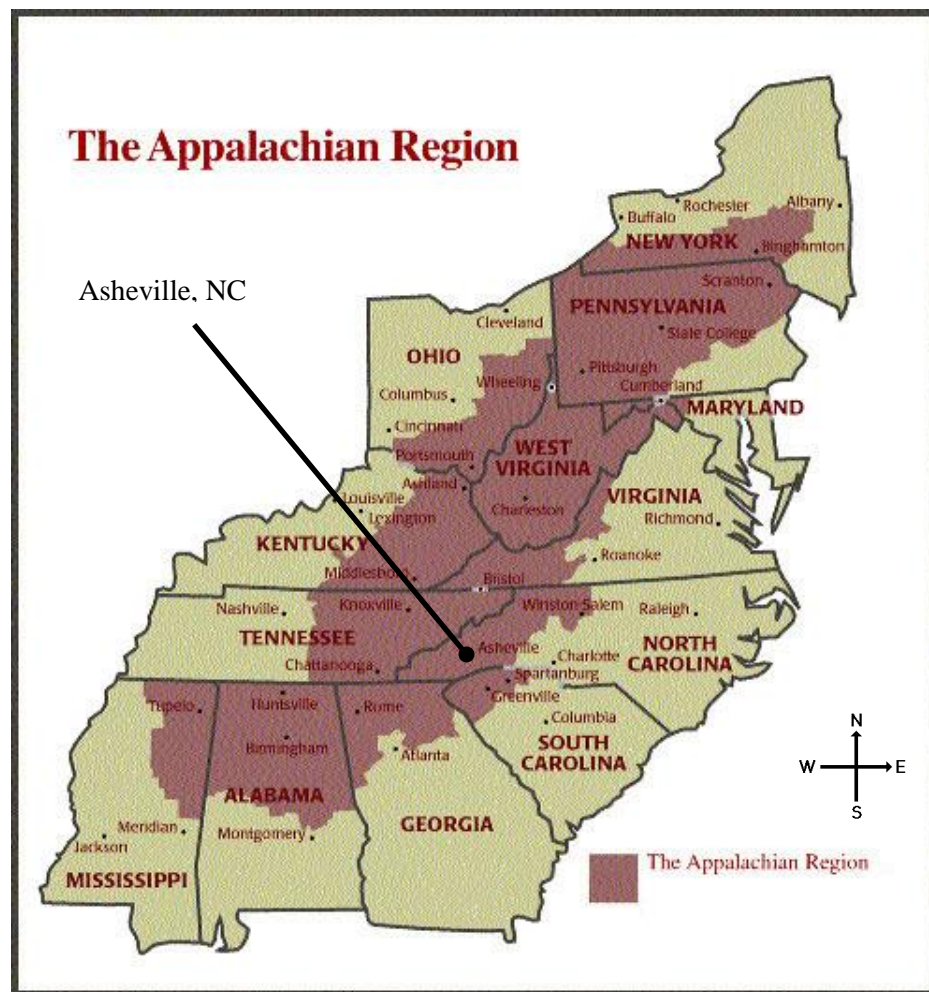


Figure 1: Situating Asheville in the Appalachian Region⁴⁴

Asheville represents 44.93 square miles, has an estimated population in 2013 of 87,236 inhabitants, with slightly more persons 65 years and over and slightly fewer persons under 18 years old than the State average. The population is mostly white (76.2%, 84% in Buncombe, both above the State average).⁴⁵ From 2010 to 2014, the Asheville metro area increased its population by 4.1%. What is unique about that area, claims the Asheville Citizen Times, the local newspaper, is that it is the only one “whose population growth increases exclusively from those moving into the region”⁴⁶ as immigration balances out the death rate. The article quotes US Census data to reveal that “contrary to a popular narrative that has gained a foothold among locals”, 55 year olds are not the largest age group of newcomers, they are about the same as the 35-54 age bracket and both are less than the 20-34 years

⁴³ Id.

⁴⁴ “The Appalachian Region” found at <http://www.mikalac.com/map/map3.html#appalachia1> and compass at <http://www.physicsclassroom.com/class/vectors/Lesson-1/Vectors-and-Direction>. No scale was found.

⁴⁵ <http://quickfacts.census.gov/qfd/states/37/3702140.html>

⁴⁶ Cronin, M. (2015)

old bracket. It will be very interesting indeed to see on site if this “popular narrative” of retirees is as widespread as the article claims.

Asheville goes by many names that include “Land of the Sky, Paris of the South, Beer City USA, and also the inaugural Bee City USA”⁴⁷. In fact during the fieldwork I was able to observe from the end of my street the construction of a new brewery for a national brand, New Belgium. Breweries are attracted to the area because of the good quality water which many interviewees commented on.

At the end of the nineteenth century, Asheville was already a popular resort and therapeutic health center. It is surrounded by mountains, and today boasts distinctive architecture, art galleries, fine food and beer, entertainment (a very active music scene), and outdoor activities⁴⁸. It has the reputation of being a “*nexus of alternative lifestyles*” and a haven for “*stressed-out urban warriors*”⁴⁹. Different media brag that environmental awareness, exemplified by the strong concentration of environmental organizations based there⁵⁰, vegetarianism and natural medicine are commonplace, and there are many different websites dedicated to listing Asheville’s qualities and its reputation of “*Paris of the South*”. In fact, the media seems to be very active in promoting the County and the city, which some people blame for Asheville’s booming popularity.

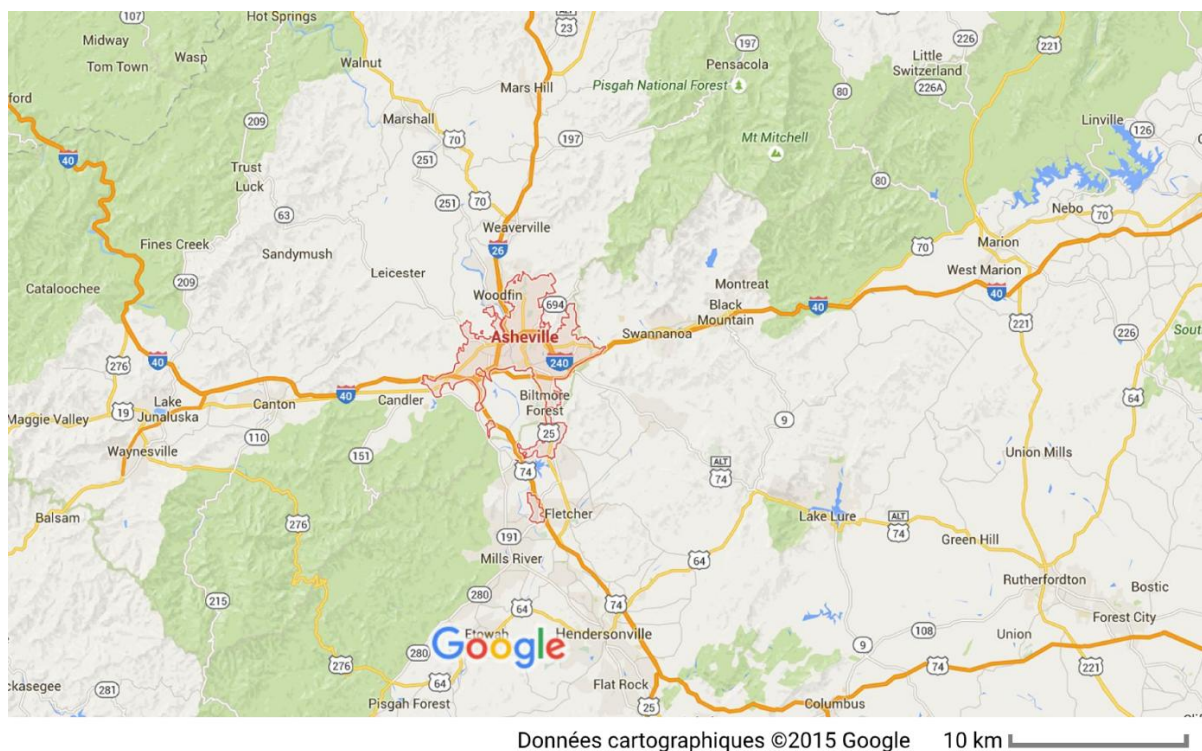


Figure 2: Map of Asheville⁵¹

⁴⁷ Explore Asheville website, and Asheville city website

⁴⁸ *Id.* <http://www.ashevilenc.gov/Visiting/TouristResources.aspx>

⁴⁹ Shumaker, S. and Saffel, T. (2000)

⁵⁰ Gragson et al., p.113

⁵¹ Google Maps

Theoretical framing

Looking at uses of the environment will give insight into knowledge and representations

It is expected that the way we think about the environment is partly due to our knowledge of it, and our representation of it will also determine how we transform observations into knowledge, how we interpret them. Representations give us a framework of conceptualizations with which to analyze what we see⁵² thus influencing our perceptions of events etc., therefore by researching principally perceptions we will gather clues about people's way of thinking. The way we act might be partly conditioned by our way of interpreting the world, but it might also end up transforming our representations and those of others around us. That is why in order to account for the diversity of relationships with the environment we need to hint at what these representations might be, which we will do through people's perceptions of change and through the example of individual and collective practices in relation to the environment, all of which are closely tied to knowledge.

The types of knowledge that we are interested in here are local and lay expertise ("savoirs profanes"), because we are interested in what people know about where they live – Asheville, Buncombe County, and the southern Appalachians – which will not necessarily come in the form of standardized scientific data. Local knowledge is rooted in tradition in one specific area, which includes "indigenous knowledge" that characterize native populations who have been using land resources over a continuous period of history, in other words implying long-time residency and an accumulation of knowledge⁵³. We may wonder whether newcomers will display the same local knowledge, as the acquisition of knowledge may be done "second-handedly" (lessons, books etc.). Will there be noticeable differences in local knowledge between natives and newcomers in Asheville?

Lay expertise, or knowledge, is not having a professional one. Although it is often opposed to "expert" knowledge, as Kinsella⁵⁴ explains, "*If expertise consists of understanding particular kinds of problems comprehensively, in all their relevant dimensions, then it must incorporate the local knowledge and evaluative contexts that ordinary citizens provide. In this respect, members of the public are experts in their own practical and moral domains.*" Thus the notion of "lay expertise" is not contradictory. For examples see Manceron's⁵⁵ British naturalists or Chateauraynaud and Torny's "lanceurs d'alerte."⁵⁶

Knowledge is often constructed through a network of interactions. Li⁵⁷, in the continuation of Latour (1988), observes that "*knowledge is always tied to the social relations that produce it*", showing the importance of considering the construction of knowledge as a collective effort. It is also the result of the interaction and cross-fertilization of local and scientific knowledge which may allow better conservation practices, for example⁵⁸. These questions are all part of the PIAF project.

Local knowledge of the environment is intrinsic to the uses and representations people have of the environment – they all feed on each other. Analyzing Asheville's discourse about the changes they observe, through the lens of population growth or biodiversity, will hint at their relationship with the

⁵² Abric, J.-C., (dir.) (2011)

⁵³ Gadgil, M., Berkes, F. and Folke, C. (1993)

⁵⁴ Kinsella, W. J. (2002)

⁵⁵ Manceron, V. (2015)

⁵⁶ Chateauraynaud, F., Torny, D. (1999)

⁵⁷ Li (2005), in Haenn et al. (2014)

⁵⁸ Haenn et al. (2014); AlphanDéry and Fortier (2011); AlphanDéry, Fortier and Sourdil (2012)

environment which will necessarily refer more or less implicitly to some of their beliefs, opinions, knowledge, and attitudes about it. In other words, their representations of the environment, people, biodiversity, change, human-nature relations... will influence the way they perceive and interpret what they will observe, but not entirely determine the subsequent decisions they make that are subject to many other pressures⁵⁹.

Research and theories on representations, or social representations, are recurrent through time and reflect transdisciplinarity⁶⁰ as well as different worlds of meaning: from Marx, Durkheim, Weber, to Bourdieu, or through Moscovici, Freud, Piaget, and today Jodelet, Herzlich... to cite only a few. Moscovici⁶¹, a pioneer French social psychologist in the field, defines representations as guides for action worth studying to understand collective phenomena and social thought. For some social scientists, a representation is in fact a vision of the world that every person uses to position him- or herself within society: « *une vision fonctionnelle du monde, qui permet à l'individu ou au groupe de donner un sens à ses conduites, et de comprendre la réalité, à travers son propre système de références, donc de s'y adapter, de s'y définir une place* »⁶².

Representations also serve to explain an individual's relations with others. They are « *un ciment pour les relations humaines* »⁶³, they are essential to allow members of a group to communicate and understand each other at least with a few basic shared values. Jodelet gives a widely acknowledged definition of the social representation: “*C’est une forme de connaissance, socialement élaborée et partagée, ayant une visée pratique et concourant à la construction d’une réalité commune à un ensemble social.*”⁶⁴ Indeed if a social representation is shared among a group it will contribute to the group's perception of the world, thus what is reality for them. But again there are many other influences before that “common reality” is fully shared. Social representations are interpretation systems that condition our relationships with people and with the world by orientating our conduct and ways of communicating. Collective representations are exterior to the individual – not quite the same – in the sense that they are derived from the coming together of individual representations, and the interaction alters each of them in the process to produce a new common representation⁶⁵.

Moreover, representations are closely linked to social dynamics. Indeed an individual's position in society, his/her occupation and role, along with the ideological relationships they have with society and the institutions, will determine the contents – and its organization – of the representation (hierarchy of opinions, ideas etc.). That is why when sampling for our interviews in Asheville, we paid close attention to these people's occupation, status, network and history. Representations say something of the state of reality.

The Research Question: Discourses on population and development in Asheville reveal human-nature interactions and transformations

⁵⁹ Cf. the case study of da Silva et al. (2014) on the representations of the riparian forests in Northern Brazil

⁶⁰ Dantier, B. (2007)

⁶¹ Moscovici (1961), in Abric, J.-C., (dir.) (2011)

⁶² Id., p.17

⁶³ Marchand, G. (2002)

⁶⁴ Dantier, B. (2007)

⁶⁵ Cf. also Jodelet, D. (1994)

I set off to learn about how people think about environmental change in the Asheville area, Buncombe County (what do they observe, how do they make sense of those observations, what do they think about the causes and consequences, what shapes these different observations and perceptions). This was still very much centered on the PIAF objectives, and it is the specificity of the field I investigated – the city of Asheville undergoing major social, economic, political and environmental transformations – as well as my own personal interests that resulted in the more focused study and results presented hereafter. The fieldwork pointed out to me that the definition of “urbanity” can be subjective: I did not feel like I was in a big city because of the omnipresent biodiversity (numerous trees, plants, song birds and groundhogs, for example) compared to the concrete and dense French cities I am used to. So I would venture into saying I was studying an urban and slightly peri-urban site, since residents of mountain-side houses (cf. exurbanization) could in fact be within the city’s limits.

The fact that I was investigating an urban setting, the city of Asheville in North Carolina, raised several hypotheses about people’s relationship to the environment, what they considered to be “the environment” and “their environment”. My sociological training, constantly animated by my interest in understanding people, made me equally interested in knowing how people dealt with the pressures they were objectively facing (cf. literature on population growth, sprawl, exurbanization, gentrification, pressure on land, conservation issues), but that they might perceive differently and not to the same degrees for everyone. My research questions on the field were therefore to know what changes people were noticing, in general, to see the place given to the “natural” environmental changes, and then asking specific questions on the environment and biodiversity like the PIAF project set out to do. It is an *a posteriori* research question of sorts as it is the predominance of the social changes in the analysis of the interviews that kept my attention.

The construction of the final research question was in part guided by the progression of the fieldwork which made me re-consider and re-formulate my question in a constantly evolving thought process. The intermediary themes that emerged half-way through the fieldwork showed that interviewees were very concerned about population growth and development, and the results confirmed the idea that most respondents perceived environmental change through the lens of development and population growth. In other words, changes to the demographics of Asheville and to the built environment are one of the main indicators of environmental change among my sample of respondents, their environment being the city of Asheville. But not all of them explained or reacted to the observed changes in the same way. I therefore centered my research question on understanding the different perceptions of transformations in population and development, and how the interpretation of and reaction to these serve to tentatively expose a range of human-environment relationships, interactions and wider views on the environment.

Why does this matter? This way of representing and thinking about the environment has implications with regards to people in Asheville facing and addressing future combinations of socio-environmental interactions from local to global scales, such as exurbanization and climate change, as different ways of framing the problem will lead to different responses.

Please note that the question of what might cause these differences in perception is a more fundamental, and realistically un-answerable, question (here at least). I do not claim to address this question as fully as I would like to, I am merely contributing to this vast topic of research. Tentatively asking “why?” means that I do not intend to present a comprehensive analysis of the interviews to explain the way people represent the environment, rather I am opening a few doors for further research.

My research question is thus “In the context of researching local environmental changes, what do Asheville discourses on population and development tell us about their relationships and interactions with the environment?”

The three chapters of this thesis are centered on three questions. Firstly, to what extent do people talk of social (population and development) or of environmental changes when asked about local changes? What does this tell us of the socio-environmental dynamics of Asheville? Secondly, what do their perception of population growth and development, and their use of the land, reveal of their relationship with the environment? And thirdly, what do the noticed changes in local biodiversity indicate in terms of people’s perceptions of human-environment interactions?

The underlying hypotheses of this question include:

- Occupation is an essential factor to be considered in understanding perceptions of change.

In this case, we expect that people whose professional occupation is closely related to the environment (farmers living in the city, managers of the land, environmental organizations etc.) will have more knowledge of local environmental changes and build much of their knowledge from within their professional circle, both from the job and the exchanges taking place. We may also find that they have a network of people with similar opinions and knowledge, and similar social positions. For example, Veteto and Carlson⁶⁶ focused on orchardists and found that since apple trees give fruit for 20 to 100 years, and are “highly sensitive” to environmental changes, orchardists closely watch local weather and climate patterns. When people’s livelihoods depend directly on their environment they have a vested interest in knowing it to better adapt to changes.

- Long-time residents, like native populations (cf. indigenous knowledge) would notice longitudinal changes, over a life-time or over several generations, which refers back to the concepts of local and indigenous knowledge.

People from Asheville (or the southern Appalachian region), who have grown up close by, and who are the descendants of several generations of local inhabitants, will probably have accumulated more longitudinal observations of environmental change and be more aware of long-term transformations than new residents. Indeed, the results of Veteto and Carlson’s study⁶⁷ of North Carolina orchardists’s perceptions of environmental change indicate that a person’s generation, and the length of stay in one place, can lead to differentiated knowledge and perception of environmental changes. Third to fifth generation orchardists had more longitudinal information enabling them to make “*informed decisions in the face of climate change*,” having benefitted from oral histories that “*contain climate information stretching back several decades or longer*”.

- The people who come to Asheville for its environment, mostly natural amenities, will be more involved in preserving it.

For example, we might find what Cockerill and Groothuis call the “last settler’s” syndrome: “a tendency among individuals to place a high value on what initially attracted them to a specific place and to attempt to maintain status quo”⁶⁸. Moreover, Gragson and Bolstad argue that residents of the

⁶⁶ Veteto, J. R. and S. B. Carlson (2014)

⁶⁷ Id. pp.359

⁶⁸ Cockerill, K. and Groothuis, P. (2014)

south-east of the U.S.A. “are more likely concerned about how changes in forest cover might affect their future recreational opportunities”⁶⁹ which gives further importance to the current context of the area: the process of gentrification and of the diversification of leisure activities related to the mountains.

- There will be conflicts as different perspectives clash over the use of the land and resources.

As we interview different users and managers of the environment in and around Asheville, we may find that some of them are in competition for the same resource, space and so on. Nevers and Becerra’s⁷⁰ case study of the “Narbonnais” ponds is a good example of the way different users manage the ponds, the social mobilization and social policy involved. Would there be a similar general concern about the quality of the French Broad River, in Asheville, for example? Or would the different uses of it result in conflicts? We need to make sure we understand what each interviewee’s activities involve in Asheville, including the potential conflicts with others, as this will already point towards certain representations of the environment, certain relationships, and different kinds of knowledge.

- The change in urban and peri-urban biodiversity of Asheville will be linked to social changes (population, economic activity).

Here I refer back to the Context of the study where we saw how widely acknowledged it is that the social and environmental worlds affect each other in one direction more than the other, with the example of biodiversity loss and human activity like development⁷¹.

Discussing the methods used in the fieldwork and the analysis

Juggling with the common methodological protocol: constraints and guidelines

As part of the comparative and multidisciplinary PIAF program, this study followed a common protocol of research methods. This is to enable data collection to follow the same guidelines, without being directive and restrictive, which is crucial in making it possible for the future comparison of findings across the four countries and different urban to rural sites. The common methodological tools I was able to use are a standardized sampling method, semi-directive interviews, free lists and their follow-up interviews. Both types of interviews (semi-directive and follow-up) are relevant when seeking to explain social practices, the values and normative benchmarks from which people guide themselves⁷², in this case their relationship and representations of the environment.

The challenges here were in familiarizing myself with an already pre-defined protocol, including the method of free-listing which I was not familiar with. We will see hereafter the shortcomings I was met with on the field in relation to the enquiry techniques.

⁶⁹ Id. p.178

⁷⁰ Nevers, J.-Y., and Becerra, S. (2003)

⁷¹ See for eg. Forsys, E., and C. R. Allen (2005)

⁷² Blanchet, A., Gotman, A., (2011)

The set goals by the PIAF project for the different research sites were 45 semi-structured interviews and 30 free-lists, and after negotiation I was allowed some flexibility because of my limited time on the field (less than 3 months) which resulted in 45 semi-structured interviews and 20 free-lists.

Sampling in Asheville

Justifying snowballing and contacting people

We first established an initial plan of how to begin snowball sampling with a list of the first people to be contacted (mostly people with “expert” knowledge, like NGOs, academics at UNC Asheville and government officials) also with the help of key local informants on site whom we interviewed first who knew many people. Snowball sampling works via the interviewees’ networks and knowledge: in the course of the interview, the informant mentions other people that they or we might be interested in meeting. Simply asking for contacts can give qualitative information on the dynamics of social interaction as the informant reveals his/her network. For example, it appears that local government officials and environmental organizations often knew each other and after following snowballs I came full circle back to my first respondent. In line with the PIAF project, we only aimed for a sample that *“is representative of the diversity of land users in their sites”*⁷³ and not a proportionate representation of the whole Asheville population.

We were interested in different users and managers of the resource – people with different professional occupations and recreational activities like hunters, fishermen, hikers, gardeners and other non-environment related activities – people who are affected by and can influence changes, and a variety of people with different demographic characteristics (gender, age, active/retired, occupation, education and length of residency). I contacted most people via e-mail, especially the first informants whose contacts were easily found online because of their “expert” status. And then snowballing with each interview gave me more e-mail addresses and so on. Moreover contacting someone (from a snowball) on the behalf of a previous informant made me appear more legitimate and ensured an almost 100% success rate⁷⁴. I also made first contact with some people in person, like in my neighborhood in West Asheville, at the West Asheville Tailgate market, at the Shiloh community garden I volunteered at on Saturday mornings, or by walking into different shops and talking with the salesperson/manager. It was sometimes only after meeting someone several times that I asked whether they were willing to be interviewed. This is especially important as establishing a relationship of trust with someone who is not accustomed to be asked for interviews almost guarantees his or her willingness. Their reaction was often “What can I tell that is of interest?”, and they could be suspicious of my motives, asking details about the research project to understand their role in it.

In contrast, it was amazingly easy to reach academics, people with responsibilities in non-profits or government services, and city councilors. People with more socially valued positions, like politics, are usually used to express themselves and speak in public⁷⁵, therefore willing to meet up. A thought on this is that because the English language does not have the French “vous” (formal address) but rather a universal “you”, it establishes a more relaxed and not-quite-as-formal relation between people.

