**TITLE:**

Bounding The Fuzzy Zone at the Edges of World-Systems

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**ABSTRACT**

I am approaching this topic from what are typically considered peripheral areas. Specifically between various sedentary states and systems and various pastoral nomads living in Central Asia, broadly construed and between “tribal,” or better nonstate societies and states. Of course pastoral nomads and nonstate societies are overlapping categories, but not coterminous. These often occur in frontier regions, but again not all frontiers are in peripheral areas. The boundaries for nonstate peoples often only exist in oral traditions and memory, hence they are not easily purloined. Because many of these are on the edges of world-systems, they render bounding world-systems especially nebulous. This fuzziness and permeability of boundaries makes comparisons world-system sizes especially problematic. I finish with some suggestions how we might approach these problems.

**INTRODUCTION**

By now we’ve heard a number of discussions about bounding systems, decision rules, and several interesting examples, with more to follow. What I want to contribute is what additional insights and issues emerge from taking a view from peripheral areas, often marginal and marginalized nonstate societies, and the myriad frontiers were they are often found. While there has been some very real expansion on such areas and peoples over recent years, world-systems analysis still suffers from an overly state-centered approach. This has many sources. Often states are where the data are, and also where historical records are kept. Also there is the nearly universal hubris of state-based peoples that “barbarians” are “beyond the pale”. Indeed, many early attempts at walls and other boundaries were directed at just that: “keeping those people beyond the pale,” or at least the wall. But walls and other barriers cost money, take up other resources, and often require considerable military manpower.

Even modern borders and boundaries (Donnan and Wilson 1999; Wilson and Donnan 2012) show culture, linguistic, and political convergence in border zones. The general dynamic seems to be while a boundary is maintained, traffic across it requires some convergence to facilitate that traffic. We also know from numerous studies (e.g., Ferguson and Whitehead 1992) that these kinds of processes have occurred for millennia. Furthermore, the impacts on nonstate peoples living at the edges of state control reverberate far beyond the zone of immediate contact. We also know that the impacts are not one-way, but information, goods, and cultural practices flow into states and world-systems from these frontiers (see Hall 2009, 2013 for more detailed examples and references). Thus, the borders are at best fuzzy zones that surround state-based systems. It is also the case that some of this inflow from distant places, is slight by most measures and can

have important effects on more centralized areas (Turchin and Hall 2003; Peter Turchin (2016). This is something more than, or in addition to, the problem of “fall-off” that occurs in bounding world-systems (Chase-Dunn and Hall 1997; Chase-Dunn, *et al* (2016).

Thus, I argue a brief review of state – nonstate interactions and frontiers may be used to explore a variety of problems in bounding systems. Such explorations may then help us make more informed boundary decisions and better use of minimal – maximal comparisons.

**Central Asian Boundary Issues**

Central Asia and adjacent areas are both frustrating, and potentially fruitful regions for exploring these issues. Interactions to and from Central Asia (other regions) broadly conceived are extremely old. Recent research suggests some of these interactions were crucial to shaping the modern world, and maybe to the origin of such diverse things as Indo-European language groups, domestication of dogs, spread of Buddhism, and so on (Anthony 2007; Beckwith 1993, 2009; Chase-Dunn and Hall 2011; Christian 1998; Frank 1992 and the various critiques; Hsű 1998; Jones-Bley and Zdanovich 2002; Levine, Renfrew, and Boyle 2003; Lieberman 2003, 2009; Liu 2011; Liu and Shaffer 2007; Mair 1998; Power and Standen 1999; Sherratt 2006; Standen 1999; Turchin 2011).

Not the least of the potential problems for bounding systems is that consequences of interaction(s) when transmitted through nonstate peoples can be very difficult to track. Even with materials that can readily be sourced, if most of such goods left few archaeological remains, tracing the pathways they traveled may not be very clear. This can be especially problematic since in nonstate areas, goods seldom move in a straight line. This would be even more difficult if the “things” exchanged left little or no archaeological evidence even at their endpoints, such as paper or ideas.

Following work of Turchin and Hall (2003), even a very small amount of exchange could have important consequences. If the areas of origination and final destination followed similar cycles – hegemonic cycles, long waves, etc. – a small amount of contact may serve to synchronize those cycles Silk trade from China to Rome ca 2000 years ago **might** be such an example. If the cycles follow chaos process and decayed even after two or three cycles, such synchronization could be important when the cycles had long periods, say one or more centuries. This suggests considerable caution in using synchronized cycles as evidence of extensive trade. Very small amounts, well under the usual criteria, could trigger the synchronization.

The thorniest problem here is how to decide if such an impact means the place of origin and the place of destination are part of the same system. Many of these impacts might best be considered exogenous effects. If the threshold for other bounding decisions was much lower, then they might need to be seen as part of the same system. As always, the decision criteria need to be clear and explicit. The categories might be as follows: definitely exogenous, definitely endogenous, and third category, problematic. In the conclusion I suggest ways to include such unclear situations. I would expect that “problematic” would be used rarely.

