



## INTRODUCTION

A number of recent map publications have incorporated terms like *Radical*, *Counter*, and *Alternative* in their titles, but it is not very clear what it is about them that might be radical, counter, or alternative. As well, although it is strongly implied to be obvious, just what the conventional, conservative, or standard counterparts of these radical, counter, or alternative maps might be like is also unexplained and unexamined.

One cannot avoid the assumption, whether implicit or explicit, that there is something integral to radical, counter, and/or alternative maps themselves that is itself radical, counter, and/or alternative: something, that is, constituting a radical cartography. This idea is particularly engaging from a theoretical standpoint, and raises a number of interesting questions. Just what would a radical (or counter, or alternative) cartography look like? What might such a thing be? Why would it exist? What character would it have, and how would that character contrast with the character of a conventional or standard cartography? Interesting as these questions are, the answers are not easy to glean directly from the works. Some of these works are accompanied by supporting texts that may or may not be of assistance. For the most part, however, we are left to our own devices.

We also should be able, by applying what we know about cartography and by examining precedents in other fields, to identify at least some of the characteristics a cartography would likely have to possess in order to qualify as radical.

For the sake of convenience, this paper will use the term *radical* to stand in for the general class of terms which might include *counter* and *alternative* (among others), and *conventional* for the postulated antonym.

## WHAT IS RADICALITY?

There is an unmistakable appeal to a term like *radical*: there is something in it that speaks to the Romanticist spirit embedded in Western culture since the 1800s. The word conjures up visions of a Zapata, or of a Ché; of a Wilde in his cell; a Byron swimming the Hellespont; or a Marx in his garret. The attraction of these visions hinges on the concept of the *sublime*, a pivotal quality in 18<sup>th</sup> and 19<sup>th</sup> Century philosophy and aesthetics. The sublime counterbalanced the classical concept of beauty with a powerful experience of the uncontrollable, the dark, the dangerous, and the (possibly) threatening.

The concept of the sublime, central as it is to Romanticism, is far too broad to explore here; but that conceptual element, it can be noted, persists in cultural fields as diverse as the image of the artist in society, the pre-Kuhnian vision of the history of science as “development-by-accumulation” (Kuhn 1996, 2), and the notion of the grandeur of Nature (Burke 1844; Wood and Fels 2008). The appeal enjoyed by the phrase “Shock and Awe” amongst a certain class of commentators in recent memory is also rooted in echoes of the sublime.

There is, alongside the romanticism, a suggestion of hard-headed “realism” and pragmatic directness implied by the term *radical*. The late historian Howard Zinn, in his play *Marx in Soho*, wrote that “to be radical is simply to grasp at

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the roots of a problem,” which is a definition that seems extremely pragmatic (Zinn 1999, 46). Either way, romantic or pragmatic, the caché evoked in employing a term such as radical is attractive, and the ambiguity of its reference serves only to compound that appeal.

With such a tremendous range of connotation attached to the term *radical*, the question then becomes not only what the authors of the various works consider radicality, but, perhaps more importantly, how should we, the potential users of these works, understand the term in a cartographic context. What litmus divides the radical from the conventional?

### DEFINING THE MAP

Before we can undertake the definition of what it means to label a map as radical or conventional, we must understand how any map, radical, conventional, or otherwise, is differentiated from that which is not a map.

There has been and is a tremendous multiplicity of things that can, will, have been, and might be, identified and used as maps. Clearly, because of this tremendous range there is and can be no single comprehensive test of subject, content, medium, form, style, or use that will identify any and all maps. Equally clearly, people around the world have in the past and continue, every day, to identify and employ maps with what are, for the most part, results satisfactorily sufficient to themselves. In a substantial portion of instances, the identification of the map is not made from explicit labeling (as in titles like: “*A Map of the Middle British Colonies in North America, First Published by Mr Lewis Evans, of Philadelphia, in 1755; and since corrected and improved, as also extended, with the Addition of New England, and bordering Parts of Canada, from Actual Surveys now lying at the Board of Trade*” [Pownall 1949]), but instead through recognition by the user that the artifact displays particular and significant map-like qualities. We know a map when we see one.

There have been, over the years, countless attempts at defining the map. These have ranged from the sophisticated, for example: “... the map is the projection of a mental schema on a medium, the materialization of an abstract intellectual order extracted from the empirical Universe” (Jacob 2006, 30), to the naive. An example of the latter would be something along the lines of: “[it is a] universal constant that any map must be geographic, it must show information about location or have a spatial reference” (*anonymous*). A sophisticated definition recognizes that any truly inclusive definition must take into account mappings of far more than the geographical. A particular map may deal with political, social, theoretical, cosmological, or esoteric conceptions (see the *Inglehart – Welzel Cultural Map of the World* in Jacobs 2009, 200), and the sophisticated definition must also recognize that a map might exist even where the sophisticated observer himself fails to see one. The naive definition, by contrast, works more simply, within the confines of a particularly defined paradigm of acceptability, just as, say, a book on Spanish grammar operates within the paradigm of the Spanish language while an essay on generative linguistics deals with issues across language boundaries.

The naive-to-sophisticated spectrum of definition discussed here hinges principally upon the definitions’ breadth of applicability. The naive definition

is intentionally narrow: by narrowing the class of maps it more facilely and precisely describes that which remains. It accomplishes this narrowing by excluding whole classes of things that are actually applicable, apply-able, and reliable as maps, but may differ superficially from the identified paradigm.

None of this is to imply that a naive definition is perforce a simple or simplistic one: it may be very complex and support an elaborate superstructure of typology and transformation. Wood, for example, in *Rethinking the Power of Maps*, identifies a particular map as counter-evidence to his thesis, but then grandly dismisses it as not “really” a map but as something that “was ‘really a diagram” (Wood 2010, 20). It certainly must be convenient simply to send packing any map inconvenient to one’s argument, but the point here is not to critique Wood. Instead, it is to highlight how Wood is confident he can dismiss evidence as irrelevant to an argument about cartography simply by labeling the exhibit as a “diagram” (in other words: *not a map*). It is as if he had called it a Socialist.