⁷³ Burke, B. J., Barnaud, C., Sourdril, A. and Wencelius, J. (2015)

⁷⁴ Veteto and Carlson also argue this in their study on apples and orchardists that followed similar methods of enquiry. See Veteto, J. R. and S. B. Carlson (2014)

⁷⁵ Id. p.123

The ease of contacting “experts” did present the risk of having an over-representation of them in my sample, and being conscious of it I sought to correct that as best as I could.

Describing the sample: who did I actually meet? Who did I not meet? What were the limitations to the sample?

I met a total of 47 different people over 62 interviews and free-lists combined, that is 45 semi-structured interviews and 20 free-lists. If those numbers are confusing, that is because all but two free-lists were conducted with informants I had first interviewed, on three occasions the free-list was completed during that same meeting as the semi-structured interview but in one of these occasions the follow-up interview to the free-list was done during a second meeting. A table describing the respondents, with their code of reference and main characteristics, can be found in the Appendices.

The sample was made up of 19 women and 28 men. Why more men? Possibly because some of the professional occupations I sought out are male dominated, like in construction, finance, and politics (at regional levels). Possibly also because there are more men in positions of power within an organization, and they were eager to speak out. I will come back to this point in the following “Researcher Bias” section.

The ages of the respondents range from 22 years old to 81 years old, but the average was around 50 years old as most respondents were in the 40-60 age bracket. The fact that I found it easy to contact this age group was strongly linked to the fact that I was mostly contacting people because of their professional occupation and hobbies linked to natural amenities, therefore they are either active people or retired people (who can easily “chew your ear off” as they have the time and much to say). Younger people over 18 years old meant students or young actives, and in fact I arrived in Asheville during final exams so there were not many available students. I think I was partly biased in not contacting more young actives because I assumed many would have arrived here recently⁷⁶ and therefore not know much about the area or what was going on, as some of the first interviews with newcomers became awkward when there was nothing to say about local changes.

In terms of length of residency, because it is hypothesized that long-term residency allows more observation and local knowledge, I sought out a range of people between natives and newcomers, and I found that there were many long-term residents who had lived there for most part of their life but few natives (born and bred there), or else from Western North Carolina. The most recent newcomer had been there for one and a half years, and the most “native” native had family going back to the first settlers.

Who did I not interview? I also spent time talking to inhabitants during daily activities like shopping, or sitting out on the porch. These ethnographic moments served to immerse myself in the life there and giving me a “feeling” of the place and its dynamics. In terms of semi-structured interviews, I had contacts with arborists, an edible landscape planner, a historian, some Old-time music and Celtic musicians, a Pilates instructor, a French-Spanish teacher, a young African-American, a UNCA English student, a single “hippie” mother that I met at the market, the managers of a local brewery and of a café, a group of fly fishers (a men’s and a women’s group)... These were all

⁷⁶ Almost all the young people I spoke with in coffee shops and around Asheville had recently arrived and were either working or looking to work in the service sector, so I did not feel encouraged to pursue what I thought might be a slightly more homogeneous group (young new arrivals) in terms of perceptions. This can be criticized of course.

interesting leads as from very different occupations and backgrounds. Why did they not work out? In some cases, after a few e-mail exchanges, some of them were too busy and declined, others simply stopped answering, others left, and in two cases I was stood up because we had communication issues and possible reluctance on their part (this was with the two people I felt were most socially vulnerable as well⁷⁷). I was in fact trying to include people who were part of the community but in very different situations, which is why ethnic minorities and people who were living on the edges of society could have brought very different perspectives. Due to the lack of time I also did not manage to organize more meetings with members of the Hispanic community with which I had been in contact. I ended up meeting two Hispanic women and four members of the African-American community.

Other ideas: I thought about meeting a bus driver because I took the Asheville Redefines Transit buses occasionally and noticed people I did not see downtown or in West Asheville. Interviews also revealed that indeed it was mostly low-income vulnerable people who use the bus, and a bus driver would have much to say about the people he sees everyday and any changes. Also someone from the medical profession, as the hospital is the biggest employer in Asheville, would also bring an interesting perspective on the economic growth and health of the population. I also considered contacting the Pastor of a traditional Baptist church that I visited, and had many other possibilities, but had to make choices in relation to my sample, time and interests.

Description of the enquiry techniques employed: what went right and wrong

Researcher bias in the fieldwork

In terms of objectivity, Haraway⁷⁸ argued that knowledge cannot only be obtained by adopting a completely disinterested and impartial view, thus accepting the limitations in social research. In consequence, reflexivity was demanded at every stage of this study. I had to take into account in going to a foreign country that I was maybe going to share fewer cultural representations than in France, and so I made sure I was open-minded. The differences made the issue of zoning and private property, for example, much more striking to me compared to what I had known.

During the sampling and fieldwork, I was constantly aware of my “présentation de soi” (how I presented myself) as it has strong effects on the interview⁷⁹. I believe being a young woman student-researcher from another country actually helped me secure interviews, because of the status of researcher, because foreigners can be intriguing (some respondents asked me questions too), and being a young woman I have found makes it easier to contact people (no sense of threat, and power and gender relationships⁸⁰). That may in fact also explain why I interviewed more men, because I could use that power-gender relationship to my advantage (asking more questions). Being a student did mean I was often socially dominated when interviewing experts, but it also diminished any sense of threat and could allow the respondent to feel confident in talking about personal views. I personally hardly ever felt dominated, even less so when meeting experts in coffee shops rather than in their offices. In the case of different social positions, with more vulnerable people especially, repeated

⁷⁷ When different social categories meet, the more fragile one can be intimidated by the socially valued status. See Chamboredon, H., Pavis, F., Surdez, M. et Willemez, L. (1994)

⁷⁸ Harding, S. (2009)

⁷⁹ Chamboredon, H., Pavis, F., Surdez, M. et Willemez, L. (1994)

⁸⁰ Id. pp.119

social interaction helps make the situation more “neutral”⁸¹ as I worked on minimizing the social distance, “*paraître aussi proche que possible d’un univers dont on est loin*”⁸². This serves to explain why I found it more difficult contacting people in difficult social situations (low-income, stigmatized etc.).

Semi-structured interviews

The common methods used to fit in with the PIAF project included a guide for the semi structured interviews in order to allow future comparability of the themes we are interested in. The interview guide used can be found in the Appendices. It is a slightly reorganized version of the PIAF guide after the first interviews showed how the conversation flowed better. The themes were: Basic demographics, current place of residence, current livelihood (describing what that involved particularly in relation to the environment), life history and past occupations, the noticed changes (ask again about “environmental” or even “natural” environmental changes if not first mentioned), gender differences in relation to the environment, personal relationship with the environment (with a question of its evolution over time), and finally asking for contacts (snowball).

Observation

During those two and a half months I did a few planned observations as well as constant everyday fieldwork observations. I spent time at two local markets, participated in a hike organized by the Southern Appalachian Highlands Conservancy, and took part in two events by the Universalist Unitarian Congregation of Asheville. One was a guest speaker on “Climate Change simulation” and one was a film and testimony about “Food chains” (seasonal workers in Florida). Being immersed in the field gave me opportunities for floating observation without any pre-defined observation grid.

Free-listing showing potential after some trial and error testing

The technique of free-listing was the hardest to grasp, because of its novelty, and because the free-lists were not all led in the same way during the fieldwork. Free-listing is a relatively simple method to rapidly collect a list of items in the domains of interest⁸³, in this case within biodiversity. I would ask, for example “Could you list all the mammals that you know?” and I noted down each item cited by the respondent. The follow-up interview, once all the categories have been listed, allows for more detail on each item. I asked, for example, “Please list all the birds you know”, which I could limit to 3 minutes per list so as not to frighten the respondent (in case of “blanks”), and asked respondents for each list about any noticed changes in behavior, population, distribution and so on, and what might be the cause of those changes. By comparing free-list results, the frequency of recurrence of certain species and the way they are hierarchized this would indicate their cultural saliency. This also allows a record of knowledge of changes in biodiversity and their causes, and was also a way to encourage people to think about this.

PIAF set three common categories to represent biodiversity: animals/ mammals, birds and trees, and allows extra ones linked to the specificity of the research site. It was found that plants and fish

⁸¹ La “neutralization” de la situation d’enquête, in Mauger, G. (1991); cf also Chambordedon, H. et al. (1994)

⁸² Pinçon, M. et Pinçon-Charlot, M. (1991)

⁸³ Gravlee, L. (1998)

would be interesting additions, especially when interviewing fly fishermen. After several free-lists, other researchers suggested I add an “insects” category, which meant listing six categories. At this point, the listing and follow-up interview were taking on average 1 hour 30 minutes as I did not cut people off after 3 minutes for each list, and the respondents were tired out before the follow-up (deemed the longest part) even started. Because I saw the relevance of conducting the semi-structured interviews and free-lists with the same respondents, as information from each could be complementary, in most cases I scheduled a second interview after the average 1h30 semi-structured one as respondents were tired out or busy. When it came to the second interview/free-list, which was much less of a conversation than a list and required more concentration, I had the feeling people felt frustrated and impatient. After some very good semi-structured interviews I felt we somehow parted on a lower note with the free-lists.

Analyzing the data and making difficult choices

Once the fieldwork was completed, I was faced with the question of how to use 62 interviews in a Master’s thesis, to be written in 2 months, about the question of perceptions of socio-environmental changes in Asheville. Since I was looking for a more qualitative approach, I started with the 45 semi-structured interviews. I transcribed 15 of them in full, 15 others were notes taken from listening to a speeded up recording of the interview, and the rest were detailed notes taken during the interviews. The decision to transcribe which interviews was difficult, and it was done with advice from my supervisors in order to cover a range of factors like age, gender and occupation. My own subjective preference for certain interviews also guided my choice, in terms of the originality of the content or the depth of detail given in terms of the respondent’s relationship with the environment and the changes he/she had noticed.

The first analysis of the data was a qualitative thematic analysis, using four different transcriptions to form a grid of themes that could be used to analyze the rest of the interviews. What this did was to highlight the importance given to the processes of population growth and development. Since I wanted to display the range of perceptions in the interviews I used the main themes with which I sifted through the data set in order to compile a much larger result database. This pushed me to approach the data in a more analytical way and to organize my chapters with the data to follow my thought process. The quotations and analysis of certain verbatim are mainly from the fully transcribed interviews, but I also refer to the full data set in order to backup the points to show the full weight of what was found.

Second section: Results and Discussion

In the context of researching local environmental changes, what do Asheville discourses on population growth and development tell us about their relationships and interactions with the environment?

Chapter 1: Asking about local environmental changes in the Asheville urban setting entails talking about the social and built environments

1.1. Why did so many respondents talk of population change and the related themes of development, traffic and more?

Asking the right question

I set off for Asheville with the idea that being in an urban environment, people's perceptions of the environment, and subsequent changes, would be strongly linked to the material and social aspects of the city that they interact with on a daily basis. During interviews, I often left the question of the noticed changes open to their interpretation, not necessarily mentioning the "environmental" aspect of the change, to see what people would talk about first. In this case, most of the time, they mentioned the population growth, the city's development, the traffic, the socio-economic dynamics of the city and county. In the following quotations the respondents' words are in *italic*. For example: "What have you noticed changing in Asheville in the last 20 and a bit years? *We have more urban sprawl...*" When I ask about wildlife, she mentions bears. Ash44

Later in the interview I would ask the question again with the term "environment", or "natural environment", which led to discourse on trees, bears, the weather and more. There is a particularly interesting case worth mentioning, where the 67 year old native woman associates the words environment with people: "In your 67 years here, what have you noticed changing? *The environment's changed, a lot of people here now.*" (Ash34). This makes us wonder how people conceptualize terms like "the environment" and "their environment". It seems the common definition of the former remains that of the natural non-human world or more generally of the Earth⁸⁴, as most people answered in that sense, but for a few of them the environment is simply where one lives. A retired man (Ash5) explained that working in the factories had been a predominant environmental factor in his life.

When I asked straight away about "environmental changes", answers differed more. Some respondents went on to talk about the social and built environmental changes: their neighborhoods, the different people, or the traffic associated to population growth. For example:

"In the eleven years that you've been here, what have you noticed changing in the environment in Asheville? *More traffic, more people, more tourists.* People are not necessarily tourists? *No, just people in general.*" Ash40

⁸⁴ Giddens, A. (2009)

Many respondents asked me to be more precise about which environment I was talking about, showing that they were aware that the term “environment” can have different terminologies (Nature? The city? The work place? And at which scale: the city, county, State, country etc.). My answers to this question necessarily orientated the response, and I was aware of the possible bias. I would answer for example “I am not only interested in climate change, or just “changes you’ve noticed happening over your time here”, “Yes, it can be cultural changes”, the natural and the social environments, and “it’s broader than the natural environment”:

“In the 40 or so years that you’ve lived here, what kind of changes have you noticed in the environment? *You mean in WNC, in Asheville, in Buncombe County?* I’d say Asheville and Buncombe County.” “*Our economy’s going through a large transition [...].*” Ash38

“*You’re interested in climate change?* Not interested in only one thing, just change. We don’t want to impose a scientific view. *In the city of Asheville we are experiencing incredible growth with lots and lots of people moving in*”, it’s people from outside, not natives replacing themselves, growth is from people moving in. Not many natives. Ash7

In some cases the respondents used the fact that I was interested in many different “environments” to concentrate on what they wanted to say and were particularly interested in: “*Changes in the natural environment specifically? It can be the culture? Because that’s what I deal with a lot is seeing the changes in the types of farmers, the types of crops... Now a trend in Western North Carolina where agrotourism is hugely important for economic viability of farms [...].*” Ash12

The respondents who specialized in certain environmentally-related areas and that I had contacted in that respect - like employees/volunteers of environmental organizations (government or non-profits), academics (a professor in Ecology), farmers, outdoor recreation users... - would speak first of the “natural” environment in relation to their area of activity, where they “specialized”. “Have you noticed any big changes in the environment, like anything around here? *More and more invasive plants, I notice when I’m out hiking, especially in this area.*” Ash3

In the majority of cases, regardless of whether social environmental changes were mentioned first rather than natural ones, the conversation would eventually turn towards population and or development. Environmental changes led to social ones to a greater extent than social ones led to environmental ones. It also happened that people mentioned both together, like “*Too many people, releasing too much carbon*” (Ash39), but in this sense it is the demographic change that results in carbon emissions which in popular discourse is related to pollution and climate change.

This tells us that social changes are often at the forefront of the respondents’ concerns. This is also why I confirmed the desire to use population and development changes as the central lens through which to investigate people’s perceptions of the natural environment, and ultimately their relationship with it.

1.2. Accounting for different answers and perceptions: a first look at differences in gender, age, length of stay and occupation.

This is a general overview of the data as I consider all 45 semi-structured interviews to gauge the trends in answers to the question of noticed environmental changes.

Because our sample was not supposed to be representative of the population we cannot look into any relation of causality between the gender and the responses given across the sample.

Moreover, because of the dominating 40 to 60 age bracket there was no way of saying whether age influenced the changes that were noticed. Of course it makes sense to expect that older people might have made more observations over their lifetime than young ones, and we will see in the following section through the way the respondents interpret changes like gentrification, exurbanization and population growth that older people and natives especially do compare the past and present more. But comparison of events requires a set location.

Would length of residency have any effect on whether respondents noticed social or environmental changes first? This factor might affect the observation of changes in general. The absolute length of residency is interesting in itself because between a 22 and a 70 year old native the time spent in the place is of completely different proportions, so staying longer in one place offers more opportunities for observing changes. This question would require a much finer analysis of the sample which we cannot do at present. What is interesting then is to combine the age of the respondent with the amount of time they have lived in Asheville to see how much of their life has been spent in this one place. Referring back to our hypotheses, we expect an older native resident to have a much longer-term perspective and display more “local knowledge” of his or her environment than a newcomer especially of young age. Looking at the sample, we found that the native and very long-term respondents among those who commented on socio-economic and political changes had more historically grounded basis for saying so. For example, some mentioned the historic dynamic of the county’s economy from subsistence agriculture and from the manufacturing of textiles, furniture and tobacco to the current service sector (Ash38, Ash27, Ash13) with the long-term demographic evolutions at the county level. In Asheville, the population growth was measured through the evolution of the community or neighborhood the natives lived in: it has become “*more populated*” (Ash18, Ash27, Ash34), and also more ethnically diverse in the case of the historically African-American Shiloh community for example (Ash18, Ash34). The direct observation of the change of people, for it to be noticeable, has to be over several years (unless it is a very sudden phenomena).

But even “old” newcomers, who have spent less than ten years in Asheville (this is an arbitrary number in comparison to “new” newcomers of only a couple of years) could display extensive local knowledge. Why? We suppose that professional activity and education play a major role in knowledge. The newest member of city council moved to Asheville 8 years before and knew the whole history of the city and county, because of her work there. The woman from the Land’O Sky regional council had been there 5 years but knew everything about the dynamics of aging, work force and economics in the four counties concerned, because that is her job. All interviews with people in environment-related sectors (volunteers, employees) displayed extensive knowledge of the socio-environmental changes of the area. Therefore observing changes can also be done through acquiring “second hand” knowledge (learning about them from books, on the job etc.), which also makes people more receptive to noticing new changes. Education, in the wider sense, also contributed to this, as a general review of the respondents shows a large number having benefitted from higher education. Personal interest and curiosity can encourage self-education (Ash31, Ash33) too, and many respondents mentioned their upbringing as part of their education. But we will not delve into this unending well of the contributing factors here because we can only catch glimpses of explanations.

Following their thought process about what is causing changes: How people link tourism, development, house prices, gentrification, traffic, mountain-side development, retirees, half-backs, hipsters...

The next step in analyzing perceptions is looking at discourse, exposing how people string together different changes, because this shows their interpretation of how each might affect the other and result in a possible order or ranking. We can easily find mentions of the dynamics described in the Context section in terms of population dynamics and land-uses. This native retiree's observation and explanation is enlightening:

"This is a tourist town, we get a lot of tourists here in the Fall and in the Spring. Have you noticed any changes in the people who are coming to Asheville then? Well there's a lot more in terms of tourism because there are more attractions. And you been down to the Biltmore area, down that way? That's getting... that's one thing I've noticed: because we're getting so many tourist in it's almost impossible to drive through there anymore. The traffic here is, well, it's relative, everything is relative, traffic is getting really bad around Asheville. That's because of more people: the population is growing in this area, population in this community is growing. And Asheville is a popular place for a lot of, I think we have a lot of wealthy retirees who come in and are building houses on the mountain. And mountain side development is just, in the Fall when the trees are bare you look up there and there are houses everywhere." Ash19

Many other respondents comment on the extent of the population growth which one qualifies of "off the charts". He sees it in the traffic being gridlocked even on Sunday mornings because there is not enough infrastructure – roads – for the number of people (Ash19). This particular respondent blames the publicity for attracting people. The population growth is perceived to be from in-migration, which would confirm the literature on demographic trends in the city and more generally the Southern Appalachians⁸⁵ that make it difficult to find "locals": *"Asheville has always attracted people from far away. I've met over there at the markets, the customer base, we have people from all over, I bet there's not twenty percent that are considered second generation living here"* (Ash41).

For another man who has lived there for 18 years, the biggest change is *"house prices skyrocketing"* which he judges *"on the border of outrageous for the jobs that are typically here in Asheville"* (Ash36). This points towards the gentrification process that is accompanied by such a rise in prices, and also the first social tensions created by different incomes. That is part of the process whereby tourism means the creation of service jobs, which induces a comfortable quality of life which attracts wealthier people in search of amenities, which leads to gentrification which then makes service job essential to perpetuate that lifestyle, but eventually means the prices of living and housing increase, and in turn may lead to the departure of the lower earning families.

If there is such a demographic turn-over, who are these people?

⁸⁵ Cf. the "Context" section

1.3. Asheville: the number one city for tourism and retirement, yet also more and more Millennials

Who are the people coming?

Who do the respondents think are part of this population growth? There are the traditional tourists who by definition are only passing through. There are lots of “*younger folk*” (Ash30) moving in, some to start families there. But there are also older folk, “*Yeah you do see a lot of old people.*” (Ash45) who are usually retirees: the Asheville area is “*the fastest growing area in the State for retirees*” (Ash30), who are mostly active 55 year olds and above. There are also second home owners who belong to Asheville’s population during certain months of the year. Many people mention wealthy outsiders, which include wealthy retirees that one respondent qualified of an “*elite*” (Ash31). The common conception about these newcomers is that they come from Florida, seeking the climate amenities, and the term “*half-backs*” (Ash33) is sometimes used to describe them.

But respondents do not only speak of wealthy retirees, though it is the most common point across all interviews. Being aware of the rural-urban dynamics, one city councilor mentioned more farmers (Ash2): “*some of them are local, some of them are imports [...] they moved here from elsewhere because Asheville is a draw, Asheville is a place that is renown for valuing food farmers.*” This serves to remind us that although the study is set in an urban setting, the city of Asheville, the rural world is necessarily connected and nearby (and the future studies led in the rural areas would probably add to this).

West Asheville, a very popular part of the city that is still being revived, also boasts its own “type” of newcomers in the form of “*hipsters*” (Ash31, Ash19) that actually form a “*hipster movement*”! There are also West Asheville hippies (Ash41) some of which are “*local kids*”. And finally there are “*foodies*” (Ash31), an all-encompassing term characterizing those who come and live for the food scene in Asheville.

What some of these qualifications may imply in terms of perceptions of these people we will see in the follow chapter. What can be said though is that many people are conscious of why this social transformation is taking place that is the attractiveness of the area and the relationship of interdependence with the local tourism-based economy. This ties back in to the literature on Asheville’s and the region’s development, as seen in the Context section.

Chapter 2: Glimpsing differences in people's relationships with their environment through discourse - their perceptions of population growth and development - and their use of the land and the natural resources.

We saw that there is a diversification of the population due to gentrification and migration to the southern Appalachians in the Context of this study. This is partly because of the amenities, the “*low cost of living, light tax burdens and absence of zoning restrictions*”⁸⁶, as well as the views, outdoor activities and quality of life. What do Ashevilleans' perceptions of population growth and development, and their use of the land, reveal of their own relationship with the environment? We will see that the differences in perceptions of the changes in the social and built environment congregate around the process of gentrification and are windows into people's personal interactions and representations of the environment. They can create tensions at many levels in terms of social relations and the local and supra-local policies that deal with these issues.

2.1 Experiencing gentrification as the main cause and consequence of population and development transformations in Asheville

Gentrification occurs in both rural and urban contexts. Rural gentrification entails the process by which aging, often locals earning low-wages, are “*subdividing former agroforestry lands into recreational properties for sale to relatively affluent residents from the large urban centers in the Piedmont.*”⁸⁷ Urban gentrification “*is a process by which marginal urban neighborhoods are rehabilitated and revitalized by incoming middle- and upper-class residents*”⁸⁸. The collective relocation (not single isolated events) transforms the spatial, social, economic and cultural characteristics of that neighborhood and results in increased property value and the service sector activity.

Gentrification divides the city into spatially designated portions, which is the case in Asheville as one respondent describes:

“The north side has been gentrified for a long time, more established neighborhoods, more expensive housing. The East side also older housing but more post-war 1940s 1950s housing, less fancy, more kindof working class. And then the South side is its own thing. It's in a huge boom right now, thousands of new apartments are going up down there, lots of automobile orientated development going”. (Ash2)

The house prices “*sky-rocketing*” (Ash36) and the increased arrival of wealthy retirees are examples of the main indicators cited by the informants of the gentrification occurring in Asheville. We can see that the changes in the built and social environments are necessarily linked. However each informant can display a different perception of them, and it appears through some of the following citations that those personally affected by the rise in prices are more critical which we will see in point 3).

