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National Archives at College Park, Record Group 185g, Box 3, Vol. 6. Photo caption: "33-G3 Pedro Miguel Locks. Looking North from South End During Flood - December 4, 1910."

WATER: CONVERSATION WITH THE AUTHORS AND COMMENTARY BY STEFAN HELMREICH

In interviews conducted specifically for the virtual issue, Ashley Carse, then a Ph.D. candidate at UNC-Chapel Hill, asked the authors to consider the anthropology of water from three angles: fieldwork, theory, and stakes. In the forum below, three anthropologists reflect on their past research, larger projects, and the nature of water itself. Authors participating in this conversation include Martha Kaplan, Professor of Anthropology at Vassar College; David McDermott Hughes, Associate Professor of Anthropology and Human Ecology and a Graduate Faculty Member in the Department of Geography at Rutgers University; and Stuart McLean, Associate Professor of Anthropology at the University of Minnesota. Carse also interviewed Hugh Raffles, Professor of Anthropology at The New School for Social Research, about water, asking somewhat different questions. This conversation appears below the forum. Finally, Stefan Helmreich, Associate Professor of Anthropology at MIT, comments on the conversation at the bottom of the page.

1) WATER/FIELDWORK

Ashley Carse: Water can facilitate motion. Rivers, lakes, and oceans have historically enabled – even shaped – the movement of humans and non-humans through space. But water also constrains. It marks boundaries and

edges. Anthropology, meanwhile, has traditionally demanded motion by the researcher across boundaries as we travel to and across “the field.” Using the research conducted for your *Cultural Anthropology* article as a point of departure, help us reflect on the relationship between water and fieldwork. First: How has water materially shaped your fieldwork? Anthropological fieldwork generally? Second: What does (or might) an anthropology of water call for in terms of ethnographic method?



Cared-for water cooler, New York, Natalia Luna, 2007

Martha Kaplan: Exploring the dynamics of water commoditization and consumption has reshaped “the field” for me. I never set out to study water. Working in the midst of Fijian histories, I found that they entailed Fijian and US water bottling histories; that led me to study US water practices at an upstate New York college, pursuing lonely drinking fountains, maniacal bottles and comforting coolers. To problematize this binary, I am now studying a very different water history, wondering about the power of images to make Singapore’s high tech recycled water palatable.

There are two ways to tell the story of how water materially shaped the fieldwork for “Fijian Water in Fiji and New York.” The first is water as a surprise: As an historical anthropologist of Fiji, inspired by Marshall Sahlins to think about indigenous history-making and by Bernard Cohn to think about colonial systems, I studied the cultural history of Fiji: first, the history-making of the Vatukaloko people, their famous ancestor Navosavakadua, and the anticolonial political-religious movement he led, sometimes called a cargo cult (Kaplan 1995). Later, the postcolonial dilemmas of multi-ethnic postcolonial Fiji, in context of a post WWII world re-organized into nation-states (Kelly and Kaplan 2001). But, in the 1990s, friends in Fiji began writing to me about “the Mineral,” a water factory newly built up at Yaqara, on their ancient lands. Like 19th century encroaching coastal chiefs, Methodist missionaries, British officials, and twentieth century Peace Corps volunteers, this new outside enterprise fell into the flow of Vatukaloko history. “Fijian Water in Fiji and New York” began with research shaped by the question of what the factory would mean in local politics,

land tenure and civil rights struggles. The water questions overflowed from Fiji back to the US: why were US Americans buying water in bottles from Fiji? And this flowed over into the question of why they were buying water at all. As one material token of globalization and our field's concerns with it, water provoked this particular inquiry into encounters of global scope, in which relations between people were via the bottles only. As the article argues, it became very clear that Americans love the water, and have very little interest in the people and history of its origin.

On the other hand, there is a different story in which water was not a re-organising surprise. Water, in Fijian cosmology, was always basic to the research, because the research started with wider cultural questions. The dissertation title was "Land and Sea and the new white men." The Vatukaloko are "people of the land" and coastal Fijians and the British were "sea people" or stranger chiefs. Navosavakadua drew upon these categories. Via Sahlins' insistence on the historicity of Fijian culture, Fijian categories of land and sea were central to the research. This reading of "sea" began, not with water, but with openness to the wider question of Fijian culture. So too, in thinking about the US Americans' love for nature in the bottle, water is part of an American culture and history of appropriating indigeneity and recovering purity. But it is not the only token of "nature" and "native" that US Americans engage; others include the turkey and herbal supplements. As a research project, understanding Fijian Water in Fiji or New York could not start with the water. Water can be the subject or object or instrument, but not the location or the point. A necessary means, it interacts variously with humanly made and chosen ends and actors.

