DIGITAL GEOHUMANITIES:
VISUALIZING GEOGRAPHIC THOUGHT

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Researchers in the digital humanities have proven to be stalwarts in capturing the energy of the spatial turn that many disciplines have undergone over the past 20 to 25 years.[1] Scholars from the breadth of humanities, including history, literature, classics, and art history, to name some, have looked to spatial representation as a method for forging new questions and revealing new insights from already well-studied documents, as well as from newly created data sets. As a method, spatial representation has been a likely fit within digital humanities, as electronic databases are now more easily than ever transformed into maps, be they interactive or static.[2] Practitioners of the spatial turn within the humanities, then, have rightly looked to geography for precedents on building and organizing spatial data, the art of cartographically representing spatial information, as well as the means of interpreting phenomena from a spatial perspective.

However, to date the relationship between digital humanities and cultural geography (the most humanistic of the geographical branches) has by and large been a one-way street. That is, the technical arms of cartography and GIS, as well as the interpretive arms of humanistic geography, have been widely welcomed and adopted by digital humanities scholars.[3] Cultural geographers, though, have been comparatively slow to pick up the style of inquiry being forged in the digital humanities. While there are hearty exceptions to this rule—often coming from historically- or ethnographically-minded scholars[4]—debates central to the sub-discipline of cultural geography, and its newly-named sibling 'geohumanities', could be advanced in new ways by harnessing the tools and ethos of experimentation that define digital humanities.[5] Some examples of those specific topics of concern—all of which are directly addressed in

this issue—are a) the power of language in understanding spatial formations, b) visualizing multiple political-ecological actors, c) speculating the look of future urban landscapes, and d) representing multiple spatial ontologies concurrently.

In his recent framing of digital geohumanities, Mike Crang brings together diverging stances taken within media studies and philosophy, asking on a general level how should cultural geographers practice?[6] While Crang gives general examples of how digital technologies often do not fundamentally change practice, as well as some cases of how they do, he does not give concrete examples within cultural geography of how its topics of concern could be advanced by the application of digital tools. Likewise, in a recent swelling of methodological interventions within cultural geography and geohumanities there is little explicit attention paid to how exactly the digital has, or could, impact conceptual advances in the field.[7]

<div align="center">UNTANGLING OUR TERMS</div>

So far in this introduction there are four categories of academic practice that are too often confused and conflated with one another: digital humanities, spatial humanities, cultural geography, and geohumanities. Before moving on to explain the fruitful relationships between geohumanities and digital humanities—the making of a digital geohumanities—that appear throughout this theme issue, I want to spend some time sorting out the relevant differences between these four categories, and why those differences are important. Of course there are plenty shared points of overlapping concern among these four categories, too. These include things like the art and science of cartographic representation, and a recognizable, shared program of inquiry definitive of humanistic pursuit. Nonetheless, offering an idea about how these four areas differ from one another will help readers understand the pointedness of the contributions this issue makes within geography and the digital humanities. These distinctions will always be debatable, and my point here is not to quibble over details, but rather to communicate the rationale for what is being done collectively by the research presented in this issue.

Let us begin with the broadest, most wide-reaching category and proceed to the most precise. Digital humanities. Its name is misleadingly simple, hiding the complexity of what it actually is all about. That is, by its name alone one would infer that it is about doing humanities with computers. This definition alone has never really made sense, though, because of the simple observation that humanists have used computers for decades preceding the introduction of the term. Simply using a computer is not enough. Digital humanities is not only about using computers, but about using computers in a way that advances the role of computing within the humanities. Note that digital humanities is

not about pushing the edge of computing within computer science, as digital humanities tends not to contribute to major debates in computer science. The computing that we see in the digital humanities belies not so much an advance in computing, but an advance in the application of computing tools to traditional humanistic questions. It is scholars dipping their feet into the stream of increasingly-ubiquitous technology to see what might happen. And this—'to see what might happen'—is the cornerstone of practice in digital humanities as it exists today. Terms like *experimentation*, *risk-taking*, *collaboration*, and *playfulness* are (perhaps surprisingly) as definitive of digital humanities as are computers. It is not about mastering any single software, or learning how to write HTML from scratch. The technologies change every day and from project to project. It is about being comfortable experimenting with tools that happen to be digital, playing with them to see what might happen, and asking for collaboration when the limits of a researcher's technical expertise are reached (which always happens). Practitioners of digital humanities are tool-wielding makers. In some ways, then, the term digital humanities is misleading. Following the lead of Bard College's nomenclature, I prefer the term 'experimental humanities'[8] since it tends to emphasize a bias toward action. If you find yourself toying with a digital tool about which you are curious, but have no idea how it might help your research yet, then you are doing digital humanities.