⁸⁶ Gragson and Bolstad, 2006, p.185

⁸⁷ Gragson and Bolstad, 2006, p178

⁸⁸ Baione, A. B. (2009)

For Ash31, house prices are an indicator of how desirable Asheville has become, it is justified: *“Housing in Asheville is ridiculously expensive and hard to come by, that’s a drag, but I’m not going to blame that necessarily in Asheville.” “Going to other small places that are desirable are the same, like Boulder, Colorado, it’s the most drop dead town in America. Santa Fe, New Mexico, expensive but it’s perfect. So Asheville has earned its ability to be very expensive,”* (Ash31) but he thinks that is normal like in all small desirable cities. People can pay 70% of their income for housing, making \$9 an hour. Because this man had previously travelled and lived elsewhere, moving to Asheville 26 years ago, he has a previous experience with which he can compare the one he is currently living with and judge it differently.

There is a historical component to gentrification in Asheville which is tourism. As Baione⁸⁹ explains, gentrification increases activities in the service sector because of the lifestyle the people demand, it brings economic activity. People have come to Asheville increasingly since the railroad was built in the nineteenth century, to escape the summer heat of Charleston and other south-eastern cities (Ash38). Today, Asheville boasts innumerable restaurants, pubs, coffee shops, breweries, art galleries, dog salons (almost everyone has a dog), health services, hotels, retail shops and more... which are the result of - and the reason for- its popularity with tourists (it is a continuous circle). I would go as far as to say that tourism contributes to gentrification.

1) Are there tensions between locals and tourists? Or rather between locals and new arrivals?

The informants who commented on the tourists were aware of the love-hate relationship existing between some people. The newest council member described *“not a push back against tourism but people have had enough”* (Ash7), because although it is *“a big chunk of the economy”* people would like higher earning jobs and a different industry. This is the never-ending argument: people *“bitch and moan”* (Ash31) about it because of the low-paid jobs but Asheville’s economy is tourism based (Ash35) and is worth *“\$2 billion dollars a year”* (Ash38). The problem is that cooks in full-service restaurants in Asheville earn on average \$10.47 an hour, dishwashers \$8.99 an hour, while the National Low Income Housing Coalition estimates that \$16.48 an hour are necessary to pay for *“a two-bedroom apartment at fair market rent in Buncombe County.”*⁹⁰

The tensions that informants spoke of most are between locals and outsiders who settle there. Some of these newcomers were tourists at first, and the perception is that they come from Florida. That is where the term “half-back” comes from: *“because they went to Florida and then they realized Florida was too hot, so they moved halfway back to the North East”. “They want a place in the mountains that’s not hot in the summer time, they spend their summers here and spend the winters in Florida or somewhere like that.”* (Ash33)

One of the male native informants reveals the animosity he used to feel towards these outsiders: *“That’s just part of the expected growth [hotels for tourists]. I wouldn’t say I resent that but it is... I had a bumper sticker on my car that said “Go back to Florida”, in 1972. I did, I really did! I felt that way a long time. The problem is a lot of these people, it’s not the visitors, it’s the ones that come in here...”* (Ash35). For this native, it is the people who durably live there that cause problems. What is perceived to be the source of tension? Interestingly, another respondent who has lived in Asheville for 26 years thinks the tensions are caused by the locals who complain about the in-migration. Locals are

⁸⁹ Id.

⁹⁰ Lunsford, M. (2015)

“small-minded” (Ash31) but he explains this, almost justifying them, with the history of the Scottish clans who settled here and kept this suspicion of outsiders which he thinks legitimate: “*outsiders have been very unkind to people out here, pushing them around, making fun of them, their habits or what they like to eat, or what they live in. A lot of people around don’t have much money and live in trailers, and a lot of people who have moved here from New York will make fun of them, they think they’re just ignorant stupid people; and that’s grossly unfair.*” (Ash31) To put this into perspective, this respondent also lived for several years very close to poverty, which might encourage his understanding, but not condoning, of the locals’ behavior. Objectively speaking, not all locals are poor but this makes reference to the history of the southern Appalachian region. The region came out of poor living conditions “analogous to those found in many Third World countries”⁹¹ from the 1960s. Cockerill and Groothuis report that “stereotypes of Appalachia are prevalent and persistent as the region continues to be popularly viewed as backward, violent, and hopeless”⁹². For more on the history of the region, Walls and Billings⁹³, for example, make a useful contribution to this point as they compile various studies and record descriptions of it from 1898 onwards that seek to explain its distinctive subcultural characteristics⁹⁴, variously described as “the backwardness, poverty, underdevelopment, and resistance to change of the Appalachian region and its people”.. More affirmative approaches include works inspired from Loyal Jones’ essay on Appalachian values⁹⁵. Such studies show that treating Southern Appalachia as an “internal colony” or an “internal periphery” “generated among these multi-generational residents a deep-seated suspicion of outsiders and their socioenvironmental schemes.”⁹⁶

The tensions previously described by Ash31 revolved around the locals’ habits, what they ate and the types of homes they lived in. We can see that tensions between natives, neo-natives (long-time residents) and newly arrived residential tourists⁹⁷ are therefore on several levels, on the meeting of different values and behaviors and on the relationship with the built environment.

2) From Worst to West Asheville and the River Arts District, an example of the gentrification of the city

The informants often used close-to-home observations and illustrations of gentrification to explain the process. The natives or very long-term residents could testify of the change from “*Worst Asheville*” to “*West Asheville*” (Ash1, Ash5) for example noticing the prices of houses going up, the factories closing and people having to move out to the suburbs. Ash38, a local of 48 years old gave precise figures of the change: “*West Asheville at one time was a source of very affordable housing. In the 2000s you could buy a house in West Asheville for 80000 dollars. [...] Today, you’re gonna spend 150 to 200 thousand dollars for a house.*” (Ash38) This allows us to associate figures with gentrification, and although house prices repeatedly came up in interviews it was the social consequences that were people’s primary concerns, the changes in social dynamics.

What do people’s examples of West Asheville and the River Arts District tell us of their perception of gentrification?

⁹¹ Gragson and Bolstad (2006)

⁹² Cockerill, K. and Groothuis, P. (2014)

⁹³ Walls, D. S. and Billings, D. B. (1977)

⁹⁴ Vincent, G. E. (1898)

⁹⁵ Jones, L. (1975) in Robert J. Higgs and Ambrose N. Manning (1975)

⁹⁶ Burke et al. (2015)

⁹⁷ Williams J. A., (2002)

“What happens in every town, it’s not just Asheville, it’s the people with the vision but no money will go in to an area that is blighted and start businesses, and then the people with less vision but more money come in and raise the prices and copy.” (Ash32)

“And what happened, and it always does here, is the so called hippies started moving in and started cleaning it up, and bringing their families and fixing it up. As it got nicer and nicer they’ve had to move out as they can’t afford to live here anymore. That happens in so many places.” “It’s like the River Arts District: same thing down there. You could rent a whole warehouse for two, three hundred dollars a month. And now... they moved in, they cleaned it up, the artists moved in, and you know I don’t know what rents are but I know they’re high and people are moving out cos they can’t afford it anymore.” (Ash41)

“You can’t stop that from happening” (Ash33)

The respondents overall accept this transformation of the area as both predictable and inevitable. The River Arts District is at a middling phase of gentrification, because the artists who moved in and revived it are starting to feel the weight of rent which is starting to drive out the ones who cannot afford the new prices. Those areas had been depressed and marginal, the remnants of the difficult reconstruction after the Depression and the loss of its local industry. It was *“real rough, there were an awful lot of empty houses, an awful lot of vagrant homeless people living... there was awful bad bad drug problem”* (Ash41). What is interesting in the respondents’ analysis of the process of gentrification is that they express bitterness not about the simple rise of prices but about the fact that the people who have to leave because of them are the ones who transformed the place. There is a sense of injustice.

Baione⁹⁸, in her account of the process describes the exact “waves” that the respondents perceived, showing that their perception is very much based on objective observations and knowledge⁹⁹: a first wave of often low-income and slightly “alternative” people (alternative lifestyles like the “hippies”) invest into the area, which raises the property value and attracts other speculators. Then the second and third waves *“of middle-class and affluent gentrifiers wash over the area, raising property values higher, “successively upgrading the neighborhood’s aesthetic, class and property value position” (Smith & Graves, 2005, p. 404), often at the ultimate exclusion of the marginal gentrifiers who “braved” the area first.”* Being displaced is perceived as unjust, and it results in the spatial segregation of wealth¹⁰⁰ (spatial indicator of material disparity).

3) When locals experience it personally: being “priced out” has financial causes and emotional consequences

The social and built environmental changes that are part of gentrification – changes in the number and type of population, in prices and the neighborhood’s aesthetic – are perceived through the lens of people’s right to belong and live there. When people are personally affected by the “pricing out” of family members this creates feelings of resentment. Emotion is part of perception in this sense.

⁹⁸ Baione, A. B. (2009)

⁹⁹ We will not go into questions about what is the reality, what is true or not, but simply what is shared observation and what is speculation.

¹⁰⁰ Cadieux, K. V. (2006)

The example given by Ash35, a 61 year old native retiree, of the consequences of the rise of house prices, is tied in to life-long social relations: many of the people he went to school with cannot afford to live in Buncombe County because of the increase of real-estate value. His two sons, even with solid middle class jobs, had to move away from Asheville which creates a negative perception of gentrification: *“I really do appreciate where we live, and I do appreciate that people want to be here. The second homes are a problem. And I am resentful that my boys can’t afford to live here.”* (Ash35). He justifies his opinion by referring to a newspaper article saying the Asheville area has the 2nd or 3rd highest real estate in North Carolina in terms of rentals and buying property. His personal experience of gentrification is supported by knowledge, it makes it more legitimate.

In a similar fashion, Ash 32, a woman who’s been in Asheville for 30 years and manages a gas station, is *“sad”* because *“people are getting priced out”*. It affects her personally in her daily activity and her son’s opportunities: she works 6 days a week to be able to live in West Asheville, and saying *“it sucks”* clearly shows she does not enjoy that. Moreover the costs prevented her son from settling here after school, so he is living in another big city. She also shows her concern for the community as a whole, for other small business owners on West Asheville’s Haywood road (the main road) who are endangered by the gentrification process. The recording of the interview has the advantage of having her tone of speech which is bitter in this case:

“That will happen [being priced out], I’m sure, before long, either due to property values or rules and regulations. Like the guy that’s got this garage here, he’s providing a real service that’s awesome, that if you got car trouble there’s someone right there who can fix you, but he won’t be there forever. He’ll get zoned out, priced out, regulated out. And it’ll become some fluffy little spot, maybe with an apartment on top that’s 12 hundred dollars a month or something.” (Ash32)

What being priced out refers to in socio-economic terms, is income disparity, issues of social position which as we shall see in the following are also linked to racial inequalities.

4) When talking about gentrification as a change in the environment brings up issues of income, social position and ethnicity, and shows different relationships with the environment

Riebsame et al. (1996) noted that the arrival of more affluent immigrants to an area heightens class distinctions, which describes the process gentrification and its consequences¹⁰¹. Without entering the debates about whether social class exists or not, we will look more closely at what one male respondent said about this, as it reveals his definition of class (and not ours). What is interesting to know about Ash31 is that he did not go into higher education as he rejects the society’s norms and expectations about education, but is self-taught in what he specializes in and now works in (biodiversity, the Botanical Gardens).

“I hate the term gentrified, but that’s how most people understand it.” That would indicate to him more of a class revolt more than anything else, “and I refuse to live my life as a class-ist. If you would look at my income and my education level or whatever, in this country, I would be lower class or something, but I’m not intellectually, and I’m not in terms of my interests and my passions.” Asheville is “becoming more for the wealthy, more for the elite, hence the drive on prices.” (Ash31)

¹⁰¹ In Cockerill, K. and Groothuis, P. (2014)

Our interpretation is that his rejection of “class” is related to his perceived social position within this system of classification he is aware of in society. Indeed he does not earn high wages nor did he go to university, here giving two factors of classification that are income and education. But he refuses that classification based on those factors, as he considers that intellectual interests and passions are also class-defining characteristics but of a higher class. All in all, Ash31’s perception of the process he observes – gentrification – is defined by the way he positions himself within society.

Social position appears to be related to people’s relationships with the environment if we consider income as the main factor. As Ash38, a dairy farmer, explains, he could buy a Prius (car) to replace his Chevrolet, as it has more miles to the gallon, except a Prius costs \$27 000 and his car cost \$3 000. Wealthier people can put solar panels on their houses and get tax credits, because they can justify it, but *“Someone that’s struggling to pay \$600 a month for a single drive trailer out in Fairview is not worried about putting solar panels on their home, they’re worried about food on their table.”* (Ash38). Following his argument, we can understand that it is easier for wealthier people to buy environment-friendly technology because they can afford it and are in a better position to promote innovation.

Only it appears that class and income differences, exacerbated with the process of gentrification, create a divide between people as they compare each other. Thus gentrification causes larger transformations in social dynamics:

“You have the problem of young people not being able to stay here, that have the option to leave. Like my son just finished school and he had to move to a bigger city to get a job, which, you know... So young people that have choices are probably going to leave.” And some of the young people don’t feel they have that choice, *“you create the bitterness of disparity. And I think a lot of crime is related to that. I think poverty is not the true problem, disparity is the true problem. If everybody is poor together, they usually pull together. But if you can’t pay your power bill and buy groceries, and you see people move out of town driving German SUVs, and buying the house that your aunt owned for three hundred thousand dollars from some developer... that’s a whole, **that’s the kind of thing that creates a huge divide in people.**”* (Ash32)

The material indicators of wealth, which we can stretch to indicators of social position, show that people relate to their environment visually and physically, and by comparisons to social norms.

What is the place of ethnicity in this? *“Our pocket of low-income population are African-American in the public housing, left over from racist urban renewal of the 20s, 30s and 60s. So our African-American population, which is the only part of Asheville’s population that is decreasing, is almost all in poverty. We do not have a black middle class to speak of”.* (Ash2). While the total population of Asheville is growing (cf. Context), the ones who are moving away and not being replaced are part of a predominantly low-income ethnic minority group: *“both numbers and percentage of Black city residents have fallen since 2000.”*¹⁰²

This is definitely part of what gentrification entails, showing that there is a racial component to people’s uses of and relationship with the land and the environment. The theory of environmental justice¹⁰³ could help analyze this further along with additional interviews with members of this group to see how they experience the population growth and change. The public housing in Asheville is

¹⁰² Buncombe County (2009), *Housing Needs Assessment & Market Study*, November 2009, found at <https://www.buncombecounty.org/common/planning/HMandNA.pdf>

¹⁰³ Bullard, R. D. (2001)

tucked away, as I would not have seen one of these complexes if I had not been told where to look for it: on the other side of a portion of the Interstate that runs through Asheville. Access to it was difficult, by bicycle, and the noise incredibly disturbing. It would be indeed very interesting to study where different ethnic groups live in Asheville in correlation with the attractive sites or on the contrary non-attractive sites like around the Skyland power plant in South Asheville.

What are the motivations of “gentrifiers” and what reactions do they create in local people? Are there any ideological clashes and/or changes?

With the arrival of newcomers, also called “lifestylers”¹⁰⁴, come new ideas and distinct values. The people participating in the gentrification process are indeed usually wealthier, more middle-class and in search of particular amenities, and often older like retirees. But there are also young people flocking into the city, notably West Asheville which is the “hip” part of the city apart from downtown Asheville. Overall, what can be said of the influx of new people is that for on one hand this means there are fewer locals in proportion to the whole population, and on the other hand there might be more opinions clashing¹⁰⁵. Historically, Asheville has always attracted people from other places (cf. Context), and this means there are few “natives” or “locals”. And according to a History professor who is native himself, people consider that you need 3 to 4 generations to be called “local” (Ash11). Well, as Cockerill and Groothuis¹⁰⁶ described, the neo-natives, who are newcomers themselves in contrast to the natives, will share with the natives the dislike of the next wave of newcomers called “residential tourists” who belong to the gentrification and exurbanization process. New ideas and ways of living seem to be perceived as an unwelcome change. In terms of response, there may even be a “last settler syndrome” or “gang-plank”¹⁰⁷ phenomenon observed, “*where recent in-migrants act to protect their newfound rural ideal by restricting further immigration.*”

This clash of ideas can be found elsewhere than in our interviews: in the Asheville’s Citizen Times, some people appear “*nervous about the changes young people are bringing to the neighborhoods*”, and in general “*new residents bring different attitudes and aspirations*” that can be challenging for those already on site, which results in “*a tension between the loss of institutional memory and the fresh ideas coming from new residents that could lead in any direction*”¹⁰⁸. There are conflicts about whom of newcomers and long-time residents should adapt to whose interests and lifestyles¹⁰⁹. Respondent Ash22 describes a divide between new arrivals and old-timers, because the latter think newcomers are coming in and changing things to make them like where they come from, and do not understand local values. For an in-depth study of Southern Appalachian values, see Jones¹¹⁰.

We will give an example of what changes these young people bring, with the example of hipsters, in order to show the different ideas that might be clashing.

¹⁰⁴ Gosnell, H. and Abrams, J. (2009)

¹⁰⁵ Cockerill, K. and Groothuis, P. (2014)

¹⁰⁶ Id.

¹⁰⁷ Vercoe, *et al.* (2014)

¹⁰⁸ Cronin, M. (2015)

¹⁰⁹ Egan, A. F. and Luloff, A. E. (2000)

¹¹⁰ Jones, L. (1975)

Culture trends: West Asheville hipsters and foodies

Two respondents emitted disapproval of the “hipster movement in West Asheville” (Ash19) as seen in expressions such as “little West Asheville hipsters drive me nuts” (Ash31). What is there to criticize? Through his definition of who hipsters are, Ash31 reveals his (negative) opinion of them:

“Their culture is basically retro iconic kitsch”: “there are 22 year old men with fedoras” which is an old man’s hat. “Everybody’s just like trying too hard. I don’t like how everybody likes to hang everything out, and I’m not even sure it’s an Asheville issue... I don’t like the way it seems that everybody in Asheville they wear themselves on their sleeves, I like to be a much more subtle person. I like more subtle people, I like intense people, I like people who don’t advertize themselves.” Everybody’s covered in tattoos, piercings, the retro style, “everybody looks like Mumford and Sons”, is trying to out-cool each other. There’s a lack of authenticity which bothers him. (Ash31)

Ash19 then criticizes “foodies”, influenced by his previous experience of hunger that changes his representation and valuation of food:

“This town has turned into a town of foodies which is driving me nuts, and you know they all have something in common: none of them have ever been hungry. It’s really easily to say wax poetic [?] about “Oh the parmesan cheese is worth twenty-five dollars a pound” when you’ve never been hungry. And I find that offensive”. (Ash31)

What we may gather from this perception of new “foodies” in Asheville is that their lifestyle, which is turned towards a food culture as food is an amenity in the area, may clash with lifestyles like his that are, again, not the same in terms of social and financial capital and desires.

What do the “wealthy retirees” and newcomers bring in terms of ideological changes?

It seems that new people coming in and imposing their point of view is generally not well perceived. The transformation of Carrier Park, for example, is a contentious subject. It used to be a racing track and Asheville was famous for it, then it was abandoned (probably due to economic reasons), and with the change of population it was turned into a park. Ash32 is critical of the reasons for its reconversion, there is a feeling she finds that attitude condescending: *“So people used to go watch people drive around in circles, and now they drive down there to walk around in circles but that’s so much a higher better purpose...”* (Ash32). Her tone, when saying this, is sarcastic, meaning she disagrees and makes fun of what she thinks those people think. Coming in and saying you have better values is bound to vex someone! Such anecdotes are examples of local knowledge.

What about people’s reaction to wealthy people’s motivations for coming? Wealthy people have historically brought about change in Asheville through vision and financial investment, like Mr Grove, Mr Pack, Mr Vanderbilt (Ash38), and *“the legacy of people coming from other places with money is still true today.”* (Ash38). Concerning the population growth as a whole, Ash31 does not like it but admits that it brings *“interesting people”*: *“If you look at the people that have truly remarkably changed Asheville in modern times it is primarily people that are not from here, they’re dreamers from other places.”*

But two respondents fear that wealthy retirees who make up the majority of this group come only because “*it’s pretty*” (Ash35), and “*they heard it was a cool place to live*” (Ash33), and they do not participate as much in outdoor activities or directly in the labor force: “*A lot of people I work for they don’t do anything! They don’t work [...] they just have a bunch of money.*” (Ash33). This makes sense when looking back at the literature, as Graves and Waldman¹¹¹ find that retirees decide to migrate based on local amenities and housing costs rather than work opportunities. Moreover retirees are often older in age, which for one male native retiree (Ash35) means they do not enjoy the outdoor activities as much as young people who are also coming in. This perception based on the age criteria has some experiential foundations as he himself can compare his age and capabilities (61 years old), but in terms of motivations he did not move here (he was born here) and might not share the novelty attraction for local amenities. Another respondent (Ash6) formulates an explanation of people’s action/inaction saying that being familiar to the environment “*you don’t feel the same attraction*” or draw to it, those who have been here a long time tend not to go out in the environment as much while people who arrive and visit “*capitalize on going outside*”.

In fact the employee of the Land-Of-Sky regional council (Ash30) explained that Asheville was the “*fastest growing area in the State for retirees*”, who are mostly active 55 year olds and above, often owning second homes. In parallel there are many younger people in their twenties moving in and starting families. These people have “*good backgrounds*”, contribute, and are “*active*” according to a native councilman from the Citizen Times article¹¹², but what does this mean? Are they educated, middle-class, well-mannered, wealthy enough for the area...? How would a population growth of people with “*bad*” backgrounds, whatever that may mean, be welcomed?

Observation on the field, from the interviews’ contents as well as of the sample of respondents proved that there are a number of “*recent*” arrivals that are driving forces in policy making, elected on city council for example. The local newspaper is the relay of concerns regarding this, as one council member declared in April this year that he was the “*only Asheville native on council right now*”¹¹³. In terms of power relations, Ash16 reckons it is those who have the means to buy the land that “*call the shots*” in terms of policies, and incidentally it is often wealthy newcomers who buy land, showing how population change might have direct impacts on local politics.

Retirees make up a large number of users of outdoor activities and volunteers in organizations (maintaining hiking trails, the Botanical Gardens, Trout Unlimited...). In terms of being active with regards to environmental preservation, it seems newcomers can be more so than long-time residents because of what Cockerill and Groothuis call the “*last settler’s*” syndrome: “*a tendency among individuals to place a high value on what initially attracted them to a specific place and to attempt to maintain status quo*”¹¹⁴. When different ideas about how to use a resource meet (productive resources vs scenic amenities, for example), there is potential conflict but also potential cooperation in order to preserve it for all.

The example of zoning helps to illustrate the conflicts of values. It is a tradition that people feel rooted in the area (Ash11) and they “*don’t like to be told what to do with their land*” (Ash2). This is not new, as in a study in a Watauga County, neighbor of Buncombe County, the locals of several generations were found to be “*more likely to consider land usage a private choice not to be*

¹¹¹ (1991) in Cockerill, K. and Groothuis, P. (2014)

¹¹² Cronin, M. (2015)

¹¹³ Id.

¹¹⁴ Cockerill, K. and Groothuis, P. (2014)

regulated.”¹¹⁵ Additional studies cited showed that both private and public management strategies were supported by different groups, mostly based on their length of residency and livelihood: established residents wanted private management while college graduates, wage earners and “those who value the county’s rural lifestyle” preferred the public one. Another reference to Loyal Jones’ essay on Appalachian values would also serve to justify this point. As the Asheville area presents gradients of dense and more spaced out areas, and there is a pressure on land as people seek places to live both in town and outside of it, it makes sense that conflicts arise between the locals and the home-seekers. Ironically, those who are attracted by the lack of zoning regulations of the land and wish to reside there because of the amenities are contributing to undermine the initial motives for their relocation¹¹⁶ as all the building activities add up and eventually de-nature the area and could even force the creation of land-use policies as conflicts multiply. As future research is led in the rural Southern Appalachians for the PIAF project, the comparison would help highlight if there are gradients of tensions according to place.