Ferguson and Whitehead (1992) edited a collection of several papers documenting how trade between states and nonstate societies (”tribes”) even in ancient times had considerable effects beyond the zone of immediate contact. They focus on war and violence. Collectively, the reports of various authors show that local headmen often try to monopolize trade in order to garner a larger number of supporters. Rival headmen, or down-the-line trade partners might resort to violence to obtain goods when the costs of exchange became too high. The net result is that many first hand observers comment on the violence of “tribal” peoples not knowing that the process that brought them to a position to observe these “tribal peoples” are the same ones that promoted an elevated level of violence. This is one of many reasons why reports of high levels of violence among nonstate societies can be quite suspect. Furthermore, goods exchanged can have considerable impact over great distances. Probably the most famous example is the diffusion of the horse in the Americas brought by European explorers and settlers to assorted indigenous groups. Horses were in use as much as a thousand miles from the close direct contact with Europeans. Obviously, horses reproduce. So use of something like horses to mark boundaries and/or interactions can be very difficult. Another example comes from Wells (1999). He traced how the desire to obtain Roman goods that could not be produced locally led many Germanic peoples to greatly increase their cattle production in order to trade for Roman goods. Similarly, North American fur harvesting expanded far beyond what it had been prior to European presence. It also upset the relative power balance between women and men because men had greater access to furs. Furthermore fur harvesting and trade changed life styles considerably. Families dispersed during the winter to harvest furs, which radically changed the old pattern of men going on larger hunting expeditions while women, children, and older men stayed in the home village. The hunting men returned periodically to the home village (see Dunaway 1996; Kardulias 2007).

Andrew Sherratt (1993, 2003) argued for the formation of world-system-like organizations as trade expanded outward from Rome to the east, north, and west. Again, bounding the various networks can be very difficult for at least two reasons. First because those doing the trading left no records – this would be for areas hundreds and occasional a thousand or more miles from the last location at which Romans participated in the trade. Second, many of the goods traded were perishable, so they left little or no archaeological evidence. Coin hordes are widely studied because coins are durable and their sources are quite clear, even if the paths they followed are not always obvious. A bushel basket of turquoise sourced to what is now northern New Mexico was found in what is now southern Mexico. This confirms that there was some long-distance trade. But was it down-the-line trade or the work of long distance traders (*pochteca*), or both? Was the bushel of turquoise brought in one load or was it an accretion over a period of time? Incidentally, trade with Chaco Canyon (in north east New Mexico) was further evidenced when scraping from the insides of ceremonial pots found at Chaco was identified as cacao grown in Southern Mexico. Did this accompany religious changes or was the chocolate used to enhance existing ritual practices? Steady advances in DNA identification and further developments in our ability to determine the original sources of material objects will facilitate more accurate knowledge of the geography and the nature of exchanges.

Then there the kind of things that do not need direct contact for in order for exchange to occur. Systems of silent trade are known from aboriginal Australia. In this exchange one or more members of one group leave objects, say 9 handles for stone axes, at a designated place. Someone from another group picks up the 9 handles, and leaves one stone axe head. The next group picks up 8 handles and leaves 2 axe heads, and so on until at the other end the last handle was picked up and replaced with 9 axe heads. Key points in this are that there is no direct person-to-person contact and the exchanged items can travel great distances. Depending on the objects traded, such trade may have significant impact at the opposite end of the trade path, though typically that is not the case. Another example is something that may be copied without direct contact. The most famous example of this is the use of stirrups. It takes only one battle for warriors in one group to see a stirrup and then copy it. The most complex example is the spread of pottery styles which archaeologists have discussed and debated for years. If type A of pottery shows up at place B: Is this evidence of trade (either direct or down-the-line)? Is it an instance of copying or imitating a style? Or is it the result of marriage patterns wherein daughters from group A marry into group B, taking the knowledge of pottery designs and production with them to their new home? Where either the basic material from which a pot is constructed, or say its slip (a coating to help the pot through firing process) can be sourced, the origin may be pinpointed. Otherwise additional information is necessary to sort out how the transfer occurred. Even where all that can be settled definitively, the question of impact on the receiving end remains problematic.

So what is the boundary of the system, whether it is a bulk goods network or a prestige goods network, and what is the level of the impact of the exchange? Here it is worthwhile to keep the findings of Turchin and Hall (2003) that very small exchanges can have significant impacts between systems. Admittedly, the frequency of such problems is probably quite low, but they still might be a source of “noise” in analyses, as was discussed earlier.

**Frontier Issues[[1]](#footnote-1)**

Many of the instances I have suggested might be labeled frontiers. But, what is a frontier? How are they formed? How do they change? How and when are they destroyed? Do they serve as boundaries, barriers, filters or some combination of one or more of these? As a working definition, a frontier is a zone where two or more different social systems – nonstate societies, state societies, and even world-systems -- come into more-or-less sustained contact. Frontiers move and change through space and time. A frontier is not a border or boundary as the term is used in Europe. The term “borderlands,” which refers to a zone on either side of a border or boundary, often is a frontier.