Secondly, the category of practice called spatial humanities. This is, as I brought up in the opening sentences of this article, the widespread adoption of spatial thinking and representation around the breadth of humanities disciplines, including history, art, literature, art history, and classics. Notable contributions— often heralded as wellsprings to 'the spatial turn'—include Henri Lefebvre's 1991 [1974] *The Production of Space* and William Cronon's 1991 *Nature's Metropolis*.[9] These texts introduced the possibility of bringing all the social and cultural phenomena of interest to humanities scholars off the head of a pin, as it were, and grounding them in real places with both measureable and metaphysical topographies. This remains an incredible accomplishment. However, *as it is currently practiced* I remain part of, friendly toward, and yet somewhat skeptical of work within this realm. This is not because great work is not being accomplished by thinking of phenomena in terms of space, but because I remain unconvinced that the majority of scholars utilizing spatial tools to further their research questions actually need to be utilizing space at all as a categorical frame.

There are two levels to this critique. The first is the instance wherein a cartographic representation portrays an event, a series of data points, or a phenomenon as an illustration to the narrative at hand. This type of spatialization does not significantly (or at worst, at all) have an effect on the argument being made; the geography has nothing to do with the author's outcome. I do not believe we should be patting each other on the back for making maps when

those representations of space do not change what would otherwise have been offered as an interpretation, analysis, or argument.

The second level of critique, and the second reason for my skepticism about the spatial turn, is more pointed. While it is admittedly more biased, and possibly more persnickety, I nevertheless think it is crucial to articulate. Even when thinking spatially results in powerful cartographic representations that affect an author's line of argumentation, or changes the course of a narrative entirely, I often still find myself unsatisfied. In this case my dissatisfaction stems from the use of space as a handmaiden for saying something else. Spatializing a phenomenon, in other words, if we are not careful, can be nothing more than a means to an end that has nothing to do with space or geography. Here is a generic example: 'I had to think spatially about this phenomenon that I'm studying *so that the claim I wanted to make made sense*.' But, and this is the biased and persnickety part, if the claim is anything except *how exactly space became produced* in that instance, I'm afraid that space is being used as a stepping stool to make claims without taking space as an actor, in and of itself, seriously. Lefebvre's entire point was that space is so much more than a grid-like container. He showed us that space is a completely unexplored, invisible, and mysterious concept. By invoking space uncritically—placing items on a map to show their relationship, as if that were a revelation by itself—is to miss the entire point of post-modern geography. Yes, it is undeniably important to glean insights from the spatial relationships that emerge from such mappings, and undoubtedly such insights do happen. But this very act of what I will call simple mapping—however interactive and shiny it may be—only reinforces and reproduces the problem that Lefebvre uncovered. Using geography in this way—as a handmaiden for making 'the real claim'—is a disservice to the advancement of answering how that particular space came into being, and even more fundamentally, advancing our ability to articulate what space even is.

This brings me to the third category: cultural geography. Understanding cultural geography today is still aided by the way early-twentieth-century geographer Carl Sauer conceived of the concept *landscape*. Sauer was interested in explaining the evolution and emergence of physical landscapes vis-à-vis the human (cultural) activity that integrated itself with the geologic, biotic, and/or hydrologic realities of an area. For example, in his 1925 *The Morphology of Landscape*—a classic in many introductory geography courses—he states that 'the phenomena that make up an area are not simply assorted but are associated, or interdependent.'[10] Describing why a landscape looks the way it does, then, was for Sauer a matter of studying the ways in which all its constituent parts—and importantly, including humans—are woven together. This was a departure from what now seems a much more simplistic, deterministic view that the physical environment made people behave in certain ways, and was responsible for cultural attributes as deep-reaching as religious beliefs.