Looking back at the article, "Fijian Water in Fiji and New York" emphasized this social as well as material fluidity of the water, offering its transnational biography via its meanings and consequences for different people. But in later research, "Lonely Drinking Fountains and Comforting Coolers: Paradoxes of Water Value and Ironies of Water Use" (forthcoming in CA), my fieldwork is organized around drinking water delivery technologies. I moved among drinking fountains, vending machines and water coolers and met people who lived/worked near them. I tried to understand the people first of all in terms of their water choices. Social relations obtain among, for example, well users, public water customers, fluoridaters, anti-fluoridaters, and cooler organizers. This water census, as I playfully called it, was very fruitful ethnographically. Interestingly, though, one article reviewer grumped that the research was simply a brief survey, an enumeration. I had to work hard to convey the experience of rich ethnographic encounters with fountains, machines and coolers and the individuals and groups assembled by and around these water technologies.

David McDermott Hughes: Let me answer this question by referring to some fieldwork that I did NOT complete (partly because an ethnographic method centered on water is quite difficult to implement). Around 2004, I was interested in exploring the ways in which the Zambezi River had established conditions for tourism, photography, and other mostly white pursuits. I eventually wrote an article ("Whites and Water") and devoted a large chunk of Whiteness in Zimbabwe to Lake Kariba, a reservoir on the Zambezi which posed particularly challenges to white Rhodesian ethics and aesthetics. As it filled in the 1960s, the reservoir drowned entire ecosystems and mammalian populations. Despite this anguish, conservation-minded whites soon reveled in the lake's intricate shoreline, corresponding as it did to a more British geometry of sightlines, vistas, and enclosures. All that analysis centered on standing water and its fairly self-evident (to me) qualities: opacity, reflectivity, navigability (due to lower friction). Moving water posed an entirely new challenge, as

I discovered when I took the ethnography upstream to the Batoka Gorge. Just below Victoria Falls, white Zimbabweans, Zambians, Americans, and New Zealanders were running rafts through 23 rapids, many of them Class IV and above. Local smallholders were fishing along the same stretch of river and crossing it in dugout canoes to trade, smuggle, and so on. Livingstone, Zambia's fourth largest city, also lay just a few kilometers away. These conditions seemed to me unprecedented – or at least understudied: tourists, natural resource based-communities, and an urban population were all making use of the same landscape without apparent conflict. The Batoka Gorge, in other words, might provide a model of how to reconcile production and scenery, or local people and parks. And water made it possible. In order to prove the last point, I would have to investigate quite specifically how the properties of water segmented the river, providing separate spaces and times for various users. First – and this was the easier part to show – water has the capacity to pick up and carry material. Over millennia it had eroded its way more than 100 meters downwards. As a consequence, the rapids lay deep in the gorge, from which Livingstone was not visible. Optically, the lip of Batoka gorge segregated the city from the wilderness. The rapids themselves resulted from deposition, which occurs when water becomes overloaded with material and drops sediment, rocks, and so on all at once. Water tends to lift and deposit sediment at regular intervals. (Regarding all liquids, an equation describes this transport property as it relates to velocity, depth, and a measure of viscosity called the Reynolds number.) Hence, rapids – known as riffles in the technical jargon – alternate with still pools in a fairly even spacing. In this way, the river separated its users again: rafters bounced along the riffles, only relaxing through the pools. Local inhabitants fished and canoed across the pools. Also – further to separate users – bends in the river tended to shield riffles from pools. Such meanders result from another property of water, which I describe in the next answer. So far so good, but I needed to understand the riffles much better. What made them exciting to the rafters, and how did the guides exploit specific hydraulics to enhance the apparent and real dangers of rafting the river? I wanted to explain how the precise movements of water around sunken stones (holes, standing waves, etc.) created the experience of “adrenaline tourism.” As a method, I would have had to run the river with each guide at high, middle, and low water, noting the “lines” they took through each rapid and discussing it with each guide afterwards. Videos would help, and fortunately the rafting companies produced a DVD of every trip. (See example video embedded below.) Yet, as you can imagine, I did not have the time and patience for such an investigation (Also, the relationships between rafters and the local community did not prove be quite as harmonious as I had first heard). I mention it, though, because it demonstrates the kind of technical precision that would help us more fully to explain the role of water in specific social contexts. As it is, I settled for the more general observation that adrenaline tourism reconciles (black) production and (white) leisure far better than has photo tourism. Pocket parks, such as Batoka Gorge, provide a more just wilderness experience than do the vast savannah parks displacing smallholder agriculture. Whiteness in Zimbabwe ends with this recommendation – the coda to a larger argument on the co-production of white African identity and the wilderness ideal.