In fact, however, in order to be more than an exercise in composition, a general theory of cartography must be able to describe and integrate *all* maps, no matter how marginal (or however tempting to marginalize). To realistically understand map-ness, and to usefully search for a radical cartography, a sophisticated and inclusive understanding of the term *map* is imperative. Still, this does not imply that a naive definition may not be perfectly workable, useful, and usable in a normal day-to-day life. In fact, a naive definition can make such decisions (specifically: *is this a map?*) much simpler, and it is likely that most people (whatever their theoretical position) adopt a simple “shorthand” definition in day-to-day life. Our need here, however, is sterner.

In light of the existence of so many differing, varied, and at times conflicting definitions for the map, it is clear that no universal criteria exists for determination of map-hood. Still, there is undeniable evidence that some sort of criteria is employed in making a determination, so one must conclude that the specific criteria for identification are variable, and are contingent upon some set of guidelines that, while not universal, are at least comprehensive enough to account for wide variety and variation in the identified maps.

### **WHAT THINGS ARE MAPS?**

In order for a category of “things that are maps” to exist, there must be some essence or characteristic that allows that state of being a map to be recognized and made operative. For convenience, we might think of this essence or characteristic as *mapicity*. It obviously cannot be an absolute commodity, but must be rather a conceptual value attributed to the map (or potential map) by a discriminating observer. This is hardly a novel concept, and is, in fact, an exact counterpart of that conceptual entity that in semiotics is recognized as an attribute of the underlying abstract object of the sign system. The concept of *juiciness*, for instance, which can be ascribed to, among other things, many varieties of fruit, is a well-known example of this category of conceptual entity (Barthes 1972).

Mapicity, then, is a term for that abstract quality that, when recognized as being present, allows an observer to define a thing as a map. As mentioned, it is not an absolute commodity, but is a learned recognition: in becoming a map reader,

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one learns what sorts of artifacts will support a reading as a map and, as well, strategies on how to impose that reading and extract meaning from the thing.

The fact that recognition of mapicity is a literacy, and learned, is important. There have been, from time to time but notably in the 1970s, attempts to posit that map use and reading is innate to the human animal, in a way similar to assertions that language is a part of the shared human biological endowment. In this case, such possibilities are really neither here nor there, because no one seriously asserts that being innately predisposed to mapping confers an ability to recognize, read, or use any and all maps, or even any one particular map. Map recognition (and use, etc.) has to depend on more than such a supposed endowment. Specifically, it depends upon the actual state of the individual's map literacy. Literacy, in turn, is grounded on mechanisms such as Noam Chomsky's notions of competence and performance (Chomsky 1965), and Stanley Fish's insights on interpretive communities (Fish 1980). Everyone who can read a map has, at some formative point, had to learn to do so. As experience (literacy) is gained, of course, it can be leveraged to speed this learning process (especially so, to the extent the new potential map exhibits familiar characteristics). Thus, whether or not mapping is an innate predisposition, the particular literacy that allows mapicity to be recognized is clearly learned.

Because mapicity serves as a tipping point between map and not-map, it is a test that all maps, radical or not, must pass to actually be maps. It is valuable to examine just how this test is employed.

The particular uses to which maps may be put are legion, and the specific ways in which various maps might function in a usable fashion are almost as varied. Similarly various are the proofs of value that maps can make to various audiences. Thus, while there is no particular use, means of employment, or appeal that a map must meet, nonetheless a map, in order to be a map, must have a use, must be usable, and must convince an audience of its value as a map (Denil 2003). This is to say that while the particulars are contingent, the criteria themselves are not.

The criteria of usefulness, usability, and believability are tests for a map; but we do not normally go about subjecting everything we encounter to these tests on the off chance we will discover a map. This is because we do not need to do this; we need only apply these detailed tests to such things we encounter that satisfy the criteria of mapicity, which is to say, we only attempt to read as maps the things we recognize as potential candidate maps. In becoming map readers, we learned not only how to read a map, but, as well, how to recognize suitable candidates for reading. How does that work?

The definition of what a map is or can be, what it means or how it can be used, and every criteria of map quality, is defined solely through a *schema* of mapicity understood through, and shared by, one or more cultural communities. It cannot be individual and idiosyncratic: someone who finds individual meaning unshared by others is considered insane. It is through communities sharing assumptions and conventions, recognizing common signals, and together reading common meaning into signs that a thing like a map is able to even exist as a meaning-bearing artifact (Fish 1980). Collectively, the vocabulary



of these individual signals, the grammar of their interaction, and the canon of exemplars of good practice, together form the schema, which can be thought of as a coherent terrain or horizon of understanding. The schema defines what for us, and the people who make up our interpretive community, is right, proper and appropriate for a map. Schemas are templates we use to quickly identify potential meaning-bearing (Gombrich 1960).

Consider the category of texts in general: we recognize texts at a glance because we know (through our cultural communities) what a text should look like, and we know (again, through our communal cultural heritage) how we should engage with a text to get meaning out of it. In other words, we hold and apply a schema of understanding to the (potential) text, in order to decide if and how we should engage it. We may, in the end, discover that we cannot read the thing we have recognized as a text, but if we suspect it contains meaning we might continue to search it for clues as to how we might be able to deal with it. The Voynich Manuscript (Figure 1) is a noteworthy example of a candidate text that refuses to reward interrogation: the status of this manuscript as a text has been a matter of some debate since the 16<sup>th</sup> century. Its pages exhibit numerous indications of meaning, and it likely would be accepted as a text by any literate