Sauer gave environmental determinism a twist, saying that nature and culture make one another, and that their interweaving can be read from the landscape. What survives most poignantly from Sauer in cultural geography today is not the old-school reading of landscapes,[11] but an insistence on understanding human experience in terms of the material grounding in which cultural phenomena take place. Things like topography and the built environment, not to mention geology and weather, are players in the making of landed lifeways. By now (in 2017), this core idea has beautifully proliferated in so many ways. Not least in this proliferation are the sharp critiques leveled against the Sauerian way of landscape studies, especially from feminist and Marxist geographers.[12] These critiques introduced re-workings of how landscape as a concept is conceived and implemented, highlighting the varied and oppressed perspectives that were hidden by Sauer's interpretive model.

Cultural geography includes topics of concern to the broader spectrum of critical cultural studies. Theoretical positions within cultural geography today are often portrayed as a mixture of feminism, post-colonialism, post-structuralism, object-oriented philosophy, performativity, and/or historical materialism. Its direct engagements with other sub-disciplines affiliated with cultural studies often include (just as a sampling) environmental history, gender studies, critical race studies, political science, more-than-human studies, and/or urban studies.[13] The key to grasping cultural geography's engagements with these topics of intellectual pursuit is that the long-lost ancestor of Carl Sauer's landscape is still legible in them all. For example, how do particular places affect the making and re-making of genders? And equally, how does the performance of gender or race re-make the material surroundings in which they are performed? Or, for another example, how are human and non-human actors brought into a shared network that is grounded in lived space? And what might be the politics of representing that networked reality? The tie that binds cultural geography, then, is the attention it pays to the becoming of landscapes, attempting to describe the complexity of interrelationships among human values and practices with the material surroundings in which they happen.

And so for the fourth and final area of scholarly practice with which I am concerned: geohumanities. The pathways between geography and the humanities extend as far back as Herodotus (484–425 BC) and Strabo (64 BC–24 AD), both of whom went to great lengths to textually describe how places and the people in them differed from one another.[14] The formal naming of a renewed, strong connection between geography and the humanities in the twenty-first century can be marked, however, by a 2011 publication called *GeoHumanities*,[15] and the inauguration of a journal by the same name—*GeoHumanities*—in 2015 by the American Association of Geographers. As described in the preceding paragraphs about cultural geography, doing humanities research has never been absent from the discipline of geography. If true, then why go to such great lengths

to formally name a renewed sub-discipline? Because geohumanities captures an enormous piece of the humanities spectrum that has never been explicitly or systematically explored in cultural geography: creative artistic practice. What I find especially revolutionary about geohumanities is that 'creative practice' does not only mean critical assessment of other artists' work, but also validates and encourages generative creative practices from within geography, too.[16] Geohumanities therefore broadens the range of methods, techniques, and possibilities for knowledge claims available to a sub-discipline—cultural geography—that since the cultural turn has been almost exclusively driven by critical theory and analysis.[17]

The broader range of methods and techniques opened up by the formalization of geohumanities means that creative geographical practitioners are taking on a broader set of media to *express* geographical thought. These extend far beyond scholarly journal articles and academic books, and include poetry, visual representations, sculpture, and performance. Though not highly developed as of yet, among these are the application of digital technologies, including dynamic cartography, interactive web sites, and museum kiosks. It is important to realize that the intellectual debates within cultural geography still tend to drive questions of topical concern in geohumanities, however their expression or argumentations might depart from traditional cultural geography. Geohumanities, then, is more of a widening of methodology than anything else, one that respects and pursues creative, artistic expression. And this is why geohumanities practice makes sense in the cradle of digital humanities. They share an ethos of experimentation and expression with new media, focusing on techniques born from design fields.[18] Digital humanities has explicitly taken up design as one of its guiding approaches, while geohumanities has not yet.

I agree with Mike Crang when he writes that digital geohumanities offers 'challenges to how cultural geographies approach their objects of study.'[19] I posit that the main challenge is for geohumanities practitioners to be much more serious about how arguments are conveyed in media that are not reliant on linear narrative. Specifically, I mean digital media, and specifically I mean visual argumentation. We have at our disposal tools that are revolutionizing how narratives are conceived and presented to various readerships. So often spatial thinking is visual thinking, and with digital tools geohumanists have the opportunity to express in visual terms some of the fundamental insights that define present-day cultural geography: the becoming of landscapes, the existence of multiple spaces in the same territory, and the meanings that people attach to specific places.