Stuart McLean: Given that a lot of the discussion of Venice, for example, in my CA article was based on literary sources, this question is perhaps easier to answer with reference either to my earlier work on Irish peat bogs or to a recently begun project based in the Orkney Islands that looks, amongst other things, at the relationship between the living and the dead considered in conjunction with the relationship between land and sea. In the case of Irish bogs, my longstanding fascination stems not only from the fact that they seem to traverse and confound some of our

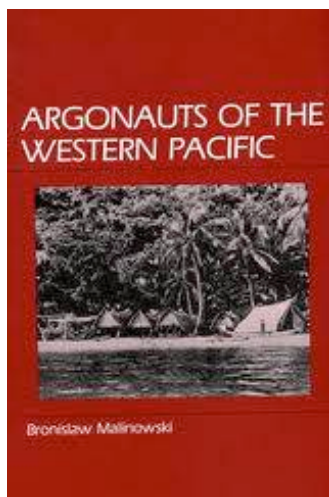
habituated distinctions between “nature” and “culture” (e.g. as sources of fuel, habitats for a variety of other than-human species, archaeological sites, objects of conservationist concern etc.) but also from their distinctive materiality, part liquid and part solid. To my mind one of the limitations of a lot of recent anthropological work on the topic of material culture is that it tends to engage the material world exclusively in solid form, usually in the guise of humanly manufactured objects in fact. Tim Ingold has recently argued (and I would agree) that materiality can be more suggestively and less anthropocentrically engaged by focusing not on objects, which are always in some sense already culturally specified, but on substances and their transformations. In this regard, it strikes me that other than solid modalities of matter offer perhaps the greatest challenge and provocation, both conceptually and methodologically. In the case of bogs and other so-called “wetlands” (a problematic term in my view as it seems always to imply a certain predilection for terra firma and a concomitant desire to reduce liquidity to a mere predicate) one of the challenges is that of giving expression to their amorphous, in-between character and the way in which this has shaped their entanglements with a variety of human and non-human actors. For example, does a gelid environment like a peat bog call for different strategies of engagement and writing than a rocky one? Does anthropology have something to learn here from, say, the visual arts and literature? Seamus Heaney’s bog poems have provided a repeated reference point in my own work. I’m particularly intrigued by the possibility that the language of poetry might be able to capture something that our more familiar analytic vocabularies can’t. In the case of my new project in Orkney, one of the questions that interest me is what happens when things move between the elements of land and water. The folklore of the Scottish islands abounds in stories of amphibious beings like “selkies” or seal-people, who usually live in the sea in the form of seals but occasionally come ashore, casting off their skins to assume human form. Then you have the large number of sunken wrecks surrounding Orkney’s shores, onetime terrestrial artefacts that can be seen to have followed a reverse trajectory. One component of my “fieldwork” (a landlubberly term if ever there was one!) over the past year has involved learning to scuba dive, partly in order to examine at first hand the remains of some of these submerged vessels and partly to experience and (I hope) write about the transition between the terrestrial and the sub-aquatic, a transition accentuated by the bulk of the rather cumbersome neoprene dry suit that one is obliged to wear for insulation when diving in Orkney’s chilly waters – a prosthetic body of sorts that enables and constrains in equal measure!

2) WATER/THEORY

Ashley Carse: Stefan Helmreich recently argued that water has sometimes served in cultural anthropology as a “theory machine” (the term is historian of science Peter Galison’s): an object in the world that stimulates a theoretical formulation. In recent years, “watery metaphors” – flows, fluidity, circulation, etc. – have been mobilized by anthropologists and others with increasing frequency to theorize the era of globalization. Has water prompted or formatted your own thinking about social dynamics? If so, how? What do you see as the advantages – or risks – of using watery metaphors in theorizing society, culture, and political economy?

Martha Kaplan: Metaphors of flows and fluidity are far from precise, ethnographically. On the one hand, water is not the only source of the metaphors of flows, fluidity and circulation. Indeed not just liquids provide these metaphors. Electricity may be more useful; certainly it brings with it both fluidity and,

importantly, power. Electricity as metaphor also insists on an engineered quality to the flowing entity and its circuits. This is a useful contrast to alert us to our tendency to think of water as “natural”. Thinking of Janet Abu-Lughod’s circuits of interchange in the 12th century Asia centered world system, the interlocking political economic circuits have a grounding and impact that doesn’t need a water referent. On the other hand, actual water can challenge our metaphors, if we consider water in use. Water in use, as I have encountered it, does not always flow or circulate. Water in single serve, individual PET bottles deliberately doesn’t flow between people. This contained, owned, private quality is the point, the purpose of the bottles. Water in fountains in the Jim Crow South didn’t flow across boundaries; it was used to mark them, even make them. Water from workplace spring water coolers is curiously private yet public, individual yet shared, cupped yet generously served and flowing. So water does not offer a consistent metaphor. But if we find our metaphors ethnographically, we amplify our understanding of some groups, relationships and projects.