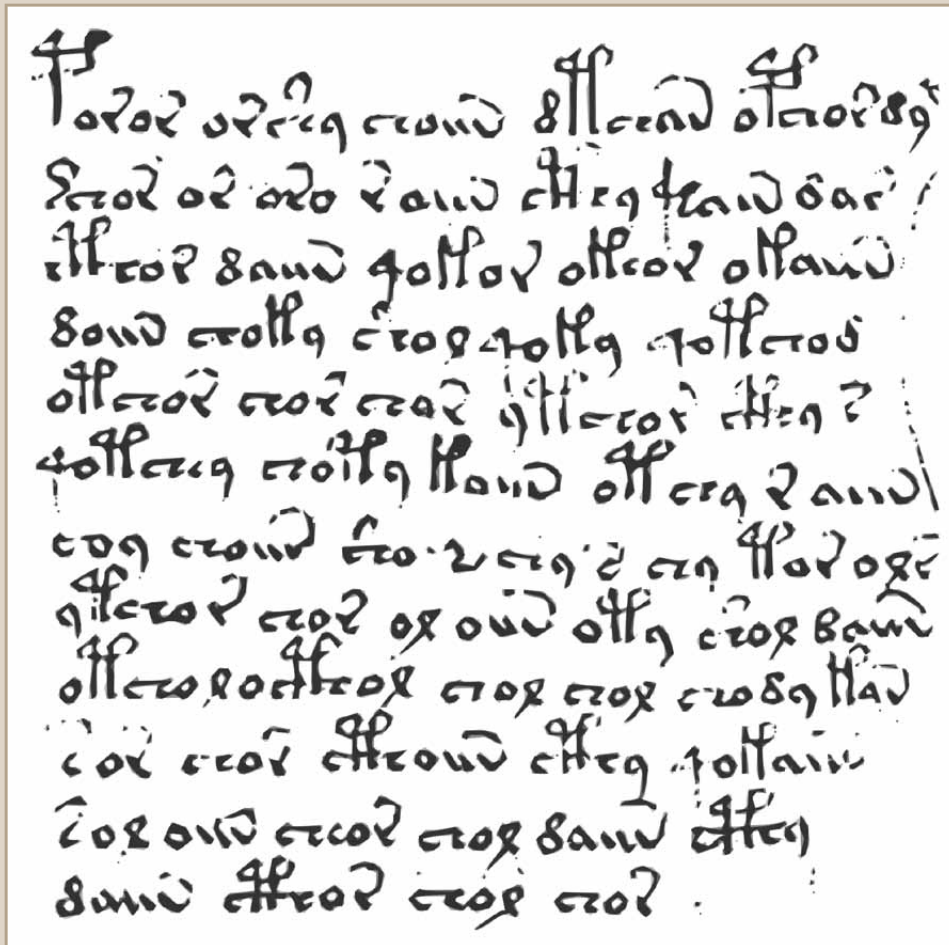
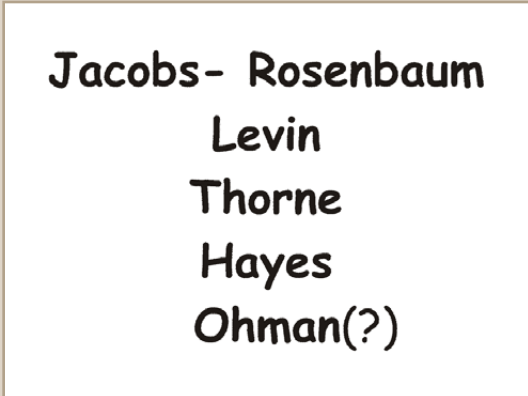


Figure 1: Voynich Manuscript

person encountering it unwarned. Regardless of the fact that no one has ever been able to unlock just what meaning might be embedded in the manuscript, readers of all sorts and levels of experience continue to engage it as a text, simply because it displays so many indications of being a legitimate text. They do so because a reader of texts (of whatever sort) possesses a schema for texts that shows how to look for meanings, and a reader will persist in looking for (and finding) meanings if that schema tells them such a search is legitimate.

In fact, a capable reader will discover meaning which may well be unintended. For example, Stanley Fish has written about some of his university students in a metaphysical poetry class who, when confronted by words on a blackboard (Figure 2), proceeded to generate a remarkably complex and erudite analysis of



Jacobs- Rosenbaum  
Levin  
Thorne  
Hayes  
Ohman(?)

*Figure 2: Recognized yet unintended.*

what they (as it happens, erroneously) assumed was a Christian religious poem. As Fish noted: “It is not that the presence of poetic qualities compels a certain kind of attention but that the paying of a certain kind of attention results in the emergence of poetic qualities” (Fish 1980, 326). Once the students “saw” what they recognized as being a potential, legitimate poem, “... they began to look with poetry-seeing eyes, that is, with eyes that saw everything in relation to the properties they knew poems to possess” (Fish 1980, 326). The students saw a poem despite the fact that no poem was intended by the maker of the chalk marks.

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Assumptions of intentionality are, as we see, an unreliable guide to discovering meaning. This is because “Meanings are already calculated, not because of norms embedded in the language but because language is always perceived, from the very first, within a structure of norms.” (Fish 1980, 318) Furthermore, “... to be in [such] a situation is already to be in possession of (or to be possessed by) a structure of assumptions, of practices understood to be relevant in relation to purposes and goals that are already in place; [...] it is within the assumption of these purposes and goals that any utterance is immediately heard.” (Fish 1980, 318) Meaning is bootstrapped into place: we begin by recognizing an artifact as, for instance, a map because it displays attributes we can interpret as denoting mapicity. Once we have decided a thing is a map,

we proceed to read it as a map in the ways we know are the relevant and proper ways to behave in a map reading situation.

How does this bootstrapping mechanism work? How do the signals of conceptual entity become established? E.H. Gombrich begins his book *Art and Illusion* (Gombrich 1960, 2) with a 1955 *New Yorker* cartoon by Alain, entitled *Egyptian Life Class* (Figure 3, redrawn by the author). In it, we see an ancient Egyptian drawing class, sketching a model. The model stands rigidly in profile, with her hands raised, palms upward, in a pose immediately recognizable as “Egyptian” (in fact, it is primarily the pose that tells us the historical setting in which we should place the cartoon). Gombrich asks: “will the paintings we accept as true to life look as unconvincing to future generations as Egyptian paintings look to us?” (Gombrich 1960, 3) He then goes on to explore the development and implementation of schemas of understanding in art. These schemas, as mentioned above, are the mechanisms that allow viewers of artifacts



Figure 3: After Alain's *Egyptian Life Class* cartoon

to accept the artifacts as legitimate and functioning bearers of meaning and information about landscapes, people, apples, or whatever. He further observes that “We come to works with our receivers already attuned. We expect to be presented with a certain notation, a certain sign situation, and make ready to cope with it.” (Gombrich 1960, 60). This is because a “style, like a culture or climate of opinion, sets up a *horizon of expectation*, a mental set, which registers deviations and modifications with exaggerated sensitivity” (Gombrich 1960, 60 *my italics*). Similarly, we manufacture the map we read by placing it against the horizon of maps we have learned to know and expect. We get that horizon from



the culture that has allowed us to read maps by giving us ways to read and a canon of map exemplars.