This theme issue—'Digital GeoHumanities'—gives concrete examples of how this is beginning to be practiced from scholars representing a range of disciplinary backgrounds, from anthropology, to architecture, to history and

geography. The issue shows how the gap between digital humanities and practice within geohumanities is being filled in with powerful visualizations that help us see more clearly the role of space and place in understanding the intertwined natural and cultural realities of the worlds we study. The authors offer case studies and methodologies for the ways in which topical debates in cultural geography are advanced by digital practice.

One answer this theme issue offers is that at the confluence of digital humanities and geohumanities, we find not so much the application of 'big data,' as has driven much digital humanities work to date, but rather what I think of as *concentrated data*. What I have in mind here is a return to one of the roots of humanities discourse and scholarship, which is the focus on a small number of primary documents. It is a classic approach in the humanities to start with something small, then create an entire world of context surrounding a single object of study. This can happen in the practice of digital humanities, too. When working in a concentrated data paradigm, it is the strategic application of new media (including web applications and interactive visualizations) which changes the way findings are forged and presented. In many of the cases in this issue, authors are grappling with strategies of presentation and the communicative effects that those decisions have on the generation of knowledge about their subjects.

OUTLINE OF THE REST OF THIS SPECIAL ISSUE

Two important questions frame the rest of this introductory article. What are exactly the contributions to the geohumanities—and geographical scholarship more broadly—that are emerging through digital practice? And secondly, how exactly is the digital helping execute these forward intellectual moves?

One of the doors opened by geohumanities that has been less prevalent in cultural geography is the art of speculating about the look of future landscapes. Anthropologists have long pointed out that cultural formulations about the past are extremely similar in form to formulations about the future.[20] They are both acts of imagination in that neither the past nor the future exist. And yet in Western culture it is common to portray history as a solid fact of serious scholarship and future as the incredible whimsy of the creative arts. To quote Rosalind Shaw, memories are 'shaped by the kind of future we think we're heading for.' This means that to gain a clear picture of our (imagined) past, we need to get in tune with how we imagine where society is going in the future. Looking forward affects our interpretations of the past. In this issue, urban historian Ocean Howell grapples with this very topic in his digital speculations about the urban form of San Francisco in the early twentieth century,

when the shape of the city could have gone in so many different directions. Howell writes that:

> Maps, plans, drawings, and photographs not only show what did happen, but can also be wielded to show what *might* have happened. By enabling readers to layer a series of historical urban plans–with a special emphasis on unrealized plans–'Imagined San Francisco' presents the city not only as a series of material changes, but also as a contingent process and a battleground for political power.

Howell's toying with spatial possibilities is a theme that carries into other articles in this volume, as well. Post-modern geography is defined by—and insists on—the possibility for multiple spatial ontologies to exist concurrently in one territory. This means that for any location on earth (say, defined by latitude and longitude coordinates) there are multiple ways in which people have turned that location into a meaningful place, multiple ways they have conceptualized that place's relationship with other places, and multiple ways they have valued other lifeforms in that place.[21] Different knowledges about places cannot be reduced to latitude and longitude. Rather, when one form of geographic knowledge is shared by a society it becomes a reality, or ontology, unto itself. This is the geographical manifestation of post-modernism's tendency to privilege the subject: the very way in which natural and cultural objects relate with one another, and the very way those objects exist in space is anything but singular or given. The challenge has been how to parlay this paradigm about multiple spatial ontologies with representational modes.[22] On the one hand, we can get our heads around the idea that the same location is perceived dramatically differently by various culture groups. But on the other hand, how can we go about visualizing all the different spaces produced by these groups? How can we see and experience this paradigm virtually without reducing all ontologies to one?

In this issue anthropologist Eleanor Hayman and her co-authors from the Tlingit and Tagish First Nations in Canada's Yukon Territory showcase their work in making what they call a deep chart of the waters surrounding the Yukon River. Advancing the concept of a deep map,[23] they revive and portray the waters using their Tlingit and Tagish toponyms, which are decidedly aqua-centric rather than land-centric. This reformulates the geographical organization of the region, which is re-presented with various media on the Google Earth platform so as to capture a world lost to Western cartography.