Changing political views

Different ideas can mean different politics too, as we have seen that newcomers are very active in the local life. Asheville has repeatedly been described to me, in and out of interviews, as a “progressive city” (Ash38) which refers to people’s views: they are very accepting of different lifestyles and vote in majority Democrat. That is why some people, during interviews but also during informal conversations at the pub, mentioned that Asheville was blue and the countryside around it was red, referring to the political parties’ colors, showing that political views between the urban and the peri-urban/rural could clash. One of the respondents, Ash38, is very involved with politics at supra-municipal levels, and estimates that North Carolina is “one of the most evenly divided electoral states in the country”. He describes how West Asheville was historically “a very working class conservative community”, and its integration into the city of Asheville in 1917 was the first change leading now it being “very much to the Left.” Ash38 is a Republican and was defeated in some State elections by the Democrat candidate. According to him, the shift in political views illustrated by West Asheville indicates the presence of younger folk or newcomers who have different views, and why not representations...

Many of the older, more working class conservative “folk” who lived in West Asheville, have passed away in the last 15 years (Ash38), and the new arrivals filling up the space are different. When Ash38 was running for office, he made a calculation based on his knowledge of the population change:

“the best way I could determine if somebody would vote for me, if they’d been living in Asheville or Buncombe County for more than 15 years, I thought there was probably 60% or more likelihood they’d vote for me. If they had lived here less than 15 years, there was probably a 60% or more chance they wouldn’t vote for me.”

Ultimately, what Ash38 implies is that your vote can indicate how long you have lived in the area, differentiating long-time residents and newcomers. The evolution of politics towards stronger liberalism is an indicator that gentrification changes views as well as people and prices. The chair of

¹¹⁵ Cockerill, K. and Groothuis, P. (2014)

¹¹⁶ Vercoe et al

the History Department at UNC Asheville, in a Citizen Times article on population growth, describes the alienation felt by locals from being outnumbered and outvoted: *“Few people who are from here hold positions of leadership in the city and county governments. The whole local-outsider divide is going to continue and probably is going to be exacerbated”*¹¹⁷.

What does the “*progressive*” characteristic of Asheville mean in terms of people’s relationships with and uses of the environment? Is it reflected in the type of development the city is experiencing?

2.2 A house with (or without) a view: when different types of development create social and environmental tensions with regards to land use.

We have seen that gentrification causes tensions among residents because of the disparities it emphasizes in terms of income, social position and ethnicity as some people get “*priced out*”. Gentrification also showed that it brings different mentalities and values with the newcomers, including in politics, over which there can be conflict. All of serve to show that people experience changes to their built and social environment from an experiential and often emotionally-triggered perspective.

What might the relationship with the built environment show of people’s relationships with the natural environment? The interviews revealed that development creates tensions between people and also tensions between the built and natural environment. Yet again, Cockerill and Groothuis have interesting insight into explaining how in-migration increases real-estate values, traffic, the need for public services and infrastructure (sewage, electricity etc.), adding that *“any of these impacts potentially can generate conflict within communities as they not only change the landscape, they potentially require changes in management and regulatory structures”*¹¹⁸. This opens the path of reflection on how the regions of Western North Carolina/the Southern Appalachians are and will be dealing with the increasing pressures of population growth, exurbanization in a climate that is growing to be unpredictable.

2.2.1. Social tensions

Mobility issues

There are different visions of mobility that represent different ideas of development. Urban gentrification appears to include the ideals of a “*walkable neighborhood*” (Ash38) that is close to downtown. In the same way, Ash39 feels that there is “*more intentionality for building closer in Asheville*” which he relates to a national pattern going from urban sprawl to a “*tighter, walkable and cyclable*” community.

More traffic and more walkability is an oxymoron that actually makes sense. It appears that the population growth unintentionally forces walkability: *“And now this area is so congested that people, there’s nowhere to park so people walk because it takes less time to walk than it takes to drive. I*

¹¹⁷ Cronin, M. (2015)

¹¹⁸ Cockerill, K. and Groothuis, P. (2014)

know!” (Ash1). But for newcomers, this is not just an issue of lack of infrastructure (roads), it is a matter of alternatives. Ash1 gives the example of four or five employees in a bakery in West Asheville that do not have cars but scooters. One of them even takes the bus which is apparently incredible for Southerners: *“The one who takes the bus is from New York, so she is used to public transport. When she moved down here she was like “Why would I own a car, I can take the bus.” And people from the South are just like “Oh yeah but it takes so much longer, it takes forever, you have to wait for the bus, get onto the bus” It’s not as reliable, takes longer, doesn’t come very often. Sometimes you can walk in the same time it takes to take the bus”* (Ash1)

It is a matter of habit, and probably a different perception of mobility from having seen and experienced other kinds. Many people in New York would choose public transport because it is efficient while having an individual car is not and creates congestion. What Ash1 also shows, in her relationship with the urban environment, is that mobility is also due to personal preferences which can be decided at an early age. She grew up cycling to town because she *“always just loved non-motorized transportation”* and thinks it enables a lot more social interaction and presence in the community, *“like if you’re walking you’re going to run into your neighbor and you’re going to chat with them on the way. You might see a dog that belongs to somebody that is running around”*.

Density versus exurbanity opposes those who live downtown without the view but with a walkable community, and those want live further away but with the view.

As the issue of traffic points out, there are more people using cars, and that is in part due to the spatial distribution of development. Indeed exurbanization and mountain-side houses entail more miles between places which makes car-use unavoidable when alternative types of transport are not available.

One respondent’s statement describes the main divide in the in-migrants’ reasons for settling in the urban or exurban¹¹⁹ space of the city: *“So some people like to live in the city but see just mountains, and then some people like to live in the city and see the city. We all get along, but somehow, when you look at the environment, there’s a little tension there.”* (Ash44) She speaks of tensions with the environment, but is she talking about how development impacts land differently? The people buying for the view of the mountains are part of this wealthier group of amenity migrants, a majority of retirees. Their preferences for house-location are similar to that of second homeowners in contrast to permanent residents: *“far from major roads at higher elevation and near a stream or lake.”*¹²⁰ For Ash44 it makes sense to want a view if you move to the mountain (she likes views herself and would like one). For her it depends on what people value, if it is being close to schools, restaurants and that social activity, or if it is a great view. That usually goes in hand with valuing public transportation or not: those with the income, who live slightly apart from the “urban” portion of Asheville, do not see the use of buses as they do not use them, and so density is not a priority while we still have cars.

The reasons for choosing urban or exurban location is therefore a compromise between the built environment and people’s aspirations and also perceptions of that environment. Being one of the main drives for location, the viewshed, *“an area of land that is visible to the human eye from a fixed vantage point”*¹²¹, is also what those people seek to maintain or improve. All residents value the aesthetics of the mountains surrounding Asheville, but it is those amenity migrants who are most strongly motivated. Their representation of the environment is much more centered on its aesthetics.

¹¹⁹ The mountain-sides that are within the city’s limits

¹²⁰ Cho et al. (2003) in Cockerill, K. and Groothuis, P. (2014)

¹²¹ Cockerill, K. and Groothuis, P. (2014)

Part of our research question and underlying hypotheses was that those coming to Asheville for its natural amenities would be more inclined to preserve it. In fact, we could revise that question slightly into something like “Those living in Asheville and who appreciate its environment (for different reasons) will be better stewards of it.” That is because of the literature cited by Cockerill and Groothuis, and on the other because of what I observed during the fieldwork: *“farmers and ranchers would often rather donate their land to conservation easements than sell their land for development by newcomers (Hoag et al., 2005). Cho et al. (2008) found that residents in areas of high population growth are willing to buy conservation easements to protect environmental amenities.”*¹²² Asheville happens to fit both these situations.

Conservation easements and land trusts were often cited in the interviews as examples of efforts to preserve land. The interviews with employees of the Southern Appalachian Highlands Conservancy, the Soil and Water Office, the Cooperative Extension Office and planning services of the city gave examples of this, as well as the participant observation of a hike organized by the Southern Appalachian Highlands Conservancy (SAHC) mid-May 2015. The event was to show how SAHC were working with the Wildlife Commission to manage the land and promote the biodiversity on it with for example prescribed burnings to reduce non-native invasive plants and promote native ones. My observations of the event include that the members of SAHC present on the hike were all over 40 years old (possibly up to 70 years old), they were all white middle-upper class, well equipped in terms of hiking gear¹²³ and most already had knowledge about the biodiversity we were shown. By conversing with one woman in particular, she explained that she was considering what to do with the extensive land her husband and herself owned in order to preserve it, so they were learning about the SAHC organization’s in case they chose this option. The choice of conservation easement or land trusts is thus very indicative of that person’s values and relationship with the land.

The mountain-side development can hurt people’s feelings, as Ash39 considers these buildings to be *“messing up the slopes”*. The language used by the interviewee gives insight into the negative perception of this type of development. It can that can be partially explained because he feels more connected to the mountains around Asheville than anywhere else and he moved back to the area because he missed the *“green outdoor energy”* here. He describes his relationship with the environment as always going deeper, and it gives him psychological wellbeing. This may give an example of relationships that encourage action towards preserving the land as it is with land trusts.

Moreover, contrasting views on development choices creates tensions with regards to the resources available. For instance, having more people in Asheville generally creates more competition for jobs, but also competition for infrastructure and funding which affects policy. Ash44, who works at the Department of Transportation, knows from her work that people living off mountain roads need them to be cleared of the snow, for example, even though few people live there. There are in fact power relations in the distribution of such resources: the funding for roads to be re-done was changed recently, *“because people say the urban roads are getting more funding than the rural roads, and so yes that was true but if you don’t contend with urban congestion you can’t, nobody really moves”* (Ash44). The city of Asheville has to balance the demands of its different types of development and the pressures they create, as it wants inhabitants to be part of the city to contribute (taxes and such), but in return it has to reach out further to provide the infrastructure. The exurbanites are therefore privileged in that sense. Furthermore, these issues of distribution of resources are also played at the State level in politics, and *“somewhat at the national level between parties.”*

¹²² Id.

¹²³ A photo of the group can be found in the Appendices in order to illustrate this.

2.2.2. Material tensions

What might the more “material” tensions between the human built environment and the natural environment demonstrate of Asheville’s relationships with the environment? As a builder pointed out (Ash40), gentrification can cause houses to be “greener” and better integrated with the natural environment as people invest in them, saying that the material traces of human activity also participate in human-nature interactions.

This is echoed by Theobald’s study¹²⁴ of landscape patterns of exurban growth as he finds that development patterns that were “*more contiguous, higher density, and more compact (not dispersed)*” had reduced overall effects on natural resources because they resulted in smaller footprints or “*disturbance zones*”, lower percentage of impervious surface, and reduced pollution because few vehicle miles were generated. This is the opposite of mountain-side and exurban development which Vercoe *et al.* say is related to “*the decrease of forested land and increase in impervious surfaces*”¹²⁵. This increases erosion, and in the case of heavy rainfall surface runoff which, combined with other factors, can lead to landslides. Mountain-side houses may not always have the adequate infrastructure to mitigate stormwater, for example. The respondents in Asheville recalled landslides that they associated with this type of development (eg. Ash13, Ash14, Ash18, and Ash25). Ash19 adds that there is a law that regulates mountain-top ridge building to preserve the view, but different places have different regulations and “developers find a way around that”. This policy may not have incorporated yet the built-natural environment interactions mentioned above, it is still about amenities and shows that economic incentives do not consider this relationship either. The fact that management of land is played at different levels of policy, at different scales of territory, does not help people step-back and understand the systemic components of the problem at hand.

Another brief illustration of this material human-nature relationship is the invasive plants that do well in disturbed areas (Ash3, Ash6). Exurban-type development contributes unwittingly to increasing “*exotic and early-successional species and species adapted to human presence at the cost of other native species*”¹²⁶ by fragmenting the land and introducing dispersal networks such as roads, fencelines and so on. The fieldwork in Asheville showed that it was experts who were conscious of this very specific causal relationship (Ash3 and Ash6, respectively academic and land-manager), though other people did notice more invasive species as a whole.

Pressures on resources and infrastructure

With different development come different pressures on resources, as we started to mention in the previous paragraphs. What is common to all types of development when correlated to population growth is the increased footprint on the local, but also global, environment. Landfills are filling up fast (Ash7, Ash19): the one in Buncombe County is projected to be full in 2035. This introduces serious implications in terms of waste management, with costly solutions like shipping waste to South Carolina (Ash7). Asheville might implement a “pay as you throw” scheme all the while encouraging

¹²⁴ Theobald, D. (2005)

¹²⁵ Vercoe *et al.*

¹²⁶ Abrams, J. B., Gosnell, H., Gill, N. J. and Klepeis, P. J. (2012)

recycling and composting. Ash7 thinks there has already been a 15% decrease of what goes to landfill because of such initiatives. There are of course perceived environmental consequences, like pollution to the water (Ash19), and the water-resource is a major issue in the area.

There is growing demand on the water stock, and for Ash30 the issue is whether it is aquifer or surface water, as well as human activity affecting the water quality. Ash32 has noticed the increasing pressure on resource which she blames on growth and development: her water used to all come from the watershed in the mountains, but with the expansion of the city and demand for sewers and water some of the water has to be pumped from higher up in the river. She justifies this observation by the fishy smell when she opens the tap sometimes, *“there have been days when it was like this water smells so bad”* (Ash32).

Population growth also entails an increased demand for electricity (Ash7). The provider, Duke Energy, wants to build sub power stations to cater for this demand, but Ash3 mentions that people are not supportive of that idea, from her point of view as councilwoman, and are concerned about attractiveness and health issues. Power in North Carolina is generated from coal and gasoline, and the issue people have with Duke Energy is the coal which they perceive to be dirty. That is why there is a push towards more renewable sources. And yet Ash7 bemoans that *“As much as we’re perceived to be a green city, Duke says our use per person is actually higher than the average in NC. Seems inconsistent to me, but I have to believe them cos they have the data.”* Being aware of environmental issues does not seem to necessarily translate into habits or actions. Ash7 suspects that part of it is because of the age of city, old homes without efficient insulation and so on, but she knows that the challenge is also to get individuals to adopt different practices. This points towards an inconsistency in people’s relationship with the environment: many have the knowledge – coal-fired power plants pollute – but that does not automatically translate into actions. The knowledge is both local and expert, because organizations mobilize both to legitimize their actions. There is something of the NIMBY (Not In My Back Yard) syndrome in this situation¹²⁷. In terms of policy, Ash7 says the city has exceeded their goal to decrease their energy needs by at least 4% a year, with initiatives such as energy efficient street lighting and “greener” vehicles (compressed natural gas). Buncombe County has also adopted the same kind of challenge, spurred on by Asheville’s dynamic.

This brings us to the subject of policy response to the human-environment relationships created by the changing patterns of population and development.

Policy and land management at the city level

Policy and land management should reflect the majority of people’s perceptions of the issues caused by environmental change.

Ash2 describes Asheville as in favor of dense development while conciliating the desire for the preservation of green spaces emanating from the inhabitants. This implies that some citizens are objecting to increased density although they understand it to be a great idea, which Ash7 describes as a NIMBY reaction. Ash19 and Ash16 are aware that the City Development Plan 2025 will have new rules about housing, zoning and making the community more “walkable”, which will include allowing building *“taller and denser”*, but they do not object to that. It would be interesting to interview inhabitants once the new development plan is enacted and buildings actually become taller.

¹²⁷ Jobert, A. (1998)

The people's relationship with the environment is also affected by higher levels of decision-making. Laws and policies by the EPA, American Environmental Protection Agency, have improved water and air quality. So while there are local dynamics of population growth and development that put further pressure on the environment, supra-local actions contribute to improving the situation. Ash39 testifies that smog has decreased with help from the Clean Air Act¹²⁸, and the French Broad River is cleaner, because of the Clean Water Act¹²⁹.

By looking at the different ways people relate to the land through the different types of development they choose (dense or exurban), we can glimpse different perceptions and values attributed to the environment. These are seen through our respondents' interpretation of different situations of conflict, but also through the way some of them act and interpret similar actions like taking the bus to work.

We will now look at the way people relate to a shared resource, the French Broad River and mountain rivers, to illustrate how the increased recreational use of it is a sign of changing mentalities and changing environments.

2.3 A river runs through it: using the river-resource illustrates different human-nature relationships

During my fieldwork, as I cycled over the River Link Bridge from West Asheville to downtown Asheville, I always admired the French Broad River framed by bright green trees. On the first reasonably hot and sunny day that announced Summer's approach I observed not only kayakers but also people floating down it on inflatable inner tubes, some of them with beers, an activity which Ash2 describes as "tubing". I may have taken that for granted, but interviews revealed it is a recent turn of events. More people using the river indicates that it is cleaner, and that people's perceptions and relationships with it have changed. It also symbolizes the rise of recreational activities in the area, and possibly a move towards human-nature interactions based on amenities and enjoyment. Using the river also means more people are aware of it, and that there might be more stewards of the resource. We will develop these ideas hereafter.

"A river runs through it"

The French Broad River runs right through Asheville, making it a very visible and present natural resource.

Tubing was not a popular activity 30 years ago; the river was very polluted for a long time due to lack of plumbing and infrastructure: *"a lot of people's sewage went directly into the closest creek"* (Ash35); and companies like paper mills, tanneries and others did the same: *"Swannanoa river ran through Swananoa, Beacon manufacturing company dumped raw dye into the river, and you could tell what color blankets they were dying that day"* like green or red (Ash35). The coin flipped with the

¹²⁸ It is a "comprehensive federal law that regulates air emissions from stationary and mobile sources", dating back to 1967 with amendments in 1970 <http://www2.epa.gov/laws-regulations/summary-clean-air-act>

¹²⁹ It establishes "the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters". The basis was enacted in 1948, then amended in 1972 <http://www2.epa.gov/laws-regulations/summary-clean-water-act>

Clean Water Act of 1972 that regulates what is discharged into the river, and the work of local organizations like MountainTrue and RiverLink that are particularly concerned with the water quality. There is legislative change in parallel to a mentality change. There is a sense of consciousness, “*more recognition today that that’s something that should be protected*” unlike the paradigm that “*when you have so much of something you don’t appreciate, so when you have so much water, and so much natural things, people didn’t... it wasn’t a scarcity, it wasn’t something we said we needed to protect*” (Ash38).

It is now a “*thriving recreation destination that supports a wide variety of boating, swimming, fishing and other uses*”¹³⁰ says a French Broad Riverkeeper from MountainTrue. The city of Asheville is investing “about 50 million dollars in the River Arts District” for transportation, greenways along the river and access to the river, “because there is such a high demand and so much economic development happening around that” (Ash2). They are pragmatic, and see the economic advantages.

Look after it, use it longer

What might be people’s motivations to clean up the river, as individuals? As Ash35, a retired native of the region, explains, “*Part of the draw here is the beauty. We have a lot of outdoor activities, river sports, bicycle, motorcycles. None of this would be here if it wasn’t there. There was still some environment left. I mean nobody’s going to get into a nasty river in a kayak.*” (Ash35). What he means is that the activities that attract people to Asheville depend on the environment’s state, without the environment as it is the tourist industry would not exist. This also shows that recreational activities are associated with a clean environment in people’s representations and practices. Another respondent reckons that this strong demand on water use indicates that people want to be in the river, which means they’ll help keep it clean (Ash30). That is why MountainTrue, for example, promotes recreational use of the river, because the more people use it, the more of them will care (Ash26). In this sense, being a user of the resource makes them more aware of the need to preserve it to continue using it. The danger is that the river will become so popular and overused with the population growth and development that in the long run it will be damaged (Ash26).

The question we can ask here is whether these efforts to keep the river clean and safe will make it more resilient in the long run, or simply ensure a continued “consumption” of it as the basis for outdoor activities, indicating a one-direction type of human-nature relationship. Burke, Welch-Devine and Gustafson look at the way a local newspaper in a neighboring County represents the environment and how that may affect policies addressing issues of climate change and exurbanization. They found that it is “*generally represented as an amenity to be enjoyed rather than a subject of concern*”¹³¹ which creates a connection to the landscape that does not encourage collective actions in response. Is there a more general shift in values and representations of the environment, at a larger scale than at the local one? How might this contrast with people living in rural areas? Future PIAF research would help to answer this question.

It is possible that certain users are “*better stewards*” (Ash31) of the environment than others, by this we mean with a long-term vision of future generations. Interviewing fly-fishermen did give me this impression, as because of their sport they have a more systemic knowledge of the river as an

¹³⁰ Boyle, J. (2015)

¹³¹ Burke, J. B., Welch-Devine, M. and Gustafson, S. (2015)

ecosystem which makes them appreciate the consequences of certain degrading human-river interactions.

Trout Unlimited, a national organization that has a local Chapter based in Asheville, has the mission *“To conserve, protect and restore North America's coldwater fisheries and their watersheds”*¹³². Its membership is almost entirely made up of fly fishers, but it is not a fishing club. Ash4 explains that these people understand that they are stewards of their resource, they have inherited it and they want future generations to inherit it from them: *“Those become your advocates, the people who utilize the resource”* (Ash4). The more you understand the trout, the more you respect them, and fly-fishing is *“how you get people to care”* for these creatures that you don't usually see. They have knowledge about how sediment and silt from human development ends up in rivers and creeks and endangers the life there (Ash35), which is ironic because this is what attracts people to those areas in the first place¹³³. You can see it when the French Broad River *“is brown like chocolate milk”* (Ash4) after it rains, because of runoff from human activities upstream. Silt smothers fish eggs, and can effectively kill a river. Ash21 and Ash7, both avid fly fishers, explain that to be a good fly fisherman you need to study the trout and what it eats, to understand its habitat and lifecycle. There is a mix of both local and expert knowledge here again. This sense of knowledge and accountability to the environment and future generations pushes these individuals to become active in preserving it, they feel legitimate. This pattern is also found by Nevers and Becerra¹³⁴ in their study of the users of the Narbonnais ponds and of the social and power relations linked to their activities. There are not the same conflicts of usage on the French Broad River and mountain rivers as in those ponds, because there is still enough of the resource for everyone to have their share. But this is not the case with land recreational activities that already see conflicts between hikers, bikers, horse-back riders and more (Ash24).

What are people's perceptions of the river, in terms of environmental changes, and what do they reveal of the factors influencing perception?

People consider the river to be safer in Asheville¹³⁵. The indicators vary for each respondent with the general agreement that it is cleaner than before. The presence of fish is an indicator of the health of the river, just like the fly fishermen know of “dead” mountain streams and rivers. As a native farmer describes:

“When I was a kid, the French Broad was nasty. Nobody swam in it, nobody fished in it. And I'm glad to see, I still would have doubts about eating the fish out there, but at least it's clean enough now... There were no fish in it, and it stunk, like from this time of year till the first frost, if the air was still or if the breeze was coming you would smell the river, you could smell the rotting, it was nasty. [...] For years, if the wind blew right we could smell the plant [paper mill factory], and the Pigeon river ran purple. And there was no life in it, it was classified as a dead river.” (Ash41)

Ash35, a 61 year old native, testifies that *“They cleaned it up and they stocked it with trout. If you were to ask me when I was sixteen years old, if you could ever catch a trout out on the Swannanoa river, I'd say “you're crazy”, and now they're stocked”* (Ash35).

¹³² Trout Unlimited website <http://www.tu.org/about-tu>

¹³³ See Vercoe et al.

¹³⁴ Nevers, J.-Y., and Becerra, S. (2003)

¹³⁵ See Boyle, J. (2015)

These examples show that many respondents who spoke of the change of the river compared present and past observations, notably their childhood. Age seems also to bring knowledge that can discourage “unsafe” or risky behaviors: *“I spent time in a different river when I was a kid, I didn’t think anything other. Once you get after a point in your life you think about things like “Oh God what’s in there?””* (Ash32).