Thus we see that it is only because we hold assumptions about purposes and goals, about ways and means, and about relevance and meaning, that we are able to read an artifact like a map as a text bearing meaning. A useable, convincing map, like a portrait, is the end product of a process of application and adjustment of expectation. No map or portrait is a faithful record of a reality, but is instead the construction of a relational model; at best it will persuade those who can read the code of the value, legitimacy, or applicability of that model.

When discovering any map, we recognize it and we try it out; we test it and we see how it performs, and we decide what we think about its status as a map. Andy Warhol once said, “it’s not what you are that counts, it’s what they *think* you are” (Warhol and Hackett 1980, 248). In the same way, it is not what the map really is that counts (whatever *really* means: paper? ink? molecules? electrons?), but what the user *thinks* it is.

What the user “thinks it is” will be both defined and constrained by the existing schema defining mapicity for the communities to which the user belongs. Any map has to pass this test of conformality to a norm.

## FINDING A PLACE FOR RADICALITY

On the one hand, conformality to a schema is what divides the map from the not-map, and on the other hand such schemas are culturally bound and thus mutable. Here, then, is the space where cartographic radicality can be located. A truly radical cartography would be one where the accepted schema of mapicity, or significant parts of it, is broken down and replaced. Cartographic radicality, as a condition, would be connoted by a major paradigmatic shift: a change that introduces a new vocabulary, grammar, and syntax. These changes need not be so complete as to make the old schema so completely obsolete that it disappears, but the change would clearly represent a break with the past and a leap to a new schema. The change would lift the radical map out of the paradigm for determining use, usability, and persuasiveness applicable to a conventional map and present new context, means, criteria, and constraints for satisfying those demands.

Map users confronted by a radical map would clearly have to learn to read maps all over again. They would, in fact, likely have even to learn how the new artifact qualifies as a map, and how to recognize its attributes as signaling its mapicity.

With this basic understanding of where a cartographic radicality would lie, let us consider some maps that are claiming radicality. These samples are all identified by their makers or publishers as radical (or counter, or alternative), and are widely available. Two are print publications (with supporting websites), while the first is a web only source.

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## RADICAL CARTOGRAPHY.NET

The website Radical Cartography [<http://www.radicalcartography.net/>] might seem to be an obvious place to look for radicality. This site, maintained by Bill Rankin, currently a PhD candidate at Harvard University, has very little explanation of just what it is about the cartography the author considers radical; indeed, the web site's "About" page contains only an uncommented quotation from Jean Baudrillard. While his writings on Simulacra are provocative and engaging, it is never clear if Baudrillard intends "the generation of models of a real without origin or reality: a hyperreal" (Baudrillard 1994, 1, quoted in Rankin) to entail a new map, a new way of constructing a map, or a new understanding that shifts the locus or encapsulation of meaning for anything that might be a map. We are also left rather to guess how Mr. Rankin himself understands and engages M. Baudrillard's speculations.

A tour through the cartographic products accessible on [radicalcartography.net](http://www.radicalcartography.net) is often interesting and enlightening, but somewhat disappointing in regard to a search for cartographic radicality as we have defined it. What we find are a large number of works that map an impressive array of topics, often with useful and usable approaches, but in all but a few cases there is no map that would be found out of place in a conventional cartographic textbook. There are plenty of world maps on Arthur Robinson's projection, and several re-mappings of U.S. Census demographic data, on what one assumes is an Albers Conic, and in general what seems to be a solidly conventional approach to displaying data (although his perfunctory argument for the superiority of zip code zones for analyzing demographic data is somewhat suspect).

Certainly, there are some very well constructed maps here. For instance, the legend used on the map: *Value: Aggregate market value of all agricultural products sold in 2007, by county*, is particularly interesting, and the dynamic *Time Zone Studies map* is also worthy of note.

There are also one or two "map mashups" to be found on [radicalcartography.net](http://www.radicalcartography.net), and this is a type of map less likely to be encountered in a conventional cartographic textbook. These caprices are being seen from many sources these days, and constitute something of a fashionable graphic exercise, rather like the earlier fashion for caricature maps showing The Netherlands as a lion, or Europe as a tussling mob in regional costume. Despite the growing number of examples, it is not clear where further developments along these lines could take place, or lead. Currently, certainly, most such mashups have significant shortcomings on the use and usability fronts.

## THE COUNTER CARTOGRAPHIES COLLECTIVE

The Counter Cartographies Collective [C3] is another source to which we might look for cartographic radicality. C3 is the group responsible for, among other works, the *disOrientation Guide(s)*. C3 themselves describe their activities, in part, as:

“... work on mapping in order to:

- render new images and practices of economies and social relations
- destabilize centered and exclusionary representations of the social and economic
- construct new imaginaries of collective struggle and alternative worlds.” (C3 2009)

This seems quite hard-headed and realistic: rendering the new, destabilizing the centered and exclusionary, and collectively struggling towards a future. Through it all runs a clear implication that these achievements are made possible by a parallel liberation and destabilization of cartographic practice itself: a new language for free discourse.

The two flagship products of the C3 are the *disOrientation Guide(s)* (C3 2009a): *disOrientation* and *disOrientation*<sup>2</sup>. Both are primarily targeted at students attending the University of North Carolina at Chapel Hill, and the two maps share a strong family resemblance. The earlier edition (*disOrientation*) is the more lavish production (glossy paper and four color printing on one side, monochrome black on the reverse), while the later version is more modest in size and media (coated newsprint), and is printed in black only, but both are complex and ambitious productions.