Argonauts of the Western Pacific, Book Cover

David McDermott Hughes: I am wary of conflating metaphor with theory. Therein lies the risk you imply. Nonetheless, I would say that much of anthropology and the social sciences are stuck in an unacknowledged set of metaphors regarding solids, particularly soil. I often tell my students to stop thinking like clods of dirt. By that I mean that they should relinquish the assumption that social distance varies directly with Euclidian distance within a land mass. In Euclid’s geometry, the shortest distance between two points is a line. The length of the line indicates the degree of proximity between two objects and the effort that one or both will have to expend in order to meet and interact. This notion underlies conventional assumptions about place and community and, particularly, about the “community of place.” As an alternative framework, I encourage my students to imagine themselves as water molecules. Water moves almost without friction, and so do vessels floating on it. Therefore, a longer journey (in Euclidian terms) by water is almost always faster and easier than a shorter one by land. Indeed, water itself always tends away from direct paths. Over time, rivers erode and deposit their banks to form a meandering course. Ever so slowly, the meanders conform to a sine-generated wave. When compressed, a saw blade bends in same sinuous fashion, distributing energy evenly across the distance. Even in a frictionless flume, falling water slows itself down with this slalom. Entire civilizations, empires, and markets have risen and fallen by these liquid

principles. Nonetheless, scholarship tends to treat marine units – notably the Atlantic System and its resultant African Diaspora – as peculiar. Social units linked by water seem unnatural, almost Herculean, constructions in comparison to the quotidian, ubiquitous “neighborhood.” Why should a field once steeped in marine travel – recall Argonauts of the Western Pacific – now operate mostly within a terrestrial, dirt-clocl framework? Perhaps we have adapted too readily to the jet age. For those who can afford it, the airlines have reestablished Euclidian travel. By plane – as by foot – the shortest distance between two points is a line. But the pendulum is swinging back again. In virtual space and along fiber optic cables, there is no distance. This compression strikes us as new, but we might learn much from the comparison with water-borne movement. We might also reflect upon how anthropologists’ means of travel have shifted the spatial assumptions of our fieldwork and theory. Although I shudder to think of it, internet-based ethnography cannot be far off. The web is full of people thinking (and feeling) like liquids. To grapple with them, anthropologists will have to develop an aquatic substitute for the sedimentary, village study.

Stuart McLean: I think the idea of water as a “theory machine” is a highly suggestive one, although it seems to me that it could be expanded upon. Could one speak of water as, for example, a “literary/mythological machine” or an “artistic machine” or, in more general terms, an “imagination machine”? It strikes me that water has played no less significant a role in stimulating literary and artistic imaginings and that it has, arguably, done so over a much longer period of time – think, for example, of flood myths from the ancient Near East. Having said that, it should be acknowledged too that water-inspired theory has a long history – I suppose that an early example would be the Greek pre-Socratic thinker Thales (who posited water as the primordial element and was credited by Nietzsche with the originary philosophical insight, namely “that all things are one”). As to the ways in which water has influenced my own thinking, I would be inclined to say that this has taken the form less of the borrowing of aquatic metaphors to understand and describe contemporary social processes than of trying to find ways to jump outside received vocabularies of social-historical description and analysis, perhaps by trying to allow my own writing to take on a certain ‘watery’ inflection. One work that I’ve found particularly inspiring in this regard is Luce Irigaray’s wonderful book *Marine Lover of Friedrich Nietzsche* – a poetic reflection on/dialogue with Nietzsche’s texts that invokes water as the element from which his philosophy pointedly shies away, preferring instead imagery of mountain tops, aerial flight etc. Rather than a straightforward critique of Nietzsche’s philosophy and its preferred metaphors, Irigaray’s book elaborates its own discourse between and around them, engaging Nietzsche both as an imaginative interlocutor and, at times, as a lover. Water is appealed to not only as a source of imagery and tropes but also as the basis for a distinctive way of thinking and writing, one that I, at least, have always found extraordinary compelling. Irigaray doesn’t seem to be much read in contemporary anthropology, I suppose because her writing is often deemed to be “ahistorical” and “essentialist”, in other words that it seems to flout the protocols of contextual and historical analysis to which all of us in the discipline (protestations to the contrary notwithstanding) are to some degree habituated – which is a very good reason for reading her, as far as I’m concerned! As I think the above suggests, in the end I’m interested in water not so much as a potential source of new social explanations but as one possible means of calling into question what an explanation is and does and also as an impetus to thinking about new ways of writing and the fashioning of new kinds of scholarly artifacts.