Along similar lines, but with an entirely different topic, my own (Bauch's) research article in this issue also grapples with the ways in which geohumanists might go about representing different spatial ontologies simultaneously. Here, two powerful visual means of knowing space—the map and the landscape photograph—are paired in a custom-made web publication called *Enchanting*

the Desert.[24] The cultural production of space is often reliant on vision, and in *Enchanting the Desert* the question of how that cultural space was produced at the Grand Canyon of Arizona—as it was being transformed from Native America to one of modern American culture's prized national parks—is explored in terms of space and vision.[25] That is, a visual argument is made for how exactly space became produced at this time and place, a production that itself relied heavily on photographic vision.[26] Maps and photographs are distinct ways of knowing the land, each with their own intellectual histories and histories of technology. But they also represent different spatial ontologies. The photographs in *Enchanting the Desert* are born from the early-twentieth-century photographer's attempt to capture the sublime, emotional attachment he had with the landscape, and then share those emotions virtually with his customers around North America. The maps, though, capture a different kind of geographic reality: they show us specifically what the photographer and his customers were actually looking at, information they did not have access to. The maps turn the Grand Canyon into an analytical field, allowing readers 100 years later to distance themselves from a landscape that, ironically, is known for its ability to evoke emotional responses. These two different geographies are paired in *Enchanting the Desert*, using digital design to bring together disparate forms of spatial representation, and different geographic realities into the same platform of visual consumption and comparison.

The field of political ecology has for decades been infused with the notion of bringing together human and non-human actors as equal forces in the shaping of landscapes.[27] The merging of objects and organisms from various classificatory schemes—e.g. humans, animals, rivers, buildings, policies, computers—into a single framework of analysis is fundamental to the namesake of political ecology, and fundamental to how it is practiced. That is to say, political ecology is quite literally about the ways in which human power structures affect and change the physical landscape, but also how they change what people believe to be natural, or normative, in terms of ecology. If this sounds reminiscent of the ways in which I have portrayed Carl Sauer and the origins of (American) cultural geography, it should come as no surprise; political ecology and cultural geography have long shared a drive to answer how social structures make and remake our material surroundings.

A popular, if controversial, method of bringing together the disparate 'socio-natural' phenomena into a single frame has been actor-network theory. In this issue, without uttering the phrase *actor-network theory* at all, historian Jason Heppler brings his innovative techniques in geographic data visualization to bear on the changing ecologies of Silicon Valley over the latter half of the twentieth century. During this time Silicon Valley was transformed from a dense and productive agricultural region into a landscape that houses the information & communication technology industry that we know today. Along

the way a multitude of actors and institutions came together to make Silicon Valley one of the most toxic environments in the United States. Home to a disproportionately high number of Environmental Protection Agency-designated superfund sites, Silicon Valley has nonetheless maintained the façade of a clean, natural, healthy place to live and work. In its utopic renderings, it is the place of clean industry, renewable energy, and transformative environmental politics. Heppler helps us visualize the making of this incredible discrepancy between environmental perception and environmental reality, using tools born from the digital humanities to weave together multiple political-ecological actors in a way that breathes life into the concept of the actor-network. If political ecology needs a way to be visualized (which I believe it does), then Heppler's work goes a long way in bringing together all the complex actors in a 'nature-society' story with digital humanities tools.

At the same time that Eleanor Hayman et al. use language to bring indigenous spaces into the purview of modern cartography in Canada, in this issue author Jeremy Mikecz also uses language to uncover lost stories from the relationships between Spanish colonists and indigenous Inca populations in sixteenth-century Peru. Utilizing a digital tool called Quantitative Narrative Analysis (QNA), Mikecz performs a detailed study of all the off-handed marginalia and clauses that exist in Spanish colonist narratives of this well-studied period. In doing so, over and over he is able to turn passive notes into active indigenous voices. For example, in his words, 'applying QNA to Sancho's narrative separates the passage "rooms were found" into its constituent parts (subject, verb, object, location and date), in doing so, converting the passive phrase into an active one: "Un-named indigenous villagers provided lodging to the Spanish."' By doing this linguistic analysis, Mikecz shows that there is an entire world of experience—and an accompanying alternative space—that has been covered up for centuries by the one-sided narratives of the Spanish. While the insights of post-colonial studies have long made it clear that these indigenous experiences are hidden, Mikecz employs innovative tools to actually dig them out. He charts the mobility of the Inca informants, bringing parts of their culture's way of interacting with the land into a much clearer picture. He gets to know the process of colonization in terms of space and place. Through visualizing distances, cartographic representations of events help to answer why the events of Spanish colonization in Peru unfolded the way they did. It outlines what I have called in *Enchanting the Desert* the 'subtle mechanics' of colonization.[28] In Mikecz's case, who were the conquistadors talking to? Who were their guides? This is a very geographical practice because it requires us to virtually inhabit long lost places; Mikecz's digitization of landscapes and environments lets us do that more readily.