Denis Wood, in his *CP* review of *disOrientation*, declared that anyone could see “right off the bat: this is not your ordinary map. In fact, it’s an anti-ordinary map. Instead of orienting you, it wants to disorient you.” (Wood 2007, 52) He goes on to slather some extraordinarily lavish praise on the map’s “intelligence,” and “cutting-edge layout” (Wood 2007, 52), but it is a little difficult to make out why he is so enthusiastic. Certainly, the content is both pertinent and forcefully presented, and the shoe-horning of a great range and variety of topical maps and succinct texts is surprisingly readable, but there is nothing that challenges any contemporary map reader on the cartographic level. In fact, the individual component maps are shockingly conventional, as is the layout. Cartographic radicality, as we have defined it, is not to be found in the *disOrientation Guide(s)*.

## **AN ATLAS OF RADICAL CARTOGRAPHY**

At first blush, the intent and strategy of the editors of *An Atlas of Radical Cartography* (Bhagat and Mogel 2010) seems very much in line with what we are seeking as cartographic radicality. This strategy, they write, is intended “... to unhinge [...] beliefs about the world, and to provoke new perceptions of the networks, associations, and representations of places, people and power.” (Bhagat and Mogel 2010, 6)

The editors, however, go on to write that they “define radical cartography as the practice of mapmaking that subverts conventional notions in order to actively promote social change. The object of critique in *An Atlas of Radical Cartography* is not cartography *per se* (as is generally meant by the overlapping term critical cartography), but rather social relations.” (Bhagat and Mogel 2010, 6) This seems problematic. Is *An Atlas of Radical Cartography* to be understood as

purely conventional cartography in the service of radical ends? That seems unlikely, but it is, in fact, largely what we find.

*An Atlas of Radical Cartography* contains ten 22 x 17 inch maps, each folded to 4¼ x 7 inches to fit snugly in a paper slipcover alongside the similarly sized perfect-bound book of essays. Some of the maps are color, some grayscale, and the set displays a wide variety of approaches to mapmaking. The collection consists of several flow-chart type schematic maps, a couple route maps, a rather pedestrian looking drafting-room plat with surprisingly subversive content, some stenciled graffiti, a map mashup, and one other, rather more interesting, work. Certainly, the main bulk of the contents is highly conventional, even where the execution is marginal to the mainstream conventions of professional mapmaking.

The sheet contributed by An Architektur [<http://www.anarchitektur.com/>] with a42.org [<http://a42.org/>], *Geography of the Fürth Departure Center*, however, stands out amongst the *An Atlas* maps. The authors of this map have, in compiling “a map that relates the spatial conditions and the everyday life of the Fürth Departure Center both to the nationwide system of camps and the biographies of individual migrants,” managed to twist the cartographic schema in such a way as to bring it close to the edge of recognition.

The map sheet is a complex juxtaposition of overlaid and overlapping individual maps that each participate in a whole while retaining internal identity. It is not always easy to understand the layering and interaction between the various component maps, and the context in which the individual maps themselves operate is in some cases less than obvious, but reader engagement allows the various threads to be sorted.

A useful explanation of both the thematic situation and the cartographic approach appears on the map sheet itself, and is a significant invitation to pursue that engagement. The questions explicitly posed in the map range from the most conventional—such as: “How do political and social circumstances appear geographically?”—to the significantly more challenging, for instance: “How can a critique of exclusion be formulated by means of mapping?” The authors explain:

Since we conceive of space not as something given or fixed but as something constructed that develops through concrete use, experience, forming, or reflection, a map is a constitutive element of this manifold production. Maps, as descriptions of and inquiries into space, are neither neutral reproductions nor mere copies of space. They rather shape space through the act of naming and confining. In opposition to planning, which has as its aim the implementation of an anticipated project in space, mapping describes and un-folds existing structures and forces. Maps are tools to capture the incomprehensible, unconscious, or structurally “invisible” qualities of space. What they describe is the basis for new realities. As maps both disclose and re-shape what is already in existence, they give it meaning and introduce new layers of perception. (An Architektur with a42.org 2007)

This conception of mapping is neither new nor unique, yet the map produced is significant in that it actually begins to engage the construction of a new reality,

or, if not new, of a reality perhaps heretofore inaccessible because of the way a map might have hitherto been expected to work. That is to say, this map works by cutting across the structure of the cartographic schema itself.

Here, then, is an example of something perhaps pointing the way towards the cartographic radicality we have been discussing. The authors of the *Geography of the Fürth Departure Center* map seem to be aiming at a subversion of “conventional notions” (with the end of social change) through, or at least by means of, a subversion of conventional cartographic notions.

### COLLECTIVELY

These three self-identified radical cartographies are representative of a wider class of practitioners, a class that sometimes identifies itself with terms such as “Experimental Geography.” Although this class is not defined as a movement by manifesto, much of the writing from and about the practitioners is declarative in tone, very much as is expected in a manifesto. There is a lot about “unhinging [of] geography and cartography” (Bhagat and Mogel 2007, 9), and “destabiliz[ing] centered and exclusionary representations” (C3 2009), as well as “construct[ing] new imaginaries of collective struggle and alternative worlds” (C3 2009), and of simulations that are “no longer that of a territory, a referential being or substance [... but] the generation of models of a real without origin or reality: a hyperreal.” (Baudrillard 1994, 1, quoted in Rankin)

While there may, or may not, be significant political positions expounded in these various products, and while these positions may, or may not, be helped or hindered by the cartographic exposition of the arguments (just as these propositions may, or may not, be bound up stylistically in the map compositions), the point under consideration is whether the *maps themselves* are radical. That is, parochial thematic issues aside, do these maps destabilize the schema we have for recognizing and using maps?

It seems clear we can safely conclude that what we have in most of these examples (with the noted potential exception) is in fact a cartography of radicals and not a radical cartography. A map reader clearly recognizes each of the maps as maps, and most map literate people can read the maps. Perhaps readers cannot read the maps easily (certainly, many are confusing and oddly organized), but they pose no more difficulty than many other example maps (both amateur and professional) that do not claim radicality. Except, potentially, with the *Fürth* map, there is nothing new that must be learned, no assumptions that must be abandoned, nothing disturbing or cartographically challenging in any of it.