3) WATER/STAKES

Ashley Carse: At the conclusion of a water panel at the 2009 AAA meetings, discussant Kim Fortun provoked panelists with the following questions: **What would it look like if anthropologists took water seriously as a topic of research and action...as seriously as, for example, capitalism? What theoretical, political, and/or personal reasons attracted you to study water? What do you see as the political stakes and potentials – if any – in how anthropologists engage water?**

Martha Kaplan: On the one hand, Bruno Latour's work on the agency and power of things and the bringing into being of new realities pushes a scholar focused on people to think in new ways about things, publics and politics. "Each object gathers around itself a different assembly of relevant parties. Each object triggers new occasions to passionately differ and dispute. Each object may also offer new ways of achieving closure without having to agree on much else. [O]bjects-taken as so many issues-bind all of us in ways that map out a public space profoundly different from what is usually recognized under the label of "the political." (Latour and Weibel 2005:15). But of course Latour is talking about all objects, not just water. Objects as a whole may be a big enough topic to rival capitalism, but I doubt that water is. The issue is not only scale. Studying capitalism, or a culture, inquires about a system. Studying objects, including water, tracks relationships beginning with material existence, its protean possibilities and specific potentials. This orients to means and the realizations of possibilities, not ends making history and made by it. Vicissitudes of significance are tracked differently thinking about the rise and fall of systems versus the rise and fall of things. Many things move easily and all have their own careers, as do agents inside systems, sometimes outside of them, often in creative dialogue (see Kaplan and Kelly 1999). The utilities and potentials of things are unbounded, but uses of a thing are particularized by agents' ends. Value is always local, established within a system.

Stakes that matter to me go beyond anthropology and social theory and involve understanding how US Americans make political choices and constitute publics/communities. Looking back at the Fijian water paper, my cultural studies analysis of the marketing of Fiji Water as "untouched," and consumer desire for that quality in the water, is disapproving. The US water drinkers in this paper are participating in a particularly American exercise of power over nature and others. In hindsight, some of the certainty of the analysis may come from the strengths and weaknesses of cultural studies analysis, and some from a reading of US-world relations of the time. Later, actual ethnographic research, on water choices in practice, in the emerging recession and the simultaneously hopeful political days in the run up to the 2008 election, showed me some US examples of purchased water that constituted caring communities. Even some kinds of water fetishism could be read, surprisingly, as attempts to "steal life from the gods" (in AM Hocart's phrase). So, when it comes to stakes, insights into ways of assembling coalitions matter, for social theory generally, for global studies with their particularly long dynamics, and for understanding local politics, including those in the US. Water is not the only topic by which to gain such insights, but it has its uses.



Sketch map of Kariba Lake shoreline, P.J. Ginn, 1995

David McDermott Hughes: Water is a juggernaut, if ever there was one. As my forgoing responses suggest, I take the biophysical qualities of water seriously. In Bruno Latour's sense, H₂O is an actant. Water has properties and capacities that can effect change in the world, and some of these capacities are essential, rather than socially constructed. Take landscape, for example. Anthropologists, geographers, and historians are increasingly emphasizing its "scape" aspect – of the land as something seen, where perspective, cropping, and so on drive everything. To my mind, Craig Childs provides a useful corrective when he writes – in a popular book on deserts – "water build[s] a land that will carry it" (p. 209). He means that viscosity, friction, sine-generated, waves, and the Reynolds number – together with geology and gravity – sculpt the mountains and valleys that we know today. They form the template for aesthetics, religion, politics, and engineering to work with. (Childs goes too far, in my opinion, when he suggests, "water ... created life in order to reach odd [uphill] places" [p. 50].) In other words, wherever the environment is meaningful or contested, an interaction of biophysical and cultural factors has made it so. How might this insight cause one to practice engaged anthropology differently, as you ask? Let me give two examples from my past and current research. First, between 2000 and 2007, I carried out ethnography in an area of white-owned agricultural estates in Zimbabwe. Over the previous decade, these commercial farmers had dammed rivers and created irrigation reservoirs. Beyond the benefits to their crops, the farmers celebrated the reservoirs' beauty. Their intricate shorelines offered enclosed bays and inlets, in which one could fish, watch birds, or camp in seclusion. Anglers imaged themselves in the wilderness, and some stocked their shorelines with antelope and other game. When, beginning in 2000 government para-militaries seized the farms, the dams, the fish, and the wildlife, whites often protested on environmental grounds (as well as on those of human and property rights). Some international conservationists spoke out as well. The minute one considers water as an actant, however, their arguments crumble. The shorelines were intricate – dendritic in the technical jargon – not because they were wild, but because they were artificial. Over time, as the lakes aged, water would erode and smoothen the