Richard W. Slatta (1997, 1998) proposes one of the best metaphors for frontiers, they are

membranes. Membranes have thickness; they look like lines when viewed from a distance. They have permeability that may vary both with respect to what moves through it, the rates of movement, and the direction of movement. They generally have some flexibility, so they may stretch and move due to various pressures. Edward Luttwak (1976) discusses Hadrian’s Wall which supposedly demarcated the northern end of Roman occupation of England. He argues that Hadrian’s Wall was not an effective barrier. Rather, it was more of a regulator and concentrator of people and goods that passed through it. Other writers (e.g. Lattimore 1951, 1962a, 1962b, 1962c; Barfield 1989) have made similar points about the Great Wall(s) of China. A key point is that walls were generally were filters, not barriers. Walls typically served as much to keep “civilization” in as to keep “barbarians” out, and, they notoriously failed at both!

There is a large collection of literature that comparative studies of frontiers, rooted in many disciplines.[[2]](#footnote-2) One theme that appears repeatedly in comparative studies of frontiers is how frontiers that initially seem similar, turn out on closer inspection to be radically different. This “puzzle,” why all frontiers seem similar at first glance but then seem unique, is a common observation among scholars. An illustration for how this comes about is that frontiers can be characterized by a small number of variables, divided into a few categories:

• the type of frontier (4 types: buffer, barrier, internal, or external);

• the type of ecological differences (4 types: steppe, sown, hill, or valley);

• the types of nonstate groups (3 types, such as those conventionally labeled bands, tribes,

or chiefdoms);

• the types of groups that come into interaction (4 types: non-state, tributary states,

tributary empires, capitalist states [Chase-Dunn and Hall 1997]); and

• the type of boundaries involved (4 types: local economic, political or military, long distance economic, and cultural [Chase-Dunn and Hall 1997]).

These few variables divided into a few categories will generate 768 different kinds types of

frontiers (Hall 2009). The small number of variables leads to similarity; the large number of kinds of frontier suggests each is different.

Most sedentary societies conceive of themselves as having specific boundaries – whether they actually do or only imagine them. Pastoral nomads and other nonstate societies often do not conceive of their territorial limits as closely delimited and marked. Rather they tend to think and operate based on the concept of use-rights. However, this does **not** mean that they do not know the geographical dimensions of their territories. They often have very precise and accurate knowledge of their customary territory. Indeed, as many have noted (Barfield 1989 among others), that that knowledge often gives them considerable tactical and strategic advantages in conflicts with neighboring states, who often see pastoral territory, and that of nonstate societies in general, as *terra incognita*. This intimate knowledge is valuable, yet elusive, since it is known only in memories, often supported in oral traditions. In short, their maps cannot be readily purloined.

When world-systems are compared with respect to city sizes, these issues are not usually salient. However, some fairly large settlements or congregations do occur in nonstate territories, albeit they are usually temporary – months or years, rarely decades.

Fuzzy and permeable boundaries may also render considerations of trade and political conflict problematic. Throughout Asia, but especially in Central Asia, trade was often carried by nonstate peoples – and often raided by them. With respect to bounding political/military networks, what is the role of border skirmishes that are often endemic, if sporadic, in frontier regions? If they persist, even intermittently over decades they should be considered part of the political-military system. The same criteria used for state – state conflict should be used. When conflict is systematic under these criteria, then they are part of the system. If they are rare or short lived they are not in the system. Any intermediate length cases can be coded as “problematic.”

Another issue is that in larger world-systems, states, and empires, border skirmishes can occur with different groups along different segments of the border. Each instance would need to be evaluated separately. In addition, there is a strong asymmetry to such conflicts. What may be seen as a nuisance to a state, can be vital to a nonstate society. Occasionally, as Barfield (1989) has shown, even when individual regions have relatively low impact, in toto they may be disastrous. Furthermore, it may be state actions that prompt such conflict. Finally, there is the perennial problem regarding nonstate societies: states keep written records, the nonstate peoples typically do not. When a border region is well known, and the administrators have considerable frontier experience their records and comments can be quite valuable. Where that is not the case their comments can be seriously misleading. The quality of such comments needs evaluation, with due allowance for the all too common pro-state bias in such records.

Finally, we need to remain cognizant that expanding world-systems absorb new peoples and new territories. A process I have called incorporation. Key points are that incorporation is a continuum from entirely in the system to barely in contact. The lower limit is fuzzy, empirically, it is now due to incomplete theorizing. This is why specifying an outer boundary is difficult. To some extent degree of incorporation is reversible, but it is “sticky” so that over time complete reversal is difficult and rare. Also zones of incorporation are typically hotbeds of all sorts of social change, and are quite volatile. Incorporation