Now, this is not to say these various maps are not effective cartography; it is not to say they are not empowering to audiences; and it is not to say the various authors are not radical or not progressive (or not sufficiently radical or progressive). What it is to say is that there should not be a confusion between individual cartographic products, which must necessarily each have a parochial, situated, and editorial position, and cartography itself, which is an activity without particular subject matter but which relies upon an established and accepted schema to exist as a cartography. A politically or socially challenging map should not be mistaken for a cartographically challenging map.



## LOOKING FOR A PARALLEL

Although we have placed the locus of a radical cartography in the disruption and replacement of the standard operative schema of understanding, we have not identified any historical instance of such a shift. In fact, it easily could be argued that there have never been, historically, any such radical paradigm shifts in the cartographic schema. There have been stylistic developments, changes of fashion, and advents of technological and mathematical innovation—and, of course, geographic discovery—but it is difficult to identify any real break in the continuity of the mapicity schema itself. Perhaps the facilitation of navigation by Portolan charts was such a shift, as it imposed demands for completeness and topology hitherto unrequired, but by and large maps have always been recognizable as maps. It is this fact that in part grounds the conservative reputation of cartography.

This claim for the persistence of the schema is important, and may not seem obvious if one confuses what we might call the *look* of maps with mapicity. Confusing as well can be the many cheese-paring classifications that allow categories of maps (such as: map, topographic map, diagram, sketch map, art map, thematic map, map-like-object, etc.) to pose as fundamental to the definition of map-hood. Taxonomic variations within the overall understanding of the map are irrelevant. Maps of *every type* are equally required to be useful as maps, usable as maps, and persuasive of their status (and value) as maps.

In point of fact, the slow growth and development of the map over the centuries has rather more reflected a steady (if decidedly non-linear) development, rather than the Kuhnian paradigm-replacement model of change found in the history of science.

Two examples may serve to illustrate the persistent, conservative nature of the cartographic schema. Consider the example of the Bronze Age petroglyph map at Capo di Ponte, at the site of Bedolina in Northern Italy (Lloris 1972, quoted in Jacobs 2006): it is recognizable as a map, and can be read as an historical and cadastral record without any great difficulty. It does not perhaps afford access to the same range of information as an ink-on-linen plat in the map room at City Hall, but it is recognizable. Consider as well a Marshall Islands “stick chart,” which can be recognized as a map of an island and sea swell network. Just anyone may not be able to use one to paddle to a distant destination, but recognition and use are quite different things. So long as one is ready to look for maps beyond sheets of paper, a stick chart is recognizable as a map. Many other examples are possible, and this review is not exhaustive, but the point remains that it is difficult to find a good example of such a shift.

This is not to argue that maps have not changed, both often and in various ways, but instead to maintain that the underlying schema is persistent. Although the cartographic schema has many facets, there is a remarkable commonality of mapicity across dramatic differences in style, theme, materials, culture, intention, technology, and time.

In the history of Western painting, by contrast, there have been a few such paradigmatic shifts, and among them there is at least one good example of just

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Figure 4: Picasso's *Le guitariste* (1910)

this sort of seismic break that still stirs the blood even a century after its advent. That example is *Analytic Cubism*.

### THE ADVENT OF ANALYTIC CUBISM

Until 1907 everybody could read a picture. The criticism of the works of earlier artists like Turner, and of movements like Impressionism, was merely that the pictures were sketchy and unfinished; with Cubism, however, the attack was that the world just doesn't look like that. (Hockney 1990; Figure 4)

Over a very brief period of time, maybe six to eight years, Cubism so profoundly altered the course of European art that nothing significant, happening then or later, was unaffected. While, as Gombrich tells us, "no revolution in art can ever be quite abrupt without sinking into chaos, for we have seen that no attempt to create an image is exempt from the rhythm of schema" (Gombrich 1960, 133), the cubist revolution so profoundly stretched the existing schema that major parts of it that had previously seemed most ironclad fell to the floor in pieces. In the words of John Berger, Cubism "changed the nature of the relationship between painting and reality, and by doing so

it expressed a new relationship between man and reality." (Berger 1969, 171)

It is hard to pin down just exactly what Cubism was as style. Unlike many other contemporaneous art movements, it had no manifesto, and no stated policy. The major practitioners, Pablo Picasso, Georges Braque, and Juan Gris, clearly had different opinions and outlooks on what it was, and (especially the former two) left very few written statements. "Their ideas were their paintings, from which fact has arisen the cloud of theories and interpretations surrounding Cubism, a process which began with the frequently misleading writings of Guillaume Apollinaire and which has continued to the present day." (Fry 1966, 10)

It is a common misconception that cubist paintings were non-objective; that somehow the paintings were not "about" anything. This notion is clearly and demonstrably untrue. As David Hockney points out: "... Cubism wasn't about abstraction, it was about the visible world, the world around us" (Hockney 1990, 35). Cubist works are, in fact, *always* pictures of things: still lifes, landscapes, portraits. They are "intimate pictures, and meant to be viewed that way" (Hockney 1990, 35), but to someone who cannot read the code (because they expect certain visual conventions that are not employed), the pictorial aspects may remain inaccessible, and thus seem non-existent (Figure 5).

In contrast, one thing that definitely *can* be said is that Cubism was objective. A cubist painting is not a mirror of nature; instead, the nature of the cubist painting was the nature of the picture plane itself. It is not just that a view of a table was now simultaneously a top, front, side and oblique view; it was not only that space was discontinuous; but rather it was that there was a

continuity of structure and interaction of elements all operating on the picture plane. Objectively speaking, the picture plane is all that is present in any graphic, but until Cubism that fact was not recognized as a legitimate concern for painting. The viewing points of a Renaissance painting are an external framework that structures the picture, but a cubist painting has no external framework: the surface is the totality of the painting.

The most obvious feature of Cubism is its disregard of Renaissance or photographic perspective, but that is not all that makes Cubism so profound. Perspective itself is just a graphic trick or convention developed in fifteenth-century Italian painting, and is unique to European work. It does not occur in Asian painting, and Asiatic painters were at least as good and detailed observers of nature as were the Italians. In part, the cultural difference is technological. Europeans have, for at least 400 years, made use of the camera: a device which, in the forms of *camera obscura* and *camera lucida*, long predated photography. This device reinforced and codified the understanding of the painting as a window (a window in a *camera* or *room*). David Hockney provides a long, detailed, and sometimes controversial discussion of the historical use of non-photographic cameras in his book *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters* (Hockney 2001). Regardless of the validity of Hockney's thesis, however, it is notable that the conception of the painting as a window is well established in European art since the Renaissance.