banks, making reservoirs more and more circular. To believe that the shorelines were wild was to naturalize a (white) engineered object – and to pathologize all (black) uses of it other than conservation. I wrote about these reservoirs in the “Hydrology of Hope” article and in *Whiteness in Zimbabwe*. (The attachment is a sketch showing a reservoir deliberately designed to maximize shoreline and bird habitats.) At a more abstract level – and this is the second example – I am interested in the property of liquidity. My current research centers on hydrocarbons, that is oil, natural gas, and some heavier ones, such as, asphalt. These substances have mostly failed to attract cultural meaning. Unlike water, petroleum carries little aesthetic charge. For the most part, it neither strikes us as beautiful nor as ugly. We simply don’t see it. We only tend to see oil when – as in the Gulf of Mexico this summer – the systems for extracting and delivering it go terribly wrong. Oil becomes a visual and political problem on the rare occasions when it spills in water – and rarely on the constant occasions when, after being burned, it spills in air. Of course, the biophysical qualities of hydrocarbons contribute to this invisibility, and I have just returned from a year’s fieldwork in Trinidad investigating their influence among oil and gas institutions. Trinidad and Tobago is arguably the world’s oldest petro-state, and even environmentalists tend to overlook oil-based pollution. (The water body shown on the activist photo to the right, for example, is heavily polluted with hydrocarbons.)



Irish Peat Bog

Stuart McLean: What would it mean to take water as seriously as, say, capitalism? I think the question is a very timely and provocative one and therefore deserving of a rather lengthier and more detailed answer than I can give here. The following then are just a few fragmentary suggestions. First, if we were indeed to take water as seriously as capitalism, then it seems to me that we would be obliged to question, in a quite fundamental way, our habitual prioritization of certain kinds of social and historical explanations. Obviously, a great deal can be said about water in a

socialhistorical register – about, for example, its uses, meanings, symbolic valences, the various bodies of scientific knowledge that have developed in relation to it etc. Taking water seriously, however, would surely involve taking seriously the possibility that water might also afford an explanatory and descriptive register capable of encompassing ‘society’ and ‘history’ (rather than vice versa). It might, for example, require a sustained engagement with temporalities very different from those customarily invoked in the writing of history (including the *longue durée* environmental history practiced by Braudel and others). Water, in other words, might afford a provocation to think beyond or outside the human-centered time-frame that continues to be the default setting for much anthropological and historical scholarship and in doing so it might prompt us to more sustained consideration of explanatory logics other than those underpinning contemporary variants of historicism. Second, what might be the implications for taking water seriously of the fact that water can be encountered not only in liquid but also in solid and vapor form. If our analytic vocabularies tend to imply a world composed largely of more or less clearly bounded solids, might a more sustained engagement with water be one way of coming to terms with these other modalities of matter (and the phase transitions between them) as well as with the fact that much of the matter that surrounds and constitutes us does in fact exist in other than solid form. Third, it has often been pointed out that the human body is itself composed largely of water. What would it mean to take this claim seriously? What would it mean to acknowledge that human beings, as anthropology’s foundational object of inquiry, are, to a large extent, ‘made of’ water? How might recognition of this inflect discussions of, for example, embodiment, which have often tended hitherto to presuppose a certain corporeal solidity. How might it prompt us to rethink not only bodies and subjectivities but also their relationships to and consubstantiality with the various material environments they inhabit? In short, I would see a more sustained engagement with water and offering far-reaching possibilities for transforming both the terms in which we describe reality and our sense of what counts as reality. Perhaps an aquatic voyage should be required of all of us interested in pursuing the possibility of a ‘post-humanist’ anthropology?

INTERVIEW WITH HUGH RAFFLES

Hugh Raffles, Professor of Anthropology at the New School for Social Research, discussed "Local Theory" with Ashley Carse, Ph.D. Candidate at UNC-Chapel Hill, as part of a larger conversation about the anthropology of water published in the **September 2010 Water Virtual Issue**. In the interview below, Raffles discusses how he came to study amphibian landscapes, the language of water, anthropology of the elements, and his favorite water writing and art.

Ashley Carse: In your book *In Amazonia*, you write that you initially proposed a research project quite different from the final product. How did you become interested in the anthropogenic manipulation of Amazonian rivers and streams?

Hugh Raffles: Yes, I’d initially imagined a project about non-timber forest products, something that was very much at the forefront of Amazon politics in those days (the mid-90s). But it was a poor project as I already knew what I wanted to say about the issue – or thought I did - before I’d even been to the region.

The topic of anthropogenic waterways emerged in a much more satisfactorily ethnographic way. I was lucky enough to make a preliminary research trip to Amapá

early in my doctoral program at Yale. Christine Padoch and Miguel Pinedo-Vásquez looked after me and took me to several communities around Macapá. During a conversation in a village one afternoon, a man mentioned to Miguel and me that the river we were sitting next to had been cut by hand. It was an offhand comment but it stuck in my mind because I'd never heard of anything like that before and because it was evidently a very everyday matter to the people who lived here.