In conclusion, we saw that many respondents noticed the increased recreational use of the river which indicated the improvement of the water quality. Fish, a part of biodiversity, are an indicator of the health of the river which not everyone knows about: local experts, like fly fishermen, know this through their sport. This might also mean a shift in values about the use of resources based on enjoyment. The “tubers” and other water attractions were said to be more aware of the river, and want it to stay clean, but maybe with only a short-term users perspective. The users who had the most systemic understanding of the river’s ecology and the human-river relationship, and were most active in preserving were fly-fishermen and professionals in the river sector. Therefore we can conclude that certain types of activities will lead to different perceptions of the environment and lead to different actions in response to the noticed environmental changes. Policies at different levels like the Clean Water Act are an example of response to change and show the importance of responding in different ways. What does the direct interaction with wildlife/biodiversity show of human-nature relationships and interactions?

Chapter 3: Bear hugs and turkey sandwiches: Even when animals and “nature” do occur in these changes, they occur in relation to human development and population

During the semi-structured interviews, I asked people about changes in the local environment (the Asheville area), and if they did not mention environmental changes I asked more precisely about wildlife, then animals, trees, birds, plants, fish, insects (the freelist categories). As respondents almost always mentioned more American black bears in town (*Ursus americanus*, hereafter mentioned as bear) I would also use that example in later semi-structured interviews as a prompt in case the respondent could not think of any changes to the wildlife (I did not speak of “biodiversity”). Although this may have created a bias, most people mentioned bears of their own initiative. Bears and other species like deer, raccoons, and different birds (including turkeys) were noticeably more present in the city of Asheville and had a different behavior in relation to human activity. Increased presence of wildlife in town was more commented on than perceived decreases, maybe because they are by definition less and less noticeable? Here we find again that the central lens through which environmental changes were considered is population growth and development. Food, habitat loss and predation were the most cited causes of change in the species mentioned. The bear and the turkey were often cited as wildlife frequently spotted roaming through town during certain periods of the year.

3.1 Asheville: Beer or bear city?

The bear was the most cited mammal in the semi-structured interviews when I asked about natural environmental changes in Asheville. Many of those respondents had seen one in the flesh on their road, in their neighborhood or on a hike close by, so direct observation was widespread: “*Now there are all these bear sightings right in Asheville, in East Asheville and North Asheville. That’s very common*” (Ash38). The frequency made neighborhoods appropriate the bears, like the “Shiloh bear” (Ash19). The local newspaper also makes headlines when bears come into town. The location within the city was already one factor of sightings, as those living next to the Blue Ridge Parkway for instance (Ash44) would see more than other neighborhoods, and just driving on the Parkway could lead to sightings. Living up on the mountain, Ash19 saw bears “*all the time*” in comparison to his current home in West Asheville. A native farmer, Ash41, living about 15 miles from Asheville, also sees more bears in the countryside than before: “*You never saw a bear when I was growing up. [...] If there was a bear seen it would make the newspapers. And now they’re everywhere. We have them come through here quite often*” (Ash41). The future urban-rural comparison of PIAF research sites will enlighten this observation and see if, as this native farmer explains, many rural inhabitants also notice more bears.

The indicators of bear presence, apart from direct observation, were clues left behind and often discovered as the neighborhood woke up the next morning. Upset trash cans, as well as pilfered and often destroyed bird feeders (Ash45), were the recurrent signs of bear foraging activity. There were no mentions of bear droppings, which bear trackers might look out for¹³⁶, but that may be because they are less noticeable and distinguishable from other animal droppings, or because they did not directly destroy a material prop of the urban lifestyle.

¹³⁶ Bear Tracker website: <http://www.bear-tracker.com/blackbearscat.html>

In the context of population growth and development, the interpretation people make of the increased bear sightings differ and give us an idea of their representation of expected human-nature/bear/wildlife relationships. Ash45's response to knowing a bear and cubs are eating her neighbor's bird seed pushes her to wonder "*if she's like not located in the right spot where she's supposed to be*" (Ash45). Seeing bears in town is certainly not yet banal, as they create surprise every time: "*“Who's black dog...? Oh, that's not a black dog that's there!”*" (Ash19). They are not normally associated with urban areas in people's representations, so there is spatial component to the interaction with this particular part, species, of the environment. Haupt's ethnographic "Urban Bestiary" is interested in this very question of when humans and wildlife meet: "*What is that coyote doing here, out of its forest? Whose "home" is this? Where does the wild end and the city begin? And what difference does it make to us as humans living our everyday lives?*"¹³⁷

The traces of the bears' presence in the city, the upturned trash cans and bird feeders, lead people to think it is a food issue. Because humans produce rubbish and the wind blows up the mountain to the bears' noses (Ash21), bears come down to upturn trashcans at 2am. Because there are more people, and more houses, there is more food available for the bears (Ash37), which is linked to population growth and patterns of development (sprawl or exurbanization). The respondents express different explanations about the food issue: either there is more food in town and bears are attracted to it, or it might be that they do not have enough food in the wilderness and are therefore compelled to explore human-developed areas. These could actually be causing the lack of food by diminishing the bears' habitat. We come back to human population growth (and spread) and development transformations creating specific relationships with the natural environment. The following extracts illustrate this:

"It makes me wonder: they were probably delocated from their location because they stayed in an original location where they just cut down the trees, cut down all the sources of food or something." Ash45

"One thing that's happening is people are building on the mountains, they are disturbing their habitat." Ash19

"[...] now we're moving into the mountains, we're building in their habitat and they have to have a place to go." Ash35

"I think bears have always lived in this area, it's the people who came here. I don't think there's more bears, I think it's more people" Ash44

There is "more development and less land for bear to forage, but also the land that they're foraging not having enough food to support them because of anomalies in weather, in climate." Ash42

This last extract opens up the localized change to broader transformations, such as the climate. Very few respondents referred to causes of change other than directly and locally human-induced (the social and built environments). What is interesting about people's explanation of more bear sightings in town is that there is a hybridization of different types of knowledge. The latter flow from direct observation, second-hand information (the news travel different ways), and scientific-related sources of information (reading of articles, research...). Ash3, as a researcher in the field of Environmental Studies, explains that "*In the wild the mother bears would typically have no more than 2 or 3 cubs. But if they eat a lot they can have more fertilized eggs that develop*". This "expert" knowledge was

¹³⁷ Haupt, L. L. (2013)

later found in the interview with a retired member of the Shiloh community, because she likes to read: “*The article in the paper said last fall food was plentiful so mother bears are having more than one cub. When I was growing up I didn’t notice bears*” (Ash19). Ash19’s perception of the growth of bear population is influenced by scientific data that is relayed in the media¹³⁸, and that introduces more complexity in her interpretation of the situation. Analyzing the way the local newspaper such as the Asheville Citizen-Times relays local changes in biodiversity would be very enlightening in order to develop this point further.

The following quotation helps us consider what the human-bear relationship is here: “*Human-dominated landscapes offer spatially concentrated and reliable food resources that attract bears and lead to human-bear conflicts.*”¹³⁹ Although respondents do connect the food source and the bear presence in the city, this change in relationship has not reached proportions that would make the situation a conflict, like other places where human-bear interactions have been studied (for eg. Baruch-Mordo in Colorado, Mazur in California¹⁴⁰, Brown in Oklahoma¹⁴¹). Indeed Ash19 puts in words what transpires through the amused or excited way most respondents spoke about the bears that “are popular over here” (Ash44) in Asheville: “I don’t think anybody wants a solution to it, I think everybody enjoys having them [...] they’re like any other animal” (Ash19). Another respondent tries to explain the bears’ version of the relationship that we see here, saying that they are less afraid of us so they come into the urban environment more (Ash42). But of course there are warning signs; just as we have a variety of respondents we have a variety of diagnoses of the situation. Ash41 describes “trouble with the bears”, breaking into cars, bird feeders, dog food stores and more, making them unpredictable and potentially “very dangerous” if provoked. If incidents arise more frequently one could expect tensions to arise also, and the perception of a teddy bear like creature might not persist. Ash2 estimates that with more bears there may be “more bear hunting around here in the future”, but it is not clear whether it is because they are perceived to be a pest or whether it is the sport that would become popular.

Transformations of hunting practices have a strong impact on wildlife

This brings us round to the other – with development – often cited cause of bear population change around Asheville that is hunting. Or rather, the lack of it: “*it’s not legal to shoot bears in Asheville*” (Ash2) and “*they’re protected*” (Ash44). Indeed the Wildlife Commission has regulations as to bear hunting (seasons and limits), creating bear sanctuaries in many parks like the Pisgah Bear Sanctuary that covers sections of the counties of Buncombe, Haywood, Henderson and Transylvania, for example¹⁴². Regulations usually accompany a change in social norms, as we will see in the following.

The human decision to hunt or not is perceived to have profound effects on the bear population: “*they don’t have any predators so they thrive, and man is their only predator*” (Ash41). Here we are faced with a possible change in the values associated to hunting, as it becomes less well perceived by the general public, “*people have got out of bear hunting cos it’s a kind of taboo thing. There’s a lot of people against the bear hunting*” (Ash41). People traditionally hunt in the South (Ash38), as well as fish, but “*today that’s not so common*” anymore, there are fewer people hunting in general (Ash19)

¹³⁸ The article she read might have been the following for example: Warren, S. (2015), “Bear boom predicted in Asheville area this spring”, Citizen-Times (online), March 30, 2015

¹³⁹ Baruch-Mordo, S. (2012)

¹⁴⁰ Mazur, R. L. (2007)

¹⁴¹ Brown, A. G. (2008)

¹⁴² Hunting season limits: <http://www.ncwildlife.org/Learning/Species/Mammals/BlackBear.aspx#2498421-regulationsbr-seasonslimits>

which marks a change of practices over time. One other reason for less hunting, apart from the fact that it has become less well accepted by society, is that the area is “*not where the good hunting is*” (Ash2) so people prefer to go to Transylvania or Haywood County, for example.

These explanations for the growth of bear population (or at least its presence within Asheville), are similar to Baruch-Morodo’s research that explains different degrees of bear synanthropy, showing that the knowledge and interpretation of lay and expert people can merge somewhat. She reports that the positive effects of human-bear proximity included “*increased survival and reproduction resulting from reduced predation pressure and increased availability of resources*” like food and nesting places.

3.2 The example of raccoons and deer shows the same causality in terms of human food and hunting practices

The deer were also mentioned as something that had changed in the local environment by quite a few respondents. Most of them thought the population had grown (eg. Ash4, Ash11, Ash13, Ash35, Ash41, Ash42), mostly because of prolific food sources and less hunting. But seeing more deer could mean both that there were more overall or simply that they were seeing them more often. The deer prefer the fringe of the city¹⁴³, which is why it is Ash41, a farmer, who has the most to say on what changes he has observed. He used to see about four to six in his field, but lately he has seen up to 30 deer at one time. Further research in the rural areas would show how widespread this observation is in that setting, as this research was centered on the urban-peri-urban one. His interpretation is that it is human-induced:

“People don’t hunt like they used to, we have a lot of people feeding them, even though they’re not feeding them what a deer needs to eat they’re still feeding the deer like people. You put the sweet junk out and they’ll come and eat [...] it tastes good and it’s there.” (Ash41)

For Ash41 it also comes back to humans spreading out into “*their habitat*” which impacts their diets, just like it was mentioned for the bears. There is a sense of guilt in this representation that also transpired when talking about habitat loss for the bears. For Ash42, the increase in deer population is an actual indicator of human-operated changes to the environment and the food-chain, showing yet again the often encountered one-directional relationship respondents defined.

The population of raccoons was cited using the same elements of causality: “*We have a lot more raccoons than we used to, because nobody hunts ‘coons anymore.*” (Ash41). The change in social practices came from first hand observation over this native farmer’s lifetime. He actually says the values concerning hunting are evolving, which is related to the exurban movement bringing different people into peri-urban areas: “*And now we have so many neighbors that are against it that they’ll shoot your dogs, they’ll catch your dogs and turn them into the pound. So we have an overpopulation of ‘coons.*” This illustrates the tensions between residents that can be caused by different perceptions of hunting. If raccoons come into Asheville, it is to eat the rubbish and the chicken people might have cooped up, so they have adapted to human presence and activity showing synanthropic characteristics.

¹⁴³More exurbanites spotted deer compared to suburbanites in Storm et al. (2007)

3.3 Other wildlife like birds: biodiversity as an indicator of environmental and social changes due to human activity

Birds are impacted differently by the human population growth and development, but those that have changed behavior or habitat, for example, are indicators of a human-induced environmental change. While wild turkeys are perceived to be more numerous by direct observation in Asheville, neo-tropical warblers and pileated woodpeckers, for example, are said to be on the decline. The latter species were noticed by only a few of respondents from the scientific field or simply specialized in that area because of their occupation, so one factor explaining varying perceptions of these more invisible species is knowledge.

Wild turkeys were the next species cited as having changed in Asheville's environment (eg. Ash2, Ash3, Ash7, Ash11, Ash13, Ash14, Ash15, Ash19, Ash38). Most of the time, they were noticed crossing the street, because they will stop traffic (Ash3, Ash7, Ash21). Why did the turkey cross the street? They are another example of synanthropic species that have adapted well to human disturbances¹⁴⁴, like housing development encroaching onto wild habitat. Respondents who thought the turkey population had increased thought that, like bears, turkeys being "*opportunistic omnivores*"¹⁴⁵ had found stable sources of food and not much predation in the urban setting (Ash3), especially as hunting in town is not permitted. Ash3 points out that they had been overhunted previously, reintroduced, and were now proliferating and becoming "*tame*", probably because they cross the road in front of cars with more frequency showing they are not frightened. Ash11, a native of 59 years old, testifies that he never saw them as a kid, but now sees them all the time to the extent that they have become a pest. Certain areas of Asheville are more severely impacted, like North Asheville (Ash21), but no respondent ventured to explain turkey distribution unfortunately.

One respondent showed a slightly different scale to what might appear like a turkey invasion if we stretch our minds a little. Ash19, who has lived in Asheville for 17 years, reckons that "*urban turkeys*" is not a new phenomenon:

Have you noticed any animals, or birds or trees or plants that are changing? "*Not really. Have you been to North Asheville? They have several flocks of wild turkey that walk through town now. They've been around for years, it's comical that all these people get dressed up in their camouflage to go turkey hunting and you can go in the town here and there are flocks of them. People feed their bird-feeders in their back yards, turkeys have found this out, so. You've got to stop your car and there goes 20 turkeys across the street in front of ya. It's fine, everybody's pretty accepting about them. Urban turkeys and bears, we get those a lot. A lot of bears around here.*" (Ash19)

Like wild turkeys, other birds are making use of the built environment. Ash44's story of birds nesting in Home Depot, where she works part-time, gives us hints of her perception of what this situation means more generally for bird migration, for example.

"*At work, at Home Depot I've become a bird watcher because they have some birds that have moved in... into the store. Yeah, and they fly in and they fly out. They have a little nest, they've got*

¹⁴⁴ Reed, Derik J.; Guynn, David G., Jr. (1990) In: Eversole, Arnold G., ed. (1990)

¹⁴⁵ Fish and Wildlife Service, U.S. Department of the Interior (1985)

their little babies. They've learnt to hit the door, they've learnt to wait when people go out to go out. Sometimes they'll fly certain spots... and they've trained some adults like myself to open the door for them because you know if they're waiting up there on that little block, you open the door and shhhhh. They come in and out underneath the customers, and above the customer's heads. It's interesting seeing them in this season. [...] They have adapted to Home Depot, they have adapted to living in a big box. And it's very climate controlled; They come in, there's air conditioning, they've got their babies there. They've been there for about three years now. And some of them... I have a picture of one in the bird food isle.[...] It's bags, but they learn how to, one will start picking on it. Or they'll go outside and they'll wait for people to drop food, or they'll go outside, hunt and go back in. But that means that they don't have to migrate, they don't have to fly South for the winter, like other birds.” (Ash44)

Her detailed description of the intrusion of this form of wildlife into the very human-controlled environment shows her fascination, and at the same time the representation of birds as spatially separate from the built environment. The normal human-bird interaction does not include humans opening automatic doors for birds, because she feels she has been “*trained*” by the birds to do so. This proximity and new interaction is actually creating a new human-bird relationship that is specific to the environment (of Home Depot). Moreover, Ash44 interprets the lack of human intervention as a sign that there are social norms about our relationship with birds that are beyond the individual and that tolerate certain incidents on the basis of “*natural*” behavior:

“And they're protected because they're in Home Depot, nobody wants to look bad.” “Nobody's going to kill them even though they are problematic, because they poop, so they mess up merchandise, and they have plopped on people's heads. That's what birds do, no matter where they live.” (Ash44)

In terms of the literature on synanthropic birds “that have developed an affinity for, or dependency on, human interventions in the landscape”¹⁴⁶, there are other examples like that of chimney swifts for example, or of the American crow which Ash29 and Ash31 spend some time talking about as particularly fascinated by its adaptability. Its distribution in Eastern North America is “*largely tied to the anthropogenic fragmentation of the forest.*”¹⁴⁷

It is during the free-list follow-up interview with Ash31 that I was able to gather information on how local birds, as part of the biodiversity categories selected for this exercise, were going through changes in population, distribution and behavior. The neo-tropical warblers are “in trouble in North America”, because “*central and South America is becoming more civilized and more developed, they're literally chopping all the forests down which the warblers would normally return to, so the warblers are returning to find no home anymore, so their populations are plummeting.*” (Ash31). In summary, habitat loss is the main cause of a decline in warbler population. This is also the case for pileated woodpeckers: they adapt to urban settings as long as people leave big old trees (Ash3), because they provide food (carpenter ants) and shelter (Ash31, Ash3). But nowadays, forest management, and the way individuals manage their gardens and lands, do not leave dead trees instead producing a same age growth and “*clean*” forest (Ash31). Biodiversity, using birds as an example, by its state of health (in other words the populations etc.), is seen here an indicator of mostly human-induced environmental changes. Only it is because of the respondents' knowledge, through education and research, that they were aware of this causal relationship. In an ideal situation, free-lists would

¹⁴⁶ Gade, D. W. (2010)

¹⁴⁷ Id.

have been conducted with all of the respondents of the semi-structured interviews instead of just 18 of them, because we cannot interpret any further the factors that might contribute to their knowledge of bird welfare among other examples.

The first results of the free-lists and interviews conducted here, that should be exploited in the subsequent PIAF research showed that overall the biodiversity doing well in the Asheville area, in terms of having a stable population especially, are often those that adapt to humans and to the urban environment. Looking at it the other way, as Ash3 explains (and which is mirrored in other interviews throughout the sample), is that changes to animals and birds, for example, are caused by development in wooded areas, which also induce more road-kill and the import of non-native animals such as cats that kill ground nesting birds and rodents that would normally feed bigger birds and owls (Ash3).

In conclusion, the most cited cause of either increased proximity with wildlife such as bears, deer, raccoons, turkeys and urban birds, or a decline of certain species in the urban to rural space appears to be human development. As we have seen, it is both the population growth that demands more development and the type of development (density or exurbanity) it entails. Gentrification and amenity migration lead to both. Looking at the human-nature relationships that transpire through the interviews, it seems to be mostly one-directional: humans affect wildlife as we build, we destroy their habitat and their food source, we hunt or stop hunting... Yet making it an anthropogenic-caused situation also means we are better equipped to take action by changing what we do. Ash3, for example, is planting native species in her garden in order to promote other native insects, animals etc. This extract from Haupt's "Urban Bestiary" helps show that what we see here is not an isolated observation:

*"As human habitations cut more deeply and rampantly into open space, wild animals are left with smaller, more fragmented areas in which to live, eat, and breed. The rural buffer that once separated cities from wilderness in the past is disappearing as small farms are overrun by big agriculture and urban sprawl. The tidy divisions once labeled, respectively, urban, rural, and wild are breaking down as animals that once lived well beyond urban edges are now turning up in city neighborhoods with some regularity, and human-wild encounters of all kinds are increasingly frequent, startling, and confusing. Some of these animals have long coexisted with humans, and we simply see them more often because there are more of us living in close quarters: many songbirds, hawks, raccoons, skunks, squirrels, and opossums."*¹⁴⁸

It is interesting to see what "biodiversity" people did notice changing, as they are mostly species that are easily visible, have more media coverage (bears!). My questions and prompts might have channeled this, because I asked about the environment, wildlife, different species like animals, birds, trees... less often insects and why not invertebrates (seeing earth worms in my garden is a good sign). Biodiversity in town includes many unseen species, but maybe some of these species are better noticed in the rural settings (more flies, insects, different birds...?). These hypotheses might be investigated in the future PIAF research, or other research projects in the same field.

The noticed changes in local biodiversity were predominantly seen from the perspective of the expected urban-wild divide, in that the increased presence of bears and other types of "wildlife" were perceived as extra-ordinary. Moreover, these often cited examples, of mammals mostly, were the most

¹⁴⁸ Haupt, L. L. (2013)

visible ones in terms of the disturbance caused. The respondents' interpretations of the situation were mostly human-induced, like loss of habitat and food, and social practices and values like the decline of hunting. And yet there were not many tales of direct conflicts between the inhabitants and the wildlife, even when it caused damage (bears and trashcans, bird feeders, turkeys stopping traffic, birds pooping in Home Depot), giving an idea that wildlife keeps a somewhat respectful aura. Coming from the point of view of the main contributors to the local environmental changes cited, and because we humans still feel in control, this could be seen as a dominator's perspective, somewhat condescending on the victimized wildlife.

This is where the free-lists and follow-up interviews were most useful, in relation to the semi-structured interviews, for unearthing what people thought had changed in the natural environment and how they explained it. The freelist-follow-up combination should be exploited more when discussing more precise topics on changes in biodiversity, as the research present here only mentions a few key and relevant species to make my point.

General conclusion

Tying all loose ends: bringing the three chapters together

Our research question was: In the context of researching local environmental changes, what do Asheville discourses on population growth and development tell us about their relationships and interactions with the environment?

In chapter 1 we first saw that talking about local environmental changes in Asheville led to discourses about the social and the built environments. Several factors contributing to the respondents' perceptions were tentatively presented, and we found that length of residency, professional activity and education seemed to contribute significantly. The respondents were very conscious of the demographic transformation taking place due to Asheville's amenities that were found to be interdependent with the local tourism-based economy.

Throughout chapter 2, by looking into how our respondents perceived the population change and development and how they used the land and resources – first through the processes of gentrification and exurbanization, then through the recreational use of the river – we managed to describe some of the motivations and representations that form these particular human-nature interactions. Gentrification creates a turn-over of inhabitants with different aspirations and practices and inevitably exacerbates wider social differences based on income, social position and ethnicity. Investigating the process of gentrification means questioning social mix/diversity, as problems of cohabitation and conflict arise, and there is the question of how the city of Asheville is addressing this issue. It will be interesting to see if the comparison with the other PIAF sites, like the French ones, would show different conceptualizations of gentrification.

The testimonies of personal experiences (being “*priced out*”) help to understand the negative perception some people might have of gentrification. Yet we also saw that gentrification creates certain dynamics for environmental preservation as newcomers, like “amenity migrants”, come with ideals of nature, and their social and financial capital enables them to invest into actions and change things. The examples of clashes over zoning issues, and the reinforcement of the liberal political vibe of the city, demonstrate the confrontation of different human-nature relationships.