Virtually inhabiting a place with the aid of immersive digital tools is very closely aligned with the propensity to use technology for augmenting real

landscapes with information that otherwise remains obscured. That is, when we bring landscapes into the realm of digital replication—historical or otherwise—it is not a far step to begin adding information that one cannot glean directly from being there in person. Choices in what information should be used to augment real landscapes in a virtual, digital setting can go many directions, based on the agenda of the creators. In this issue we hear from a group of such creators led by geographer John Harner, who use digital tools to augment the urban and peripheral regions of Colorado Springs, Colorado in a museum exhibit called *The Story of Us*. Their agenda, as it were, revolves around a perennial topic that geographers have studied, recorded, and theorized for years. Namely, Harner et al. are concerned with how attachment to place in Colorado Springs has been, and could be forged. Studying the ways in which people have made meaningful connections with places, while valuable, is not particularly new within cultural geography. What sets Harner et al.'s work apart is that instead of objectively studying others' attachment to places, they are taking a leadership stance. Their project explicitly attempts to make current residents of Colorado Springs feel personally aligned and invested in the various places they see and experience every day. While there are many historical components to the project that outline, for example, how certain landscapes in the region came to be, *The Story of Us* is ultimately driven by a pressing need to foster a shared affect of environmental care among the people who constitute the communities of Colorado Springs.

Though not heavy-handed, the exhibit is decidedly activist, wielding a core cultural geographic concept—emotional attachment to place—in the service of making more strongly-knit, local social connections, as well as making it possible for communities to imagine more sustainable environmental futures. The forward intention of using creative, digital production techniques to 'make place' is what brings this work into the purview of a digital geohumanities. Remember that one important defining characteristic that sets geohumanities apart from its sibling cultural geography is the permission it grants to perform geographic thought in a variety of ways. While Harner et al. may not think of themselves as artists, in making *The Story of Us* they are doing what more closely resembles artwork than a practice that is bound to printed text. They are performing geography.[29]

An immersive museum exhibit—however effective it may be—can also reveal the weaknesses in representation that one uncovers through the process of making. In architect Ian Cain's article, he discusses exactly this. Like Harner et al., Caine made a museum exhibit. In his case the exhibit, titled *Fredericksburg Road: 120 Years in 12 Miles*, pictured and described the patterns of urban sprawl and suburban development in San Antonio, Texas over the past 120 years. As the project's title suggests, these 120 years of development are linked with a 12-mile section of the city's main artery, Fredericksburg Road. For Caine, the history of urban development is bound with the cartography of the city. In the

museum exhibit, each mile moving outward from the city center expresses the next ten years of development. This is a neat alignment of time and space, and yet as Caine points out, sometimes a little too neat to be believable. In fascinating detail, Caine describes how his conception of the project continued to iteratively change as he continued making representations that brought together time and space into a single viewing experience. Describing his thought process for three stages of the project (one of which was the museum exhibit), he shares his visualizations for a dynamic digital version of the work in this issue. These digital versions of the concept '120 years in 12 miles' lean on Caine's training as a designer and architect, and push forward techniques for how we might imagine representing urban growth through the lens of geography. It is a leading example for practice in digital geohumanities because of its foci on the visual representation of multiple spaces and times concurrently, and on the becoming of urban forms.