Certainly, the nineteenth century European discovery of the Asiatic schema of art began the process that eventually led to Cubism. Before Cubism, however, the Asiatics could be mimicked, but only within the framing schema of European tradition. Japanese wood-block prints, for example, had a significant effect on the work of artists such as Whistler, Van Gogh, and Gauguin, yet the perspective framework remained in even their most "Japanese" works. For them, and for their public, that framework was one of the major signals of the membership of a flat colored surface amongst the class of things called paintings. Even for Cézanne, the innovative artist most directly prefiguring the Cubists and who experimented extensively with (among other things) perspective frameworks, the painting remained a window-like view. What Cubism did was to not only throw out the conventional signal, but to successfully replace it with something that worked completely differently.

It should be noted that all connection to the then-existing schema defining painting was not gone; for instance, these were still paintings of traditional subjects. Attention, however, was redirected to different, previously ignored concerns. As Gombrich observed, "The function of Representational clues in cubist paintings is not to inform us about guitars and apples, nor to stimulate our tactile sensations. It is to narrow down the range of possible interpretations till we are forced to accept the flat pattern with all its tensions." (Gombrich 1960, 286) (Figure 6)



Figure 5: Braque's Woman with a guitar (1913)



Figure 6: Picasso's Portrait of Daniel-Henry Kahnweiler (1910)



## CUBISM AND RADICAL CARTOGRAPHY

Bringing this back to our search for a radical cartography, it would be reasonable to expect that such a cartography would have much of the same effect on map readers as did Cubism on the picture viewing public of 1907. That sense of dislocation, of jumping the rails and taking off on another track, and of having new vistas open as the blinders of useful but inessential convention are discarded will be the hallmarks of a true radicalism in cartographic practice.

In short, a radical cartography must be both like and unlike all other cartography: like insofar as it must fulfill the basic requirements of use, usability and persuasiveness; and unlike insofar as it will require acquisition of a new schema of understanding in order to be recognized and employed. Picasso himself, in a 1923 article in the New York magazine *The Arts*, wrote:

Cubism is no different from any other school of painting. The same principles and the same elements are common to all. The fact that for a long time Cubism has not been understood and that even today there are people who cannot see anything in it, means nothing. I do not read English, an English book is a blank book to me. This does not mean that the English language does not exist, and why should I blame anybody else but myself if I cannot understand what I know nothing about? (Picasso 1923, reprinted in Fry 1966, 166)

*it would be reasonable to expect that [a radical] cartography would have much of the same effect on map readers as did Cubism on the picture viewing public of 1907*

We can see that radicality in cartography, as in painting, must leverage the richly varied history and tradition that comprises the horizon of mapping underpinning our schema of understanding to centralize and focus attention on issues quite likely already present but unattended. These issues lie unattended because the schema that allows a thing called a map to exist currently ignores them or disallows attention to be paid. In order to allow that focus, that attention, the schema itself must be broken and reformed. It must be more than simply broken: if it is only broken, then a map cannot be distinguished from the not-map. Likewise, it must be more than simply reformed: reformations inside the existing schema can only be new fashions, or rearranged patterns of ribbons and bows. Instead, the schema itself will have to be both broken and reformed, along lines that allow the new concerns and issues to be explored and reabsorbed as legitimate and essential to the understanding of what it means to be, make, or use a map. To again quote Picasso:

Cubism has kept itself within the limits and limitations of painting, never pretending to go beyond it. Drawing, design and colour are understood and practiced in Cubism in the spirit and manner in which they are understood and practiced in all other schools. Our subjects might be different, as we have introduced into painting objects and forms that were formerly ignored. (Picasso 1923, reprinted in Fry 1966, 166)

## WHERE SHOULD WE LOOK?

From whence will this revolution spring? Again, we can look to Cubism for a model. The cubist revolution arose not out of newcomers who couldn't be bothered with old frameworks, but from skilled and brilliant practitioners in full command of all the historical schema and tradition of Western painting. The cubists were not hackers. Picasso did not paint the way he did because he was unschooled, naively believing himself unfettered by rules he did not understand. Quite to the contrary, he was a prodigy, and had mastered the canon that defined painting up until his time; he could (and often did) paint masterworks in a variety of conventional styles, and would have been a great painter in any era. He painted as he did because he chose to do so, and he was able to make the advances he did both because the time was right *and* because he knew his field backwards and forwards.

This is not to say that there can be no innovation (or even profound innovation) from outside the cartographic establishment; rather, it is to recognize that we will continue to build on tradition even if the direction that building takes seems completely unexpected.

The issue of a lasting phenomenon is critical. The Analytic phase of cubist practice, which has been taken here as a paradigm for radicality, lasted only a few years, and yet had a profound and lasting effect on how painting is seen and understood (Fry 1966, 9). In those few years, it produced a "final break with an artistic tradition almost 500 years old." In the place of that tradition, "the cubists united a new interpretation of the external world with formal inventions adequate for that interpretation." (Fry 1966, 41) This phenomenon did not take place in isolation; other twentieth-century art movements (one excellent example is Futurism, the founding of which predated Cubism), were violently shaken and redirected by exposure to the cubist revolution, and over time Cubism itself evolved and was influenced by later developments, particularly Surrealism. Nonetheless, it was Cubism, as Fry has noted, that took on the role of the normative twentieth-century artistic style (Fry 1966, 40). Certainly, Abstract Expressionism, which in the 1940s and 1950s engaged painting on its most basic, visceral level of paint on canvas, would, for example, have been inconceivable without Cubism, and it is, in fact, hard to think what any current painting would look like had Cubism not occurred. Similarly, a radical cartography would not be an end in itself, but would instead become an integral part of continuing cartographic practice, recognized and employed as a legitimate and valuable legacy amongst even its greatest detractors. It would, in fact, remake the schema.