The choice of different types of development, dense or exurban, is telling of some of people's motivations. Indeed, newcomers have often had previous experiences of mobility and urban living and thus some of them desire more walkability. Newcomers were said to be often very involved in conservation easements and land trusts as they seek to preserve the more bucolic characteristics of their location – see the “last settler syndrome”. The power struggles at social but also at political levels in terms of allocation of resources (eg. roads) are also symptomatic of these different demands. Furthermore, the way people understand how the built and natural environments affect each other illustrates what we feel is a uni-directional human-nature relationship, where human activity affects the environment and those who live in it also (eg. with landslides). The increased pressure on resources, due to the population growth and change (exurbanization), reveals that, although there are improvements in terms of management at the policy level, people are still demanding more electricity and water but may not necessarily have a solution to the issues they are creating. The example of the use of the river that runs through Asheville helps understand that users with a longer-term vision and systemic knowledge of the socio-ecological system are more likely to be stewards of the resource, like

serious fly-fishermen. The example does raise the question of a larger shift of values towards a consumption based use and representation of the environment and its amenities.

Finally, in Chapter 3, the examples of local biodiversity that had changed according to the respondents illustrated a very one-directional representation of human-nature relationships and impacts. The examples of the black bear, the deer and raccoons, and the wild turkeys were all based on more frequent sightings. The cause of more synanthropic behavior was often perceived as a mix of habitat loss, loss of wild food source, and less hunting from humans, and in the case of certain species of birds (in Home Depot) the human-wildlife interaction is almost reversed as the birds are protected by the social norms surrounding the respect of nature.

What is part of my emphasis, from the framework of my study that is the PIAF project, is that social factors can be considered alongside environmental ones when it comes to indicators of change, they are necessarily linked some way or another¹⁴⁹. Many studies put forward the necessity of considering social and ecological systems simultaneously in order to approach the issue of sustainable development (Folke et al. 1996, Berkes et Folke 1998, Berkes 1999), as lay knowledge and scientific knowledge combine to improve our understanding and management of local biodiversity. This is where the notion of socio-ecological system takes on its full meaning, as human beings are part of the ecosystem's dynamic. This justifies using social factors such as population change and development as indicators of change as much as biodiversity¹⁵⁰. The fact that people most readily spoke of demographics and the built environment when asked about local changes to their environment rather than biodiversity showed that in this urban context the latter indicator is not the most telling one.

The importance of studying people's perception of changes such as gentrification and exurbanization is so that the situation can be better defined and thus better addressed. Seeing their concerns facilitates optimizing the trade-offs¹⁵¹: *"Trade-offs will be necessary in any negotiation related to conservation. Therefore, conflict surrounding specific values, e.g., cultural, financial, or ecological, must be acknowledged upfront to move deeper into issues of plurality"*. And acknowledging the trade-offs is also a way of acknowledging the complexity of the socio-ecological system.

Coming back on the different responses to the perceived changes:

It seems people's background and previous experiences, especially childhood, shape/contribute heavily to their perception of the environment, and their current relationship with it. Other factors could include education and livelihood. Those who have been in Asheville and/or the region for a long time often display long-term observation of environmental changes, and often from personal observation. This result is found by other studies and shows that this factor should be considered in all future PIAF research sites: *"there were strong signals in each case suggesting that having ancestors in the region, and hence strong ties to the region, is a key variable in shaping attitudes and practices relevant to resource use and economic development."*¹⁵². Those who have a background in higher education and environmental issues mention more changes. The education often leads to certain jobs and certain social relations/networks with like minded people, so there is more systemic knowledge of

¹⁴⁹ Projet PIAF, Programme Jeunes Chercheuses et Jeunes Chercheurs, Edition 2013, ANR-GUI-AAP-06, Document Scientifique, Proposition de Projet

¹⁵⁰ PIAF is interested in understanding how users and managers of natural resources perceive environmental changes, especially through the indicators of biodiversity.

¹⁵¹ Vercoe, et al. (2014).

¹⁵² Cockerill and Groothuis

environmental changes and more flow of knowledge too. Studying social networks more in depth would help look into the collective construction of knowledge and perceptions. For this the semi-structured interviews would need to have another focus as they are for the moment very general.

About users of the resource being advocates:

Asheville is a city of dreamers, and that attracts like-minded people which explains some of their responses: *“Asheville has a very deep love affair with nature, and I think that’s why most people live here. So I think that most people in Asheville have a tendency to be probably better stewards than people might be in Wilmington or whatever.”* (Ash31). Could we go as far as saying that in this sense, gentrification, as well as exurbanization and amenity migration, also means an increase in actions to preserve the environment? Ash4’s thoughts go in that direction: with respect to land usage, he has reasons for optimism because people are sensitive to the value of the resource. Local knowledge of mountain stream ecology, for example, make fly fishermen strong advocates of it. Moreover, public lands are managed with due regard (compromising between the different demands of different interest groups) because there are substantial economic implications of protecting resources, “it’s good to have that on your side”. Ash23, like many other respondents, knows there are economic benefits to preserving the land as people enjoy the community and spend money there which makes it an important part of some people’s perception of the environment. As previously noted, if this outweighs a long term vision of environmental protection and resiliency, we may face some short-term actions turned towards perpetuating the consumption of amenities in recreational activities that create an individualist consumer-orientated representation of the environment.

The timescale of change:

Among the questions that I wanted to come back on at the end of the discussion there was the question of the timescale of the changes noticed. Through the interviews this varied significantly, as a 61 year old native comparing the river to when he was a child gives half a century of change. But it seems that when talking about population growth, gentrification and related issues like traffic, the most noticeable changes happened between the last 15 to 5 years. It is edifying that these 1st changes are noticed even by the most recent arrivals in the sample (1 ½ years), meaning it is a very visible change.

Perspectives, contributions to the PIAF project and making the transition to the other American research sites

The urban research site

I believe the future comparison with other PIAF research sites in the urban to rural southern Appalachians would highlight to what extent the “urban” aspect of this research site conditions and influences people’s perception and observation of local environmental changes. From my personal observation, in situations of higher density like in downtown Asheville, there were fewer songbirds than in the more spread out neighborhoods like in residential West Asheville, for example (with individual houses, gardens, parks etc.). The respondents did not often compare the rural biodiversity with the urban one. What might rural inhabitants say about their songbirds?

Other themes to be explored

Among the themes that emerged in the interviews but could not be developed here was the local food movement. The farm to table movement in Asheville indicates a change in land-use and relationship with the land. The future research in continuation of this one might be able to link different urban-rural relationships by exploring this theme. Other studies are already using food as the entry point into analyzing these¹⁵³. We found in Asheville that changing food habits are part of social change (vegetarianism etc); Organic stores and farmer's markets are the sign of consumer environmental consciousness which isn't new...but also highlights inequalities in access to the food (Low-income communities, Latinos), another indicator of gentrification. The food movement appears as the link between urbanites and the countryside by connecting people to their environment and changing farming practices.

As we caught some snapshots of people's relationships with the environment, we could not offer an in-depth analysis of each interviewee's trajectory. It would be interesting to look into the evolution of people's relationships over time to understand what might condition the current outlook most. This could also lead to looking at people's motivations for involvement in environmental organizations, what contributes to the "engagement militant" of certain people more than others.

In terms of the PIAF project's goals, we found that ASAP (Appalachian Sustainable Agriculture Project) in Asheville was interested in similar questions concerning noticed environmental changes, which demonstrates that it is a question many people want answers to:

"We interviewed some farmers a year or two ago on that same question, because we had that rain, that crazy rain fall in 2013. And we asked them as a farmer, for however long you've been farming here in WNC, have you noticed changes in... we didn't use climate because you know... we didn't want to trigger any of that. But how do you notice changes in weather patterns and how is that affecting what you do? Is that closing off opportunities for you or is that opening opportunities for you? How are you dealing with this? And pretty much across the board, to the question have you noticed changes, it was yes. And when I asked them "what's the pattern?" they would say that the pattern is that there is no pattern. It's like you're going from one extreme to another, it's like you're going from record breaking rainfall to no rainfall. You're going from unusually warm, dry, winters, to icy record breaking cold winters. It's like all across the board." (Ash42)

The perception of changing weather patterns was part of the questions we asked during semi-structured interviews, and these would have been valuable to open up the research question to considerations about more global environmental changes, such as linked to climate change. Residents often commented on the warmer winters, decreased rainfall and therefore snow, and the increasing unpredictability of the weather. Very few directly associated this with climate change.

Lastly, there was a range of many other environmental changes noticed in the Asheville area, and a major example that was not used here was the hemlocks dying because of the hemlock woolly adelgid. There was often much emotion attached to the demise of this species, and reflections on the possible ecological consequences of its disappearance notably along riparian areas. We did not elaborate here

¹⁵³ Cadieux, K. V. (no date)

because we had to make choices in order to keep this paper short, and the changes to the hemlocks were very rarely associated with the pressures of population growth and development¹⁵⁴.

Reflection on how the research went

I underestimated my interest in the social aspect of people's environments, from the sociological rather than ecological training and interest I have. Going through the interviews again when writing this thesis showed that I often started enquiring about perceived changes without mention of the environmental aspects at all, which I honestly had not been fully conscious of at the time (not to that extent). This shows the value of stepping back from the data and from our role as researcher to reveal unconscious thoughts and better reassess the first research question.

Asking open ended questions like "What have you noticed changing in your ... years here?" also serves to show that asking outright about noticed changes, few people would start with the environment. Rather people in the urban setting mention primarily what they experience most in their environments, which are the social interactions and the most frequently visualized surroundings (here, the built environment). Please note that I cannot generalize, as for those people who are passionate about nature the scales can tip the other way, and I would need a much larger and representative sample. It will be very interesting to see what the other research sites, in rural and protected areas, will show of what people notice first and are most concerned about. Moreover, choosing to start with the semi-structured interviews rather than the free-lists necessarily made the scope of enquiry more general, as the free-lists would have, I believe, orientated the rest of the interviews on the natural environment.

Confronting a mountain of data and having to focus on a few aspects of the results namely demographic changes and development was a frustrating process, because I had the opportunity to glimpse the complexities of the field in Asheville that answered PIAF's wider research topic. I can only hope that the data collected, which only the tip of the iceberg has been presented here, will yield very interesting analyses.

What next?

In order to push the analysis further, we could consider that the focus on development and population change in the Asheville respondents may indicate a shift in American environmentalism more generally (away from nature/conservation and towards more urban-lifestyle issues). This raises the question of what types of environmental issues and actions does this environmental worldview prepare people to notice and address? As the region transforms from increased population pressure, there is a challenge for policy makers and resource managers to understand the different interests of local inhabitants, more so than global conditions¹⁵⁵. Western North Carolina will face increasing issues with exurbanization, but also gentrification and density in Asheville, and when combined with the effects of climate change people will respond to the issue depending on how they conceptualize it. The majority of respondents perceive the human-nature interactions as mostly one-sided, acknowledging the effects of having more people who want to have a mountain view, for example. The challenge will be to mediate the conflicts arising between different people, but also with the environment as human-wildlife interactions are increasingly frequent, in order to minimize the trade-offs and create policies that are narrowly tied to the reality of the locality while being aware of similar global patterns of change.

¹⁵⁴ It is an epidemic that has been spreading for years in the Southern Appalachians

¹⁵⁵ Gragson and Bolstad, 2006, p.178

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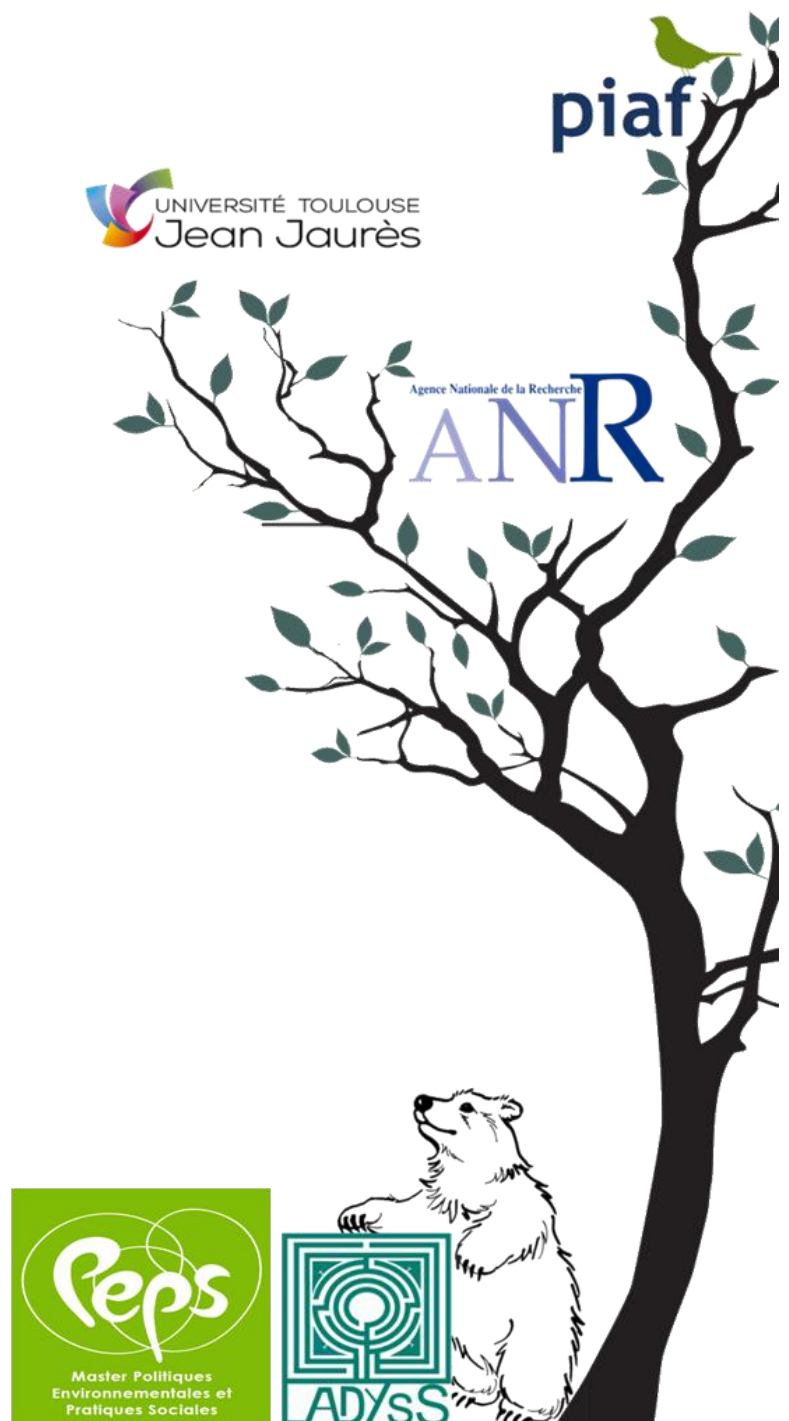
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Sources for figures

Figure 1: Situating Asheville in the Appalachian Region, picture of “The Appalachian Region” found at <http://www.mikalac.com/map/map3.html#appalachia1> and compass at <http://www.physicsclassroom.com/class/vectors/Lesson-1/Vectors-and-Direction> . No scale was found.

“Figure 2: Map of Asheville”, Google Maps
<https://www.google.fr/maps/place/Asheville,+Caroline+du+Nord,+%C3%89tats-Unis/@35.5698891,-82.5801972,10z/data=!4m2!3m1!1s0x88598ca93c0f6f09:0x94ef31c106343a5d>

Appendices



Appendix 1: Table of informants met in Asheville

ID Code	Gender	Age (years)	Length of stay in Asheville	Description
Ash1	F	50	22 years	Married. Ex-bakery owner. Volunteer with association educating all children about food
Ash2	M	43	16 years	Married. Child and family therapist and city councilor
Ash3	F	65	not sure, several years	Retiring Chair of environmental studies at UNCA. Eg. Research on forest ecology, hemlocks
Ash4	M	60	5 years	Married, 2 grandsons. President of Trout Unlimited
Ash5	M	60	28 years	Married. Retired, work in factories which caused him health problems
Ash6	F	40	15 years	Married, 2 boys. Development services in Asheville (permits). Previously at the Forest Service
Ash7	F	50	8 years	Married. Newest member of the city council. Does consulting, ex CEO Coleman Co.
Ash8	F	60	45 years	Married, children. Farmer, owns Hickory Nut Gap, major local meat producer
Ash9	M	60	27 years	Married. Retired State employee, planner of trails for State coordinator.
Ash10	M	40	6 years	Married. District ranger acting public affairs officer, Forest Service.
Ash11	M	59	Most of his life	Married, 4 children. Chair of department of history at UNCA
Ash12	F	40	14 years (from the area)	Soil and water conservation district, conservation easement work and farmland conservation
Ash13	M	66	45 years	Legislator representative in NC government. Democrat. Farmer (husband of Ash8)
Ash14	M	70	20 years	Retired from Forest Service.
Ash15	M	50	All his life.	Married. Cooperative extension office director, and co-owns a farm with his brother
Ash16	M	35	8 years, 18 in WNC	Married, 2 children. Financial advisor, running for city council
Ash17	F	40	2 years	Boyfriend. Studied Law.Nutritionist and teaching children about food (partner of FEAST)
Ash18	F	70	All her life, back since 30 years	Original resident of Shiloh (African-American) community. Retired research librarian.
Ash19	M	50	10 years?	Divorced, children. Owns a small construction company
Ash20	M	40	3 years	Southern regional science coordinator for the American Chestnut Foundation.
Ash21	M	58	25 years?	Divorced, 3 children. Financial advisor -stockbroker
Ash22	M	67	7 years	Married. Retiree - Volunteer lobbyist for Sierra Club
Ash23	F	40	15 years	Communications director for Southern Appalachian Highlands Conservancy
Ash24	F	63	37 years	Retiree, was President of Carolina Mountain Club for a while, involved with Appalachian Trail Conservancy. Studied biology, helps with Asheville Botanical Gardens
Ash25	F	50	25 years approx	Interfaith minister and celebrant, and consultant (fundraising for nonprofits)

Ash26	M	35	10 years	Partner, 2 children. Riverkeeper at Mountain True (locl environmental non-profit)
Ash27	M	30	Born here, back since 18 years old	Biologist at Mountain True
Ash28	M	76	16 years	Retiree, teaches Physics for summer classes at UNCA. Republican but now on County board of elections
Ash29	M	37	10 years	Married. Business called “Danny’s Dumpster”: collects food wastefrom restaurants and businesses to make compost. Was white-water rafting guide before
Ash30	F	35	5 years	Department of economic and community development, Land Of Sky Regional Council
Ash31	M	50	26 years	Garden manager and board of directors of the Botanical Gardens
Ash32	F	56	30 years	Divorced. Gas-Up (gas station) manager and bookeeper
Ash33	M	40	13-14 years	Married. Woodworker and keeps bees
Ash34	F	67	67 years	Married. Retired, worked in electronics plant
Ash35	M	61	61 years WNC, 36 years in Asheville?	Married. Retired schoolteacher (building cabinets)
Ash36	M	40	15 years	Founder of Roots Hummus, successful local business selling hummus
Ash37	M	81	54 years	Helps his son with his garage business in West Asheville, he is a mechanic
Ash38	M	46	44 years	Married. Farmer and politician (Republican)
Ash39	M	50	Just moved back, on and off	Photographer, and public speaker on “deep leadership”,
Ash40	M	38	11 years	Married. Surefootbuilders company (green building)
Ash41	M	61	61 years, all his life	Married. Poultry and vegetable farmer, Mills River
Ash42	F	44	8 years	Coordinates ASAP local research centre, administrative work and Appalachian grown certification
Ash43	M	66	3 years	Retired southern Baptist Minister, married to Ash5
Ash44	F	45	27 years	Department of transportation and part-time at Home Depot
Ash45	F	22	21 years	Business student at UNCA, from Mexican family
Ash46	F	28	3 years	Used to work at Clean Water for North Carolina, now Harvest Records and printing cards
Ash47	F	55	15 years	Latino outreach coordinator, originally from Argentina, Children First (Emma elementary school)

Appendix 2: Poster of themes emerging half-way through the fieldwork, presented at the Coweeta LTER Summer Symposium, 3-4 June 2015

Explaining diverse perceptions of / and reactions to environmental change in the Asheville area - Research for the PIAF project

Stephanie Vincent-Sweet / CNRS- UMR Ladyss, Paris – Master "PEPS", Toulouse, France



Our research objective: Describe local perspectives of environmental transformations and biodiversity from an urban setting

- What kinds of change do people notice in their environment(s) in Asheville? Is biodiversity used to measure these changes?
- How do they interpret these changes?
- What is their response to them? What adaptation strategies?

→ This offers insight into local perspectives in the context of global environmental changes and pressures.

This research is part of the **PIAF project**, *Programme Interdisciplinaire sur les Indicateurs Autochtones de la Faune et de la flore*, which consists of multidisciplinary and comparative research on how communities perceive environmental changes through observations of biodiversity in **rural, protected and urban areas of France, the USA, Cameroon and Zimbabwe**.

The Coweeta LTER is a key partner for the Southern Appalachian research.

The objective is to mobilize useful knowledge for local land users and managers and, through international comparison, generate knowledge that will be useful for conservation practitioners in the international community.



Fieldwork and emerging themes



Photography by Stephanie Vincent-Sweet



Bear: Photography by AmeriCarperdiem

Methods

over 2 ½ months

- 50 semi-structured interviews
- Free-lists
- Participant observation

Emerging themes /pre-analysis

Diverse "environments":

Nature, my neighborhood, Asheville

Noticed environmental changes:

- Urban development, population growth, traffic, gentrification, lack of affordable housing, service jobs, renaissance River Arts District, beer industry.
- Landscape changes: mountain-side development, erosion, more forests.
- Habitat loss due to development yet more bears, deer, turkeys, groundhogs in the city /abundant food supply.
- Hemlocks dying /woolly adelgid, Chestnut blight, invasive species (eg. kudzu).
- Cleaner air; cleaner French Broad River and rise of aquatic recreational activities.
- Rise of recreational use of the woods.
- Increased water temperatures may affect the trout.
- Less snow, warmer, period of drought, flood.



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Appendix 3 : Semi-structured interview guide

Asheville fieldwork: Semi-Structured Interview Guide

Basic Demographics

Gender, age, degree of formal education, other relevant training, genealogy

Current place of residence

How long have you lived in/around Asheville? Where else have you lived?

Current livelihood: tell me about what you do.

Can you walk me through a typical year as a _____ [primary livelihood: farmer, fisher, tour guide, “for you” as a retiree, etc.]?

- “What are your interactions with the environment?” The variety of spaces they travel through; high/low activity times.
- Who do you do that with? Who do you interact with in your work?
- Who do you interact with the most?
- What resources do you deal with and/or rely on?

Past/secondary livelihoods: Have you always done this? What else do you do to make a living?

Life History:

Can you tell me about your story / life history (“parcours”)? (Where they were born, grew up, their education if it wasn’t mentioned before, how they arrived at their current situation.

What were the marking events in this history in relation to the environment, what were the motivations behind each of these?

Have you noticed any changes to the local environment during your ... years here? (Make sure they also talk about the “natural” environment if they do not at first)

- How have these changes affected you? And other people?
- Who might you discuss these changes with?
- How have you responded?
- Have you seen a community response or a response from the government or relevant resource managers?
- What do you think is causing these changes?
- What do you think would be the most effective response?
- How did you notice or learn about these changes? (if media, which?)

Do you think men and women might have different relationships with the environment? OR uses of the environment? OR interactions with the environment?

Are there other aspects of the environment that are especially important to you personally?
Have you seen changes in those?

Has your relationship with the environment changed during different stages of your life?

- Do you think you look at this environment (where we are now) differently because you previously lived in _____ / worked as a _____? Did this?
- What differences do you notice from your previous experience(s) and here?