You have to remember that in the 1990s Amazonian anthropology was still emerging from the quagmire of cultural ecology. Bill Denevan, Darrell Posey, Susanna Hecht, William Balée, Bill Woods, Christine Padoch, Anna Roosevelt, and others had been carefully documenting the contemporary and historical farming practices of caboclos and indigenous Amazonians. They'd managed to shift the discussion from questions about the capacity of people in the region to adapt to the environment to accounts of Amazonians' abilities to transform the local and regional landscape. In one respect, my research simply added a riverine dimension to this growing body of literature that demonstrated how the terrestrial Amazonian landscape was intensely managed and manipulated at a wide range of scales.

At the time, I was looking for ways to move beyond the nature/culture debates (in Amazonian studies and elsewhere) by working ethnographically with some of the recent insights of science studies. Part of what attracted me to these amphibian anthropogenic landscapes was that they opened up these big categories in a very material way – that seemed exciting both theoretically and ethnographically.

AC: Whirlpools, streams, rivers, floodplains, canals, tides, waterfalls. You make extensive use of the language of water in this article and in *In Amazonia*. Did the materiality of water shape your approach to writing during this project?

HR: Without a doubt. But I didn't do it self-consciously and actually only saw it later when readers pointed it out to me. I take it as a sign of how deeply immersed (sorry) I was in that riverine landscape at the time and also of how thoroughly entwined with it were the lives I was trying to describe.

When I was working on Amazon rivers, I became very preoccupied by questions of fluidity – flow, obstruction, viscosity, sedimentation, turbidity, currents. I was thinking about these as theoretical – mostly sociological and historical - concepts rather than as narrative elements. but that now seems like a false distinction. I suspect that most people find, as I do, that the object of their work not only shapes and forms the writing in a relatively narrow stylistic sense, but also motivates its overall aesthetic and philosophy. I just finished a book on insects that has many of the characteristics I've come to think of as "insect": variety, movement, intensity, superficial order, unruliness, etc. As many people have said, when writing's going well, it's as if it's inhabited and driven by its object.

AC: Since writing about fluvial landscapes in *In Amazonia*, you recently published a wonderful anthropology of insects (*Insectopedia*). Its first chapter is entitled "Air." And, now, I hear, you are working on something about rocks and stones. What draws you to the elements? And when can we expect something on fire?

HR: Well, luckily for me, insects contain all the elements, at least the Aristotelian ones. I have a chapter in *Insectopedia* on the Flemish miniaturist Joris Hoefnagel's

late 16th-century manuscript of insect paintings. Hoefnagel called his book *Ignis* (fire) to celebrate what he regarded as the insects' privileged liminality. I think that will have to do for now!

I am currently writing an anthropology of rocks and stones. I see it as the final part of an ethnographic response to Heidegger's famous dictum that "man is world-forming; the animal is poor-in-world; a stone is worldless." But it's a struggle right now to find a language to make sense of a category of objects that are not animals yet can be so radically animate, that are profoundly detached yet fundamental to all existence, that possess varied and contradictory qualities, that exist at a vast range of temporal and spatial scales, and that can take almost unlimited form. It's a much bigger project than I realized at first, but isn't that often the way?

AC: What are your favorite writings about water?



JMW Turner, *The Thames above Waterloo Bridge*, circa 1830-5

HR: I love Gaston Bachelard's *Water and Dreams* which I discovered just as I was finishing *In Amazonia*. It's an impressively sustained and organized exploration of water symbolism, similar to his better-known *Poetics of Space*. Then, of course, there's *Moby Dick*, I don't know anything else that quite situates life at sea so well and captures it in all its extremes. There's also a wonderful scene in André Aciman's memoir *Out of Egypt*, when he's traveling in a fast boat across the Bay of Alexandria at night, just before his family finally leaves the city, watching all the landmarks of his past slip out of sight across the water.

Perhaps my favorite attempts to capture the qualities of water, though, are J.M.W. Turner's paintings of the Thames [see image to right]. They can be so abstracted and gestural yet so evocative that scholars sometimes can't decide if a canvas is unfinished or completed. That seems like the perfect provocation to thinking and writing about water.

COMMENTARY: VIRTUAL WATER by Stefan Helmreich

In reflecting on this virtual issue on water, I have wondered whether water is itself virtual — that is, a collection of varied effects that answer to a common name without necessarily sharing a common substrate or essence. Contrary to the claim that all watery phenomena are unified by the molecular structure shorthanded as H₂O — the claim of modern science (soon to be given an historical accounting in Hasok Chang's *Is Water H₂O? Evidence, Pluralism and Realism* [forthcoming]) — I would join Ivan Illich in his *H₂O and the Waters of Forgetfulness* in saying, "I shall refuse to assume that all waters may be reduced to H₂O" (1985:4). More: water's multiplicity is not finally anchored at any one scale, in any one register.