None of this is to say that we should be making cubist maps, although a cubist map would certainly be an exciting thing to see and use. What this paper is trying to point out is that in a search for a radical cartography we should be looking for one that is as groundbreaking and useful, and as shocking and disturbing, as Cubism was and still is.

That last bit is key: *...and still is*: because, after all, Cubism is still disturbing; triggering, as it does, "an almost unbearable tension" (Fry 1966, 20) in the viewer even today. Only when a useful, usable, and persuasive map can disturb and

*What this paper is trying to point out is that in a search for a radical cartography we should be looking for one that is as groundbreaking and useful, and as shocking and disturbing, as Cubism was and still is*



distress a viewer, after even 90 or 100 years, while at the same time becoming an indispensable part of the horizon of mapping, will we have a radical cartography.

## CONCLUSION

We have seen that a radical cartography must provide products that satisfy the basic criteria of mapicity. To wit: like any map, a radical map must be useful (in that it addresses a need), usable (in that it must be accessible to employment; that is, it must afford access to a milieu or situation in a manner employable by a potential user), and persuasive (which is to say that it must convince a potential user that it is itself a reliable, or at least a reasonable, characterization of that situation or milieu and that it would be advantageous to the user to employ it as a guide). Furthermore, a radical cartography also would have to satisfy the criteria of radicality: it would have to introduce into the schema elements or approaches that open avenues of usability previously held inaccessible, invisible, or perhaps even undesirable as seen through the lens of the existing schema.

This disruption of the cartographic schema, that schema which is the cultural underpinning of anyone's ability to recognize and use a map, will necessarily be disturbing to any map user encountering the radical map for the first time. In and of itself, the disturbance is not radicality, but disturbance is an expected condition of the encounter with radicality.

Taking Analytic Cubism as a model for radicality, we can see that a radical cartography will have to not only discard what might seem to be key foundational aspects of the cartographic schema, but, as well, will replace these aspects with other usable affordances. Furthermore, a significant radical cartography would affect and re-frame the overall cartographic schema so that it itself eventually becomes a normative foundational element in that schema.

It seems clear that no radical cartography, in the sense of a cartography seriously challenging the existing cartographic schema, exists today, despite the earnest avowals and promotions of a variety of contemporary map makers. It seems equally clear that there are both opportunities and needs for the emergence of a radical cartography in today's dynamically changing technological, social, and economic environment.

We were able, in the course of this discussion, to identify at least one map with characteristics perhaps pointing towards a radical cartography; there are likely more such characteristics emerging. Just as the Cubists took the work of the Japanese, along with that of the Africans and of Cézanne, and built upon it by applying the methods and techniques they found in these sources in innovative manners never previously attempted, there could well exist today the elements from which a radical cartography may be constructed.

Claims of radicality have been, and will no doubt continue to be, made. Basing the definitions of mapicity and radicality, as we do here, on the schema of map-hood as defined for us (with our complicity) by our cultural communities might seemingly devolve all immediate decisions onto the individual map reader. We also have seen that this individual (and by implication that cultural

community that made them a reader) may be variously prepared to make judgments on what might constitute radicality. It was radical for my ninety-year-old great grandfather to say he was going to dance with his wife on their seventieth anniversary, although dancing with one's wife is not a radical act. It is conceivable that some particularly innocent or pedantic map reader may be so astonished by, say, Google Map, that s/he cannot, or will refuse to, understand what they are seeing, but isolated reactions cannot by themselves be definitive for the community.

In order to be of more than local, personal, or anecdotal value, mapicity and radicality have to be judged on the broadest ground of applicability. Understanding a map as “the projection of a mental schema on a medium, the materialization of an abstract intellectual order” (Jacob 2006, 30), and understanding that it is the commonality and utility of the schema that allows any of us to agree that any particular thing is a map, is clearly prerequisite.

Claims of cartographic radicality are impossible to evaluate without clear and widely applicable definitions of mapicity and radicality. Mapicity is that quality that allows the artifact to be recognized as a legitimate candidate for the tests of use, usability, and persuasiveness (the test of maphood), and is a quality all maps must possess in order to be seen as maps. It is judged against a schema provided to the map reader by the various intersecting interpretive communities to which the reader belongs. Radicality is a quality that sets a radical map apart from the conventional, and operates on the level of subverting and remaking the schema. One expects the subversion of the schema will be disturbing to the reader because it presents unexpected affordances (and likely abandons others), through which it offers new possibilities. These definitions should be of utility in consideration of current and future claims of cartographic radicality.

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## ILLUSTRATIONS:

**Figure 1:** *Voynich Manuscript* (excerpt). Date unknown (late 15th Century?). General Collection, Beinecke Rare Book and Manuscript Library, Yale University. *Image in the public domain*  
[http://en.wikipedia.org/wiki/File:Voynich\\_manuscript\\_excerpt.svg](http://en.wikipedia.org/wiki/File:Voynich_manuscript_excerpt.svg)

**Figure 2:** Author, 2010. After Fish, S., 1980 *Is There a Text in this Class?* Cambridge, MA: Harvard University Press.

**Figure 3:** Author, 2010, pen and ink. After Alain (Brustlein), D. *Egyptian Life Class*, 1955, New Yorker magazine.

**Figure 4:** Picasso, P *Le guitariste*, 1910, oil on canvas, 100 x 73 cm, Musée National d'Art Moderne, Centre Georges Pompidou, Paris.  
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[http://en.wikipedia.org/wiki/File:Le\\_guitariste.jpg](http://en.wikipedia.org/wiki/File:Le_guitariste.jpg)

**Figure 5:** Braque, G. *Woman with a Guitar*, 1913, oil on canvas, 130 x 73 cm. Musée National d'Art Moderne, Centre Georges Pompidou, Paris, France.  
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[http://www.artchive.com/artchive/b/braque/wmn\\_guit.jpg](http://www.artchive.com/artchive/b/braque/wmn_guit.jpg)

**Figure 6:** Picasso, P. *Portrait of Daniel-Henry Kahnweiler*, 1910, oil on canvas, 101.1 x 73.3 cm. Art Institute of Chicago. *Public domain in the United States.*  
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