Thank you.
Snowballing

Appendix 4: Example of required PIAF Informant Data sheet after interview and transcription

(Do not use this notice with the informant present)

Informant ID: Ash33 Coding: Ash33M40woodbees14y	Informant Name: Ben (pseudo)
Dates and Field Site: May 26 2015	Site Category: Urban Rural Protected Area

Contact (if informant agrees):

Gender: Male

Age: 40 years old

Spoken languages (mother tongue first): English

Ethnicity (if relevant): White

Place of residence (GPS coordinates ?): West Asheville

Place of birth (GPS coordinates): Pittsburg, Pennsylvania

Family situation: Married

Degree of formal education, other relevant training: Degree in Forestry

Current livelihood (job, retirement, farmer, herder, etc...): Woodworker, cabinet making

Tools & methods used:

	Date	Researcher
Interview	26/05/2015	SVS
Freelist	9/06/2015	SVS
PhotoVoice		
Other (specify)		

Short bio (included family and life history and uses of the land):

Ben was born in Pittsburg, Pennsylvania. He is 40 years old. Pittsburg is very industrial, his grandfather was a steelworker and his mom's family were all into coal mining. He hates coal fired power plants but is conscious that coal paid for his mom, they were raised on coal.

He went to college at Virginia Tech to study Forestry, because he likes trees. However he was frustrated by the little hands on work they actually did, it was a lot of theory. He didn't do much with his degree, though knows the Latin names for the trees. Instead he wanted to travel, so he went to Flag Staff, Arizona, for 2 years, making wooden frames for paintings. He didn't think he'd like it but he finds that place beautiful. He heard about Asheville from a girl playing pool there, so he visited and decided to move there. That also brought him closer to his family living on the East coast. He got married a little while after moving to Asheville. His wife and I knew each other from school in Pittsburg. She works in human resources for a big electrical corporation that makes electrical components.

He's been living in Asheville for 13 or 14 years, working as a woodworker making furniture, cabinetry for one "guy". His dad was a hobby woodworker, and he learnt from him, fooling around with his tools in the basement. He likes building stuff, using hands, creating. He likes cherry wood and exotic tropical woods, but he knows that is frowned upon (sense of guilt?). He has a garden in which he grows "normal stuff", but a variety as he tries something new every year. He does grow plants thinking about bees though. Ben has 2 bee hives, he started about 5 years ago after accompanying a friend to pick up a hive. He's interested in the insect as a whole, and spent a whole year reading on bees before getting them, which is unusual apparently.

Ben got involved with The American Chestnut Foundation when he moved here (he's a snowball of Tom Saielli's interview). He has a fascination for the chestnut tree. He participates in a Appalachian Trail project, like citizen science, consisting of hiking on the AT and counting the chestnut trees in that section. He got very involved, has now done almost a thousand miles (half of the Trail), and is going to spend a whole month doing 300 miles in one go for the first time.

Ben gets a lot of information from reading, and his dad was also a big reader. He reads books but also journals and specialized magazines.

Thinking about his youth, Ben didn't grow up outdoors, his family weren't into that, and he thinks "that's part of the thing that drew me to hiking, to being outdoors, cos I didn't do anything. As a young kid we had this tiny little patch of woods behind our house, just a little strip of trees, now if I looked at it it would be nothing, but when you're an 8 year old kid it was like this whole world that I could explore. So I think that's where I... my mom says I was out in those woods all the time."

Social and environmental changes discussed (incl. causes and consequences if described):

West Asheville has changed a lot, it has been the "biggest developing part of town in the last 10 years", even when they first moved here "it wasn't a bad neighborhood" but on Haywood there were lots of junk yards... Even with the change (more restaurants, art), downtown is more attractive to tourists on a Friday night.

Talk of Carrier park: was a race car track, 20 years ago it was a completely different scene. Now people walk down there.

He talks of agriculture and the farmer's markets. The beer industry went from 2 or 3 breweries when he moved there to now having two big national breweries, Sierra Nevada and New Belgium.

"Even the past 10 years, the city has changed so much, you talk to people and they say in the 80s Asheville was boarded up"

He agrees that the traffic is worse, to the point of not being able to park downtown on a Friday night to eat out.

About bees, he reckons everybody in Asheville “kinda knows that they’re good” for pollination and that they’re having problems with whole hives dying. So most people are very open to bees now.

Weather-wise, he says it is “obviously” warming.” Temperature might seem slow changing but it’s fast in the ecological time, but he hasn’t noticed the change himself, he’s heard and read about it (citing historical temperatures). He knows beekeepers are very attuned to flowering times, and he thinks plants are going to slowly adapt to changing environments, like bloomer a bit earlier.

Ben hasn’t noticed any changes in animals or trees... He knows that the blue bird had been declining maybe because pesticides affected the egg shells.

With plants, he considers the invasive species fascinating as they’ve completely changed the world, and that process started a long time ago.

He knows that high altitude trees on mountain tops are “barely surviving” as it gets warmer and there is acid rain. Because the top of mountains concentrate fog it’s worse.

He cites the hemlock tree dying because of the adelgid from Asia. He finds fascinating how because the hemlocks grow on the edge of streams, when they die (and he’s witnessed it) and are replaced by deciduous rather than evergreen trees, the temperature of the water can rise which might affect the native brook trout.

Socially, he talks of the wealthy people he makes furniture for, in gated communities. They are “half-backs”, “because they went to Florida and then they realized Florida was too hot, so they moved halfway back to the North East”. “They want a place in the mountains that’s not hot in the summer time, they spend their summers here and spend the winters in Florida or somewhere like that.”

People moving here are doing so because they’ve “heard it was like a cool place to live”

The problem with population growth and development is affecting the River Arts District, as the price of land has risen so much that artists are being driven out.

Main indicators cited as evidence for environmental change

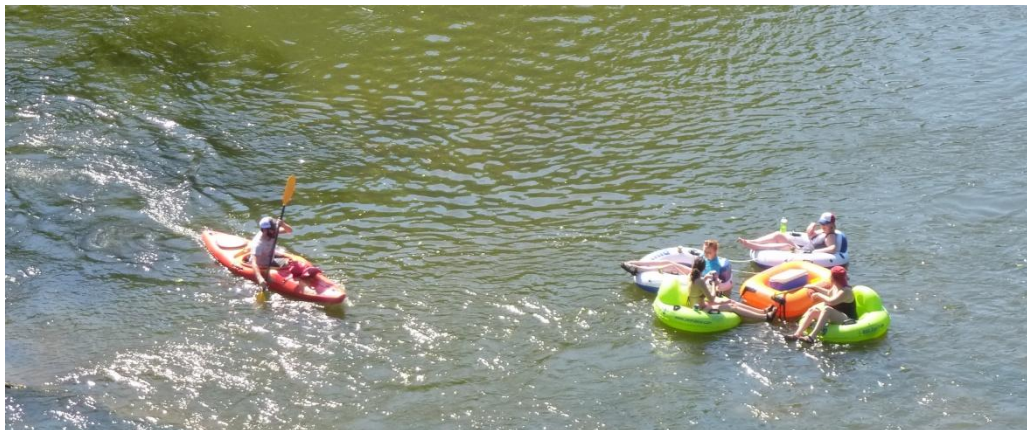
West Asheville changing: Business buildings, warehouses dilapidated, “all of a sudden there was this exploding, like 4 or 5 new breweries, that donut place, everything starting going up in this one little area.” The buildings aren’t boarded up.

The Chestnut and hemlock trees dying show the impact of imported pests.

Appendix 5: Some photos of the field



The group at the Southern Appalachian Highlands Conservancy hike with a representative of the Wildlife Commission (center).



A kayaker and “tubers” on the French Broad River. Note the beer cooler on its own “tube” in the middle of the tubers.



View of the Southern Appalachian mountains from the fire tower at Mount Mitchell



The Biltmore House and estate, one of the main tourist attractions of the area.



A fly fishing store, an example of shop catering for the demand for recreational activities.

Appendix 6: Example of a “full” semi-structured interview transcription using the PIAF timeline model

(Do not use this timeline in front of informant)

Name of interviewer: Stephanie Vincent-Sweet

Name of informant, place and date of interview: Ben (pseudonym), The Wedge (Asheville), May 26 2015

Record's number: Ash33

Time	Main themes / complete transcription when needed
00	<p>My research makes him think of “Phenology”, the study of plants: how plants and animals react to environment. A citizen project? They track changes based on what they see. Plants respond to subtle changes.</p> <p>“A lot of people think plants respond to just temperature and weather, but it’s really more daylight more than anything else. They sense changes in the length of each day. People will say oh it’s warm, the flowers are going to be blooming [...] beyond that they can’t really sense small changes like that, it’s more long term changes like that.”</p> <p>He’s not sure what the exact definition of phenology is. He’s heard people talk about that project (citizen science).</p> <p>“There’s a big weather station here in Asheville” NOAA, they have information on weather.</p>
2:42	<p>“My name’s Ben, I’m 40 years old. I’ve lived in Asheville for 12 years, I guess that’s been a bit more than that, 13 or 14 years.” Knows Tom Saielli through the Chestnut Foundation. He’s been volunteering with TACF from when he moved to Asheville.</p> <p>“I’ve been a woodworker for my life.” “I studied Forestry at school, so for me it’s just anything involving trees is pretty much interesting to me. As a woodworker obviously” problem is he doesn’t mind cutting them down, some people do comment on that: him liking trees and yet cutting them down.</p> <p>Talk of having a tree cut down on his parents’ property in Pennsylvania.</p>
4:04	<p>He makes mostly furniture. “I work at a shop where we do cabinetry, kitchen cabinets and things like that.” People don’t care much about kitchen cabinets, but furniture is something you pass down to your children, several generations. So he really loves that. He hasn’t the guts to go out on his own yet, he works for someone now. “But someday I’ll do it.”</p> <p>He’s the only employee. He’s been working for this guy since he moved here, the US doesn’t have the same apprentice system that Europe does.</p> <p>The only comparable thing is when you’re a plumber, electrician and you have certain classes. But not with making cabinets. There’s an unwritten rule that the older ones will teach them everything.</p> <p>“Actually my dad was a hobby wood worker so I learnt a lot from him”.</p> <p>That’s how he got into it. “He had all the tools in the basement so I was always fooling around.” It probably wasn’t safe as a little kid.</p> <p>“Cabinet making isn’t fun”, he enjoys the finished product but the process isn’t that fun. It isn’t a great job, no benefits or anything like that.</p>
6:10	<p>What does he enjoy in it?</p> <p>“For me it’s just using my hands, building stuff. Like at the end of the day that’s what’s really satisfying to me. I could have a job and sit in front of a computer all day, I know I could do that, but for me I like actually creating things.”</p> <p>Favorite wood?</p> <p>In domestic woods, likes cherry. But he likes tropical woods, but people frown on that.</p> <p>Talk of two brothers with business importing African woods, who have big knowledge of trees.</p>
7:54	<p>Stages of life:</p> <p>“I grew up in Pittsburg, Pennsylvania.”</p>

9:58	<p>Pittsburg is a fun city to grow up in but wouldn't want to live there now, it's very industrial. Steel working: "like my grandfather was a steel worker. And coal mining, "Pennsylvania is famous for coal." It's supposed to be the best coal in the world, the "cleanest-burning, most efficient burning coal". In Western Pennsylvania.</p> <p>"On my mom's side they were all coal miners. And it's like "tough", cos I hate coal mining, I hate coal fired power plants and pollution, but at the same time you think about it's basically paid for my mom, my mom was raised on coal. It's hard to think about it that way."</p> <p>His grandfather was the one driving the big truck. It was all strip mining in Pennsylvania as all the coal was close to the top. No underground mining</p> <p>"I went to college at Virginia Tech." "Studied forestry, and really didn't do anything with my degree which is kinda sad." He knows the latin names of trees and that's about it.</p> <p>After degree went to live in Flag Staff, Arizona, for two years. "I had never been out West before so I just wanted to kinda travel and I didn't think I'd like Arizona because it's desert, and I had this image of the desert being flat sand. And Arizona is like amazing, there are cliffs everywhere, it's such a beautiful place. I didn't think I would like it that much, but I did."</p> <p>You could go down in the desert and be hot, or go up to the top of the mountain to get snow.</p> <p>"I worked at a kindof an interesting place: they made frames for artists, for painters, and they were gold leaf really expensive frames for the big artists." Art scene in the SouthWest.</p> <p>"The woodworking was pretty simple", just cutting corners and putting frames together, but it was a "neat job", they delivered the frames to galleries and artists. Talk of artists with giant canvases.</p> <p>"An artist that can paint or represent something very realistic [...], I thought that was really neat."</p> <p>"I'm close with my family, and it was hard. All my family's on the East coast so it was a lot of travel."</p>
13:03	<p>Someone asked him how he ended up in Asheville, and he had to think about it. He was playing pool in bar in Flag Staff. Girl there playing pool, she said "There's only one place on the East coast I would ever live, and that's Asheville." And he had never been before, and he knew there was a big furniture industry before, most of it has moved overseas now. That's what got him over.</p> <p>He did a complimentary visit first.</p> <p>"Even the past 10 years, the city has changed so much, you talk to people and they say in the 80s Asheville was boarded up", "it's really changed a lot."</p>
14:19	<p>Changes he's seen when being here?</p> <p>West Asheville has changed a lot, even we they first moved here "it wasn't a bad neighborhood" but on Haywood there were lots of junk yards...</p> <p>Talk of Carrier park: was a race car track, 20 years ago it was a completely different scene. Now people walk down there.</p> <p>In West Asheville, on Haywood, "tourists when they come to visit, they still go downtown and walk around, they still want to go to art galleries and shopping, and West Asheville isn't there yet" there aren't enough reasons for people to go there on a Friday night, even with more restaurants.</p> <p>Talk of Isis where bands play.</p>
16:10	<p>He lives in West Asheville, up near 240, Haywood and turn down Brevard Road. West West.</p> <p>Talk of cycling in Asheville.</p>

	Wife works in HR for a big electrical corporation, making electrical components, in South Asheville. She works from home a lot.
29:05	Traffic worse? "Yeah. It's really knowing when not to go to places, you can avoid a lot of it just by knowing, if you know something's going on downtown you just kinda avoid it. That's really the worst part for us is that we like to go downtown Friday and Saturday night, go to dinner, but it's hard to find a parking spot anymore".
29:50	Bees! "I guess I started about 4years ago, 5 years ago. I kinda had all these thoughts about it, and I have a friend that got me into it and he said he was going out to pick up his bees at this guy's house. The guy that has the bees is a mountain man. He lives way out at the top of this gravel road on the top of a mountain, he built his house himself, he has his own water from a well, he somehow creates his own electricity." There's a creek that runs by the house and he made a little turbine out of an alternator. He thought he wouldn't get bees, "and as soon as I showed up I was like "nah I've got to get bees" cos he lives in such a cool place." Why bees? "It seems interesting to me, just watching them. A lot of people get into them for the honey. But for me it's just like the insect, the whole, I've done a lot of reading on bees since then, I learned a lot." Talk of Edward Wilson, the first one that learned about ants communicating with chemicals. Same for bees 31 "you can't really call a bee an organism, it's really the entire colony that acts as one organism. Like it doesn't think, the bee doesn't think about itself, it thinks about the colony. Which I think is a cool insect". Like other insects, "That's the reason they're so successful on earth". "Human culture is similar to that, we kinda think as a unit too, but at the same time we think about ourselves." Book "Honey bee democracy". How bee colony spreads, if there are many bees, the old queen will take half of the bees of the hive and leave, and the other half stay in the hive and make a new queen. The half that leaves will cluster eventually on the branch of tree, it's called a swarm, people are scared of them but actually they're not dangerous, they're just looking for a new place to live. There are bees that go out and search for a new home, they find something, come back and do this dance. There's lots of research about how they tell other bees about where the flowers are etc., so they have to say they've found a good place and convince the others. "And that's why he compares it to a democracy [...] cos they have to convince everybody else that it's a good enough place to live. It's kind of a cool study". Finds that fascinating.
34:30	How started bees? Started going to the meetings of a bee keeping club. "I actually spent, the guy always made fun of me because the first year before I even got bees all I did was buy books and read about it, and he said I'm the opposite of most people, most people just jump into it. In the Spring they decide they're gonna get bees and like a month later they buy a hive and they really don't know what they're doing. So he was like "I feel good about you because you kinda know what you're doing even though you've never done any of it before." Talk of Tom Saielli wanting bees.
35:30	"It's not really scary, like once ou get used to them the bees don't really bother you even if you just walk right up to the front of hive they fly right around you." Talk of people being afraid for the kids, and if not enough space. They had a meeting one time and a doctor /bee allergies came and he certified them to get shots, adrenaline shots in case you have a severe allergic reaction. "So we could have one of those normally to get a prescription for one you have to be allergic to bees, but we were able to get one, just having a bee hive if anyone was going to come round the house, get stung..." Allergies today are strange, cos they say you can be a keeper and get stung a hundred times and have no reaction, and then suddenly you can have one.

37:15	<p>Does he get stung? “No, I actually wear all the gear. Most beekeepers get to the point where they’re not wearing it.” Especially the gloves: it’s easier to work without them (less clumsy), with the gloves you kill more bees accidentally. And the pheromones that are released when they sting stay on the gloves and builds up, which angers them even more.</p> <p>Gets stung when cutting the grass.</p> <p>They have neighbors all around them, there’s some sort of measurement for how far the bees have to be but they don’t really know. And he gives them a jar of honey every year, so. And the bees don’t do anything anyway.</p> <p>“And in Asheville, everybody kinda knows that they’re good, people just have an understanding of the pollination that they do, and obviously knows that they’re having problems and a lot of hives are dying... Most problems are very open to them”.</p> <p>How knows about them dying? He’d read something about it.</p> <p>“It’s a little bit frustrating cos I only have two hives. This year both of them survived but like a lot of the years one of them will die, and you’ve got to replace it every year. First it’s kinda frustrating, cos you’re like what am I doing wrong that they’re dying? But then even commercial bee keepers that have been doing it for... Even they lose 40% of their hives.” The difference is if you have 100 hives you can force the splitting of the bee colony to make two, so even if you lose some you can make new ones and keep the same number. He has to buy a new one every year. He knows how to split the hive theoretically but he’s never done it.</p> <p>The actual bees are \$110 for a hive. The first year it’s expensive cos you have to buy all the equipment. “If you have six or seven hives you can do it for free, I guess. Plus a lot of people sell their honey. This is the first year I actually had enough honey to sell. I had 70 pounds”</p> <p>“But I made a mistake and I actually stole too much.” “They need basically 40 pounds per hive to eat in winter, that’s what they eat in winter and that’s the main reason for making honey.”</p> <p>Says he will show me his hives.</p> <p>“Bees are kinda unique” because they don’t stop storing food, “if there’s enough resources they’ll just keep making honey.” “Around here they don’t make that much” (100 pounds). In the West, if they have 100 acres of clover, the bees will produce a lot of honey.</p>
39:20	
42:30	<p>Specific plants in his garden for bees? Yes</p> <p>“I think the only problem is that you really can’t plant enough of one thing to really make a lot of honey, it’s more the fun of doing it. The one plant that really is the best is buckwheat.” Buckwheat grown for pancakes.</p> <p>Buckwheat “it grows for literally three weeks, it blooms after 3 weeks, it’s really quick, and then it blooms for about 3 weeks and then it dies, and it re-seeds itself.”</p> <p>Plants buckwheat to stop the soil from erosion. “It’s kindof a neat plant, just cos it grows so fast.”</p>
43:45	Talk of book he just bought, “Honey plants of America”.
44:13	<p>How to know which flower is in the honey? “You can sample the honey”, there has to be at least 40% to be labeled.</p> <p>“That’s the big thing with labeling. You’re not allowed to label honey organic. Some people get away with it but you can’t do that because the bees are going to fly anywhere. Supposedly if you can prove, bees usually only fly about a mile from the hive”. “If they’re starving they might fly a bit more than a mile.” So if your hives are in the middle of a giant organic farm that goes a mile in every direction then you could prove it was organic.</p>
45:11	<p>Opinion on organic/non-organic farming?</p> <p>“I don’t know. To me I think that I’ve always been bothered that mainstream America thinks organic is this New Age, new way of doing things. Like the old fashioned way is to use chemicals. But it was only 60 years ago, less than a generation ago, that everybody farmed organic, that was the only way to do”.</p> <p>Some of his family members think it’s a joke so that people can charge more, and that’s a New Age thing to do.</p>

47:15	<p>About where I come from, Europe vs America.</p> <p>"I've never travelled anywhere", just has been to Puerto Rico and Canada.</p> <p>Talk of friend who travels a lot, lives in Switzerland and sends him photos of where he lives "it looked beautiful" but almost like a commercial with the cows, mountains etc.</p>
48:35	<p>What does out of work?</p> <p>"The Chestnut thing is like a big hobby of mine and there's a group". "The tree died from a blight we brought over from Asia. Most of the people who are in our group, the dedicated numbers that have been there for a long time, are interested in our breeding program which is when we crossbreed with the Chinese and come up with a tree that is almost entirely American, 95% American." Talk of growing them, like a crop in rows, with no competition.</p> <p>Has a fascination for Chestnut: "The native American chestnut still grow in the forest, they sprout out from the existing roots stock from a hundred years ago, they sprout out, they grow to be about this big and then they die." They keep sprouting and keep trying to reproduce.</p> <p>Reason they're interested in those trees is that if they survive they can use the pollen to ensure genetic diversity.</p> <p>The project started about 10 years ago.</p> <p>The Appalachian trail: "we do this citizen science project". Talk of "All taxa" project in the Smokies: take an inventory of what's there, a snapshot of what is growing there.</p> <p>"We started this project where we basically ask people, their citizens, not really scientists but just anybody, to hike, pick a section of the Appalachian trail, hike the trail and count the chestnut trees in that section. If they get enough data they can basically see where the trees are growing: what elevation..."</p> <p>He wanted to do 300 miles in two summers. He'd do it on weekends, hike several little sections. "That was four years ago and just kinda got hooked on it." He's done half of the Trail so far, "almost a thousand miles" "my trips are getting longer now as I get farther from home. Next month I'm going to out for month" wants to do 300 miles in one trip, that's more than he's ever done before.</p> <p>He'll stay in shelters. With the AT there is a lot of infrastructure. There's also a whole network of country stores, restaurants that are a short distance off the trail. "the eastern US has been logged, the whole country has been logged, the whole East coast has pretty much been logged" so there are a lot of roads still even in the wilderness.</p> <p>People ask if he's lonely, but he sees maybe 15 people a day on the Trail. "One of the things that drew me to the AT was to continue this Chestnut project but just the thought of being in the wilderness, of being on your own of being by yourself" "You meet a lot of really neat people on the trail, it's obviously people who have the same interest as you. There's also a lot weird people on the Trail too. But for most part they're pretty cool".</p> <p>He has to take a month off work. "Normally I would just take my vacation every year, and my wife likes to go to the beach whereas I hate going to the beach." They work it out her going with her mum and he goes hiking.</p> <p>But a month is pushing it a bit, "she's not real happy" about that.</p>
51:10	
53:55	
54:48	<p>What got him into TACF?</p> <p>"I think I just kinda knew the story of it, even growing up, and then we did some woodworking project where we used the wood." "To be woodworking it's history basically, because the average tree that you use the wood, that tree was alive for 200 years, at least 150 years on the East coast."</p> <p>The hickory tree he had to cut down was 175 years old, so was thinking about when it was born.</p> <p>Chestnut "when you find chestnut wood it's wood that's been reclaimed. The last trees here were dead by 1940 and so any chestnut wood that you find not only was that tree maybe alive for 4 or 500 years before that, but then after it was cut down it was farm for 100 years, before it was reclaimed somebody had to tear down the barn, pull all the nails out of it, and now you're using to build something else." "It's a really neat history."</p>