CONCLUSION

Topical themes of concern in geohumanities necessarily dovetail with the greater intellectual concerns of cultural geography. These concerns can be advanced by engaging with tools from the digital humanities. Experiments in representation offer the possibilities for visual argumentation and clearer understanding of theoretical geographical concepts.[30] To summarize what has been discussed, the following core themes constitute a digital geohumanities:

- visualizing multiple political-ecological actors
- landscape as an epistemology for remaking narrative structures
- speculating the look of future urban landscapes
- representing the complexities of time-space in the making of urban forms
- representing multiple spatial ontologies concurrently
- dissecting language to understanding spatial formations
- using digital tools to aid the process of public place-making

For the most part at present there is a one-way street between practice in cultural geography and the digital humanities. So much work in the digital humanities depends on cultural geography and the cartographic arts, and yet cultural geography has not yet benefitted from the application of digital tools as much as it could. The emergence of geohumanities opens the gates for making this relationship a two-way street because of its focus on experimentation and creative representation, both already established within the digital humanities. In this issue, seven research articles explicitly demonstrate how digital humanities is benefitting ongoing themes in cultural geography. Scholars from a variety of disciplines, including architecture, history, geography, and anthropology, showcase their digitally-informed projects in light of cultural geographic themes.

As editor, my hope is to further a conversation between these two areas of scholarship—geohumanities and digital humanities—to clarify that applying digital techniques to research questions does not necessarily need to be quantitative in nature. Using the concept of *concentrated data*, the digital can be used to explore many topics associated directly with traditional humanistic inquiry that do not require computing infrastructure to handle big data, or to perform the now-emblematic 'distant reading' that Franco Moretti pioneered in his digital humanities practice.[31] The digital in cultural geography, while revolutionary in some ways, can also be seen as familiar. The core intellectual concerns remain the same, while the methods and media of inquiry change in a beneficial way.

END NOTES

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[2] Specific applications here include ESRI ArcGIS, CartoDB, Map Tiler, Open Street Map, ESRI Story Maps, Map Box, Leaflet, Tableau, Simply Map, Palladio, Q-GIS, Google Earth, and Natural Scene Designer.

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[6] Crang, Mike. 2015. The Promises and Perils of a Digital Geohumanities. *Cultural Geographies* 22 (2):351–360.; See also DeLyser, Dydia, and Daniel Sui. 2013. Crossing the Qualitative – Quantitative Divide II: Inventive approaches to big data, mobile methods, and rhythmanalysis. *Progress in Human Geography* 37:293–305.

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[8] Bard College Experimental Humanities Center: http://eh.bard.edu/

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[14] Cresswell, Tim. 2013. *Geographic Thought: A critical introduction*. Chichester, UK: Wiley-Blackwell; pp. 16–23.

[15] Dear, Michael, Jim Ketchum, Sarah Luria, and Douglas Richardson, eds. 2011. *Geohumanities: Art, history, text at the edge of place*. New York: Routledge.

[16] For an example that links creative writing with geography, see: Magrane, Eric. 2015. 'Situating Geopoetics.' *GeoHumanities* 1 (1):86–102.

[17] There are continuous, though not formal or consistent, connections between geography and the arts throughout the twentieth century. See: Hawkins, Harriet. 2014. *For Creative Geographies: Geography, visual arts and the making of worlds*. New York: Routledge, pp. 1–36.

[18] For an example of design thinking and landscape, see: Manaugh, Geoff, ed. 2013. *Landscape Futures: Instruments, devices and architectural inventions*. Reno: Nevada Museum of Art.

[19] Crang, 2015, p. 357.

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[25] See also the well-known work of Gillian Rose on visual materials in geography: Rose, Gillian. 2001. *Visual methodologies: An introduction to the interpretation of visual materials*. London: Sage.

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[27] Robbins, Paul. 2004. *Political Ecology: A critical introduction*. Malden, Mass.: Blackwell.

[28] See footnote above: Bauch, 2016.

[29] For more on methods in cultural geography and geohumanities, see: Shaw, Wendy S., Dydia DeLyser, and Mike Crang. 2015. 'Limited by Imagination Alone: Research methods in cultural geographies.' *Cultural Geographies* 22 (2):211–215.

[30] See also: Jellis, Thomas. 2015. 'Spatial Experiments: Art, geography, pedagogy.' *Cultural Geographies* 22 (2):369–374.

[31] Moretti, Franco. 2013. *Distant Reading*. London: Verso.