David Hughes's account of the waters of the Zambezi River, flowing alternately through small pools and through rapids, marking out a racialized hydrography of local black subsistence labor and white "adrenaline tourism," offers a good starting point for apprehending how this is so. Hughes argues that the segmented flow of the Zambezi is entangled with the capacity that water has to carry sediment and sculpt riverscapes. But while Hughes claims that this aqua-territorializing power follows from the properties of water ("Water has properties and capacities that can effect change in the world, and some of these capacities are essential, rather than socially constructed"), he also makes the (to me) more compelling suggestion that water is a Latourian actant. Actants emerge from multiplicities, from relations, not from a priori ontologies. "Water," to put a point on it, is never "pure," never found free of other elements (as Hughes's drawing our attention to sediment itself makes manifest). Its Reynolds number — which Hughes explains so well — is an abstraction. More fundamentally, H₂O is an ideal type — a device for thinking, as Hughes nicely evidences in his water/theory reflections when he writes of asking his students to "imagine themselves as water molecules" in order to unbind themselves from the metaphors of land and to begin to grapple with the fluid character of sociality.

Martha Kaplan's ethnography of bottled Fijian water, in Fiji and New York, makes lucid how water's "purity" — now in a fantasy rather than technical casting — is the result of discursive work. Kaplan writes that, "water is part of an American culture and history of appropriating indigeneity and recovering purity." For many American consumers, bottled Fijian water stands for an untouched tropical native nature — an intriguing transmutation or even inversion of early twentieth-century Euro-American associations with water, which had the purity of water racially marked not as the brine of a tropical other, but as the signal concomitant of whiteness (see McClintock 1995:33 on colonial associations of whiteness with soapy water, Illich 1985:2 on the Victorian association of water's purity with [white] women's bodies, bathing in domestic spaces). Kaplan's and Hughes's writings suggest the need for more research on water and whiteness — or, perhaps water and race, since, as Kaplan insightfully remarks, "water does not offer a consistent metaphor."

Hugh Raffles suggests that amphibian anthropogenic landscapes such as those in the Amazon supersaturate categories of nature and culture, not because they exceed these categories, but because of how these categories call upon notions of liquid and solid in the first place. He writes of "flow, obstruction, viscosity, sedimentation, turbidity, currents" as theoretical prods. As I read him, he simultaneously refrains from making these forms into once-and-for-all qualities — or, in the fashionable word of the moment, ontologies — of water. Handier for thinking through and with water, he suggests, are provocations like those of J.M.W. Turner's paintings of the Thames, in confrontation with which viewers cannot finally decide on what is done, undone, actual, or virtual.

Reading Stuart McLean's reflections on how thinking with water might fracture some of social theory's favored binaries, objects, tropes, and temporalities put me in mind of what one of my marine biologist friends said one day upon retrieving a crushed oceanographic instrument from the sea: "Everything breaks in the ocean." Certainly many things defamiliarize and remediate, as McLean's story of employing scuba diving as an ethnographic apparatus illustrates, as he tunes into the "transition between the terrestrial and the sub-aquatic" and becomes aware of the clumsy media ecology of his neoprene dry suit. My own experience diving has pressed me toward similar recognitions, and using such submarine disorientations as "theory machines" has proved ethnographically ear-opening. In connection with Galison's "theory machine" formulation, I much liked McLean's suggestion that we might also consider literary, mythological, artistic, and imagination machines — to which we might add "philosophy machines," as McLean's discussion of Thales, Nietzsche, and Irigaray suggests. In a political economic key, McLean responds to the question of what it would mean to "take water as seriously as capitalism" by saying that so doing might "afford a provocation to think beyond or outside the human-centered time-frame" — an intriguing way to play with scale. The scale question also folds back toward the human; McLean writes, "it has often been pointed out that the human body is itself composed largely of water. What would it mean to take this claim seriously? What would it mean to acknowledge that human beings, as anthropology's foundational object of inquiry, are, to a large extent, 'made of' water?" I cannot resist a partial answer from my own work on marine microbiology, which field has lately drawn attention to how our bodies' ecologies are networked to wider oceanic ecologies shaped by such phenomena as blooms of neurotoxic bacteria, which may flow into our nervous systems via drinking water and food chains (see Helmreich forthcoming). Water can help us scale away from the human, yes, but also aid us in scaling back into and through the human as a node of water, impure and multiple. The mushy materiality afforded by thinking of water as swarming with lively and deadly microbes has something in common with McLean's bogs, part liquid, part solid, part actual, part virtual.

To close, the virtual/actual may be another binary in need of smudging. Such events as the 2004 Indian Ocean tsunami, 2005's Katrina, the 2010 oil spill in the Gulf of Mexico, and the recent flooding in Pakistan are at once relentlessly actual as well as entangled with infrastructural dynamics (coastal warning systems, levees, urban and rural planning) put in place by practices of virtuality, from computer modeling to politically inflected predictions of water demand, capacity, and flow. Water, it turns out, is an actual and a virtual issue.

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