	<p>is kinda neat.”</p> <p>“It’s not really a temperature change.”</p>
1:05:53	<p>“I haven’t really notice anything like that” (if more or less bees, predators, behavior). With plants, “the invasive species in general are pretty fascinating”. “They’ve completely changed our, the whole world is like that I guess. People don’t realize that started a long time ago.”</p> <p>Talk of chestnut: it was a status symbol in 1800s to have a plant from other part of the world, “if you had a tree in your yard from Asia, that was really a status symbol cos that would mean you had enough money to get someone to put that tree on a ship and bring it over.”</p> <p>“That happens all the time, like a natural phenomenon that we’re moving stuff around the world constantly.”</p>
1:07:07	<p>Has friend from high school who is entomologist. He studies insects, leaf-hoppers, a whole family. He found two new species. He’s travelled all around the world. He had job in port inspecting containers to check what insects are in them. “To me it sounded pretty interesting.”</p>
1:08:52	<p>What thinks of possible consequences? “I don’t know”. With the invasive species, “a lot of time you these disastrous – sometimes it doesn’t make any difference at all this species either can’t survive in this habitat or they don’t really outcompete anything. The famous story I like to tell is the starling, the European starling.”</p> <p>A group in the 60s, a Shakespeare club, in NY, they decided to important all the plants and animals Shakespeare talked about in his writings. “They got 10 starlings from England [...], let them go in Central Park in New York, and now there’s an estimated 4 billion starlings in the US.” Pest for farmers cos they can eat an entire crop of food, hundreds and thousands of them.</p> <p>Were having hard time killing them or anything. Found loud noises scared them away, but they would eventually come back.</p> <p>“Stories like that that you hear.”</p> <p>“It’s tough to convince people. I’m guilty of it: like if we see a tree, a plant, a beautiful flower from another part of the world, you want to buy and plant it in your yard [...] you don’t really think of the consequences of it.”</p> <p>Consequences of temperature rise?</p> <p>“I don’t know.” Cites a study on pollen, like ice cores in the Arctic to see what the environment was like before: you can study the sediment at the bottom of a lake to see what plants there were, in function of temperature.</p>
1:11:28	<p>During last ice age there were glaciers all the way down to here, 10 000 years ago.</p> <p>Talk of Mount Mitchell.</p> <p>“When you get up close to Mt Mitchell, you get into a whole different zone of trees that is spruce and fir basically” “they just call it the spruce-fir zone. Those two trees are basically considered Canadian trees” so during Ice Age those trees grew everywhere. As it warmed the trees moved up towards Canada. But it’s always cold up on Mount Mitchell so they stayed there. “Those trees are barely surviving at the top of those mountains.” As it gets warmer. “It’s taken 10 000 years and those trees are still... even though they’re about to go, people think they’re very close to going” “It’s a neat ecosystem. People don’t realize how rare in the Southern mountains.” Up North you find them easily, not here. “There’s a whole ecosystem of plants and animals that only survive on the tiny little islands of mountains”</p>
1:14:13	<p>“Those trees have been slowly dying and it’s a combination of temperature and acid rain is the big thing”: the top of mountains concentrate fog. “A lot of those trees are on the brink of going extinct. It might take another 1000 years or something. But people always say “if you have the chance, go up and see those mountain tops cos they won’t look that way for much longer”. Not sure how long, but will happen.</p> <p>What causes acid rain? “Pollution”. Acid rain concentrates at that high elevation cos of the fog.</p> <p>“The fact that they’re on the brink, temperatures are a bit too warm for them to survive anyway, so they’re damaged a bit by that, and acid rain adds on”. Some species already dead.</p>

1:15:50	<p>Knows other endangered species?</p> <p>"No, I mean not a whole lot. Like the whole ecosystem up there is in danger because of that reason: if the changes are gone it changes the whole dynamic. I guess the most famous one around here is the hemlock tree, it's a little insect that got imported from Asia, it's called an adelgid. The thing that fascinated me which I never realized before: the hemlock tree grows along streams in very cool areas, like it'll be on the shady side of the mountain in little cove that doesn't get much sunlight [...] literally right on the edge of these little mountain streams" The adelgid is killing the trees, everybody's sad because the tree is dying. It's an evergreen, "so that stream that is running underneath the hemlock is shaded all year, even in the middle of winter it still has shade on it, so that keeps the temperature of that stream really low, it keeps it really cold. So there is like trout, the little brook trout [...] that lives in the streams, it's like our native brook trout. When that grove of hemlock trees die above, people always say "oh another tree will take its place" but the trees that take its place are not evergreen, they're deciduous trees that leaves fall off. So in the winter time that stream is suddenly in direct sunlight all winter, and the temperature of the stream rises even if it's only two degrees it still completely changes the plants and animals that live [...]. That's something I've seen first hand, I read about it but then when I hike on the trail I'll come to these spots, just a beautiful little stream, and you look up and those hemlocks are still standing there but they're all completely dead and there are no needles on them anymore, and the sun is just coming right in on that stream" "It's a big effect, when one tree dies it affects a lot of things".</p> <p>"I'm in the same mindset: another plant will take its place, obviously even without humans the world is always to change, it's part of our ecosystem" "plants are gonna die, news species are gonna start, but at the same time we can try to not, to learn from our mistakes I guess is the best way to think about it, try to not do those things again."</p> <p>"They say that eventually [the trout] they might not go extinct because there might be streams where they can still find habitat, or maybe that they can adapt fast enough. Obviously animals can adapt cos that's what evolution is, it's genetic diversity". A trout that can tolerate a higher temperature will adapt.</p> <p>"Whether they can adapt fast enough to change."</p>
1:17:44	
1:18:50	<p>"I don't worry too much about stuff because you know something is going to take its place. I think one of the funniest bumper stickers I've seen, cos people in Asheville always have these environmental bumper stickers on their car, there's one that said "Mommy what were trees like?" and it's like trees are going to be here way longer than humans will, we'll be long gone and there still will be trees. Like we couldn't kill all the trees on the earth if we tried. We could, but it's hard. It's the same with insects, they say ants and roaches and stuff will outlive humans by millions and millions of years."</p>
1:19:28	<p>They've been here longer and they'll be here longer.</p>
1:20:15	<p>"I've had people say to me, as a woodworker how can you, do you feel guilty for killing trees and cutting down trees... And my entire life of woodworking, the patch of trees I've cut down would be like a little tiny, quarter of an acre. One tree lasted me for seven years, like I was using that wood from one tree for a long time. The dent that I have in the environment, even if I was working for a company that was making a lot of furniture, just me by myself..."</p> <p>"I always say, anytime you're standing outside and looking around, how Asheville, "and my dent would be like so small, fifty trees in my entire lifetime, like not that much. I do feel a bit bad about rainforest trees, old growth trees."</p> <p>"But you hear stories of like native people in those places that are burning ;[...] you can't blame them cos they're trying to make a living." Slash and burn agriculture is killing most trees.many trees can you see at one time?" a hundred thousand trees in</p>
1:21:55	<p>What important in environment for him?</p> <p>"I mean I think water is a big issue, it's not an issue around here as much as it is in the West. They're predicting that within maybe not our lifetime but pretty soon there's gonna be wars fought over water" "When you look at Los Angeles, and these big cities in the South-West, like these giant Las Vegas, giant metropolis, and there's no water there"</p> <p>"You can't blame people for not thinking things through cos they just wanted to start a</p>

	<p>new place to live.”</p> <p>“At some point it’s going to get really bad.” Asheville has it pretty good compared to other places, with the wilderness, “we have more than most places.” Still wild places, parks and stuff.</p>
1:23:33	<p>“The amazing thing about this area I think is just that all the mountains coves, for my job we work for a lot of really wealthy people that have big... a lot of them are stuck at home, and they’re not even their main homes, gated communities up on these mountain tops. I’ve lived here for 12 years and you’ll be driving down the highway and there will just be this one little road that you wouldn’t think twice about, but as soon as you drive down that road you’re in a whole other place, like you go back around the one mountain and you’re in this beautiful valley with fawns everywhere and you would never expect that.” Beautiful places tucked away, close by.</p>
1:24:25	<p>More people moving here for second homes?</p> <p>“Yeah, I think in Asheville it has become pretty big. There was this whole... my dad always used to tell me about this: there was this whole... my parents’ age grew up in the North East [...] and a lot of people moved to Florida, they moved south because they got tired of winters so they moved. Then there was this whole, I think the term for that is “half backs”, because they went to Florida and then they realized Florida was too hot, so they moved halfway back to the North East which is around here, North South Carolina, and they call them “half backs”, and that’s what a lot of people are here, at least the wealthy people we work for.” From Florida, or North-East...</p> <p>“They want a place in the mountains that’s not hot in the summer time, they spend their summers here and spend the winters in Florida or somewhere like that.”</p> <p>Does it get cold here in winter?</p> <p>Yes, it snows. “Every year we’ll get a two or three pretty big storms where we’ll get 10 inches of snow. Some years we hardly get any. I grew up in Pennsylvania and there obviously was a lot more snow, and when it did snow it stuck around. Here it’ll snow 6 inches and the next day it’ll be 50 degrees and it’ll all melt. It doesn’t last very long which is nice but it’s also... I mean I like, I kinda miss snow. People around here they don’t deal with it very well, they don’t know how to drive in it.” They’ll close school.</p>
1:25:33	
1:26:36	<p>Qualify relationship with environment at different stages of life?</p> <p>“I think growing up I had a family that was not out, they weren’t outdoor people at all, my mom and my dad’s family were... my mom’s family are deer hunters, so they were outdoors, they went camping, but their idea of camping is they want a lodge that they stayed in and they just got drunk and went deer hunting, it wasn’t really an outdoor experience. So I didn’t really grow up with that. I think that’s part of the thing that drew me to hiking, to being outdoors, cos I didn’t do anything. As a young kid we had this tiny little patch of woods behind our house, just a little strip of trees, now if I looked at it it would be nothing, but when you’re an 8 year old kid it was like this whole world that I could explore. So I think that’s where I... my mom says I was out in those woods all the time.”</p> <p>“Doing this whole AT project is really the first that I spent long periods of time in the wilderness. Before it was just the weekend camping trip or something like that. Now it’s this whole fascination. For me, when you’re out for more than 3 or 4 days, it takes that long to get to that point where you’re not delirious, not the right word, but you kinda forget your real life, you kinda forget about your job” A weekend camping trip “you’re still thinking about all those things. What you have to do when you get home.”</p> <p>“Being in the woods becomes your life” “True hikers, People who do the whole trail always tell you that, most people say it takes a month of being on the trail to really get to that point where you feel good, your legs stop hurting and it just becomes normal to get up in the morning and hike.” Doing it in sections, you’re not really experiencing it. You lose everything you gain when you go back to normal life. You lose your calluses, need to start all over.</p>
1:27:38	
1:30	<p>Beer week. Events going on, going to breweries. “West Asheville has been the biggest developing part of town in the last 10 years”.</p>
1:30:55	<p>Business buildings, warehouses dilapidated, “all of a sudden there was this exploding, like 4 or 5 new breweries, that donut place, everything starting going up in this one</p>

	<p>little area.”</p> <p>“The South Slope”</p> <p>“The problem with the breweries is that most of them are just people that are opening breweries but they don’t know how to brew good beer.”</p> <p>Wedge and Pisgah do best beer. A lot of new ones don’t do good beer.</p> <p>“I never understand how they’re going to stay in business” why would people go there.</p> <p>“everybody has different tastes, so obviously there will be some people who like it.”</p> <p>Nice about South Slope is being able to walk around to the places.</p> <p>“I make my own beer, I brew beer, I’ve been doing it since College. But I don’t like alcohol, I don’t like being drunk, I can drink two or three beers and from that point...”</p> <p>Confused cos alcohol makes him depressed. “If I get drunk I’m miserable, anti-social”, he would leave parties at College without telling anybody.</p> <p>“That’s my problem is that I love beer and I love drinking and it’s fun to make it. Like I make a batch of beer, five gallons, like 50 or 40 bottles. I make beer once a year and that’s enough for me to last a whole year cos I don’t drink enough.”</p>
1:33:46	<p>Where learnt to make beer?</p> <p>“I think at college”. There’s a book a guy wrote back in the 80s, “The beer-making Bible”, that’s the book everybody starts on. It’s a very funny book. “Don’t worry, relax, have a homebrew”.</p> <p>“Anything that I pay somebody to do I at least want to try doing it myself”, experience it. “My dad always said “if your car breaks down you take it to the mechanic” and for me I was always fascinated with trying to learn how cars work and fix them myself. His thing was “don’t waste your time, just pay somebody, it’s not worth learning how to do it”. For me I’d rather try to, at least learn how to do it myself. Some things are just not worth doing yourself, cos it’s too hard to do or it costs too much money.” “Cars used to be easy to work on but now they’re too complicated” with hybrids...</p> <p>Talk of me not having car.</p>
1:36:28	<p>If has tried water activities?</p> <p>“Yeah we did, one of our neighbors it was her birthday, we did a road trip where we actually put in beer in the river, a spot right her under the bridge where you can get in the river, and there’s another bar, the Bywater, down the river about a mile, it’s basically like this but it sits right on the river. When it’s nice that’s where everybody goes.” Nothing fancy about the place.</p> <p>“When we moved here 10 years ago nobody went in the river, nobody even considered doing that. And that just recently has happened, in the last probably 4 years, sort of popped up. A couple of companies have opened on the road where you rent tubes”</p> <p>“I’ve always had a canoe, I’ve had a canoe most of my life and I always love canoeing cos you kinda have to work a little bit. I love finding places, there’s a lot of neat lakes around here.” Mountain lakes are different. “Those lakes are usually, people with motorboats don’t usually go to those lakes cos they like to have big open stretches of water, to do water skiing and stuff”, so it’s fun for canoes, tiny boats.</p> <p>With canoe you can stay while tubing you “float randomly down the river”.</p>
1:38:52	<p>“That river, it still is pretty dirty, there’s a lot of like toxic businesses that just dump stuff in the river”. 10 years ago nobody wanted to go in the river, polluted.</p> <p>“They claim that when it rains a lot you shouldn’t really go in the water” “cos all the stuff is washing...”</p> <p>“When we had a huge flood, in 2005, 2 hurricanes hit the US, like one hit South Carolina and one hit on the golf coast around Louisiana. The remnants of those systems, they lose energy pretty quick once they get inland, but both came right over us at the same time, and it rained like 14 inches in one day, some ridiculous amount of rain, and that next system hit right after it. The flood wasn’t up to here [Wedge], but right down here the BBQ place, 12 bones [...] that building was up to the roof”</p> <p>Place right next to 12 bones, selling heating oil for houses, they had these thousand gallons, huge tanks, and it completely knocked the tanks off the stands “and if you stood on any of these bridges down here [...] the water looked like oil, there was a slick on top of the water and you could smell it [...] it was really bad.” Any river has</p>

1:41:30	<p>businesses next to it, "because it's flat".</p> <p>"In the mountains it doesn't flood much", and it doesn't affect many people. The mountains stop the flooding. Their house is probably a quarter of a mile of the river, but at least 150 feet higher.</p> <p>The French Broad, "I think it eventually flows into the Mississippi".</p> <p>People aren't too conscious of the water... "we build bridges over it"... "Biltmore village, that real nice area where all those nice shops are, and then Swananoa comes [...] that river flooded even worse than the French Broad did [...] Biltmore village area was not completely underwater but all the roads were flooded." "It was the craziest thing I've ever seen" (cars floating)</p> <p>"I don't think people even realized there was a river there".</p> <p>"I don't think there was too much damage to the buildings". The trade depot, now Craft guild thing "The Southern Highlands Craft Guild". The restaurant went out of business.</p>
11:44:15	<p>Friend, cabinet maker, "he had a shop somewhere in town, and when that flood hit, all of the business that were flooded they were really cheap, even if they didn't get damaged they were cheap because people thought it was going to flood again. So he literally bought this building a year after the flood hit, and I was talking to him about it, they called it about 100 year flood, he said that flood is probably not going happen for another 100 years" "since then water has come up to his front door."</p> <p>He has put wheels on everything in his shop so he can move everything if there's a flood.</p>
1:46:54	<p>Has seen a Coweeta sign, on a watershed, doing research on rainfall (he asked me about the project). Thinks the study was "how human forestry and stuff affects rainfall and affects runoff". The sign looked like it had been there for 50 or 60 years.</p>
1:48:10	<p>Doesn't like public speaking.</p> <p>"For the Chestnut foundation I'm doing this research on the Trail, eventually I'm going to have to do a presentation on it".</p> <p>Talk of meetings, "we have on big meeting every year, mainly for Georgia, fourteen state chapters" it moves around up and down the East Coast.</p> <p>"The general group of the Chestnut Foundation is like 70 year old man, that's your star client. The people who are involved because they remember when the trees were still alive. There aren't many young people involved." They try to get more young people involved.</p> <p>Do poster session for graduate students. He'll do a poster on his AT project.</p>
1:51:18	<p>In the Chestnut Foundation, "the first guy I met was one of our main scientists. He's a plant pathologist is his background, he has multiple PhDs, he's a geneticist. At one point in his life when he was working, he was a corn breeder, a corn geneticist" "I wound up meeting him through the Chestnut Foundation. He's retired, Tom kinda has his old job. Doctor Paul Sista (?), he gave Tom his job. He was just like a mentor to me, I learned a lot, but mostly chestnuts".</p> <p>"I studied genetics at college, but for me anything that I can't see with my eyes sometimes it's hard to understand that stuff. Even though you know what the words mean, sometimes it doesn't make any sense. I'm learning", enough so can have a conversation about it.</p> <p>He's still in contact with him, retired but still involved. Problem, "he doesn't really want to do it the way the rest of the Foundation does", he does his own thing. "He's like retired and he's not really working for the Foundation anymore."</p> <p>Every state has a chapter, so there's a NC chapter, and they do what Paul tells them to do "because he's the geneticist and he knows, whereas once he's gone or he gets to the point where he's not interested in doing the work anymore..." "He's done stuff for 25, 30 years of his life, he's done this stuff, he has it all in his head, we don't really know what his thought process is, we just kinda do whatever he says."</p>
1:53:46	
1:55:01	<p>Do you think men and women might have different uses of the environment?</p> <p>"Yeah, different relationships? Yeah, it seems like it. Obviously you meet women and men who do the opposite of what most of them do."</p> <p>Differences?</p> <p>"I think of men being more outdoors, enjoying being outdoors more, like my wife hates</p>

1:57:13	<p>camping, she doesn't like being anywhere where there isn't a bathroom and a shower, which I can understand."</p> <p>"It seems like everybody has their concern". "Obviously most people have more concern for human life, that's like the main focus" "I wish I was more interested in education, but there's obviously kids today are way more aware of what's going on in the world, more than we were when we were young. I guess that's because they are taught that in school". "Around here there are all these elementary schools that have all of these cool programs where they have gardening at the school... I wasn't exposed to anything like that".</p> <p>"That was my biggest frustration with college in general. I studied forestry and we didn't learn about anything practical, everything was classroom related, it was like text book forestry, we didn't even learn how to use a chainsaw, we did go out and do fieldwork, went out in the woods and measured stuff." Not a lot of practical.</p> <p>Talk of Warren Wilson College, they have a work program where every student has a job outside, they produce food there, have forestry group. "Everybody can't work at a job where you sit at an office all day, you need people that get out and do physical labor. That's the scariest thing to me is that people don't wanna do physical labor anymore, they want an easy job where they get paid and don't have to do anything hard anymore." Lazy.</p> <p>Read this analysis of America: people work too hard, don't rest. "200 years ago when a European... member of family emigrated, left their country and started something new, that person was always the adventurous one, the go getter kinda of person, they always say that that's what created America: they weren't the lazy ones that stayed at home, they're the ones who got an adventure, went on a ship [...] made things happen, made a new life"</p>
2:00:00	
2:00:04	<p>Talk of dad's friend.</p> <p>Knows that a woodworker called "Jon Taylor" had invented one of the woodworking tool: that's cool.</p> <p>Went on website for genealogy, went back a couple of generations.</p> <p>Parents still living in Pennsylvania. They'd moved to Boston for a little bit. Pittsburg is a weird place: "people who grow up in Pittsburg they don't wanna leave, they become very attached to it." Parents like that: "as soon as they leave Pittsburg they're not comfortable." They didn't like the people in Boston, so only stayed a year.</p> <p>He has one younger brother who lives in Boston.</p> <p>Talk of NY.</p> <p>Pittsburg is quite industrial, "all the steel mills were in Pittsburg, so at one point it was the worst city in America for air pollution" in 80s the mills closed and moved, so it has been voted "most improved city or something." But everything's old.</p>
2:03:59	<p>Asheville has a cleaner feel to it. It's like new, everything's newer.</p> <p>"The other problem is I like old looking cities. When I go to a new looking place I don't like it;" eg: Charlotte, "everything is just too clean" and the landscaping has an "unnatural feeling". But maybe cos used to Pittsburg.</p> <p>Out West, everything is evenly spaced.</p> <p>Pittsburg is like Asheville, hills, so roads are all windy...</p>
2:06:06	<p>How feels about people moving here?</p> <p>"The clients that we wind up working for are usually wealthy people who move from..." "I can't say I'm a local cos I've also been here a short time too."</p> <p>Asheville is based on art, not just art, "but everybody has something their passionate about." "A lot of the people who are moving here now, they're moving here cos they heard it was like a cool place to live, and for me I've always been worried that people who move here don't have anything to offer to Asheville except if they have a lot of money" but knows money helps with economy.</p>

	<p>"A lot of people I work for they don't do anything! They don't work [...] they just have a bunch of money".</p> <p>"It goes back to the whole frustration of people being bored with life, they don't find anything interesting. Not everybody has to study and be a scientist, but at least find something you like to do."</p>
2:07:35	<p>What happens when rich people come in /poor people?</p> <p>"This whole Arts district is going through a change right now, I think a lot of people are upset about it but this was all artists, I mean it still is a lot of artists, but this building right here used to be all art studios"... 4 or 5 years ago that was all art studios. "It used to be that artists actually lived in their studio space. When you went on that studio stroll, you'd open the door and there'd be the person with their art and painting, but like their bed and little kitchen would be right there in the studio, and that's kinda changed". The price of land there has risen so much that artists are being driven out cos they can't pay anymore. "You can't stop that from happening".</p> <p>Trying to keep artists in there, "doing the right thing."</p>
2:10:01 2:12:25	<p>I've never tried to go out on my own and do craft shows etc. [...] it takes guts to do that, it's really hard to make a living". It's one thing to be an artist and create something beautiful, you have to meet people and sell. Good artists often recluse, hate that part of the business.</p> <p>"I've never lived in a place where I've noticed, they say that the city has changed a lot, and obviously every city changes like that we just don't notice it till you've lived somewhere for a long long time. You don't really see the changes happening."</p> <p>Hope he'll still be living here in the future. Wife wants to be closer to her mom in Pittsburg, talking of moving closer to Pittsburg or mom coming down, but "you can't plan that far ahead in your life, you don't know what's going to happen".</p> <p>"I'd like to live here for a long time." But there are so many cool places to live, out West. But too far away from family.</p> <p>"For me going to town, 20 miles down the road that I've never been to it's like a new experience, I don't have to travel around the world to have same feeling" People aren't satisfied with where they are.</p> <p>"I find a lot of people who think that way."</p> <p>Asheville different?</p> <p>"That's the main thing that I've noticed, when we go out to restaurant and stuff you just feel like people are happy, they're having fun, and when we travel other places, even if it's close to here [...] you go out and it's not the same feeling, people don't seem like they're having fun."</p> <p>"The South is kinda known for people being friendly, and the North-East people are cold, standoffish, not as friendly".</p> <p>"I like that people talk to each other."</p> <p>The farther North you go, in New England, they're renown for being worse than that, they're not friendly, no eye contact... "obviously not everybody's like that". Feel that in Boston.</p> <p>"Part of that is probably the weather: it's cold all the time."</p> <p>When was on the AT last summer, story of Korean hiker, he found a little pouch, a little recorder, and he saw this guy and he was really funny... He was sitting in the middle of the trail eating lunch, I mentioned "do you know who's this is?" he got super excited: he'd been interviewing people on the trail, he had a hundred something interviews and he hadn't noticed it falling out of his pack.</p>
2:16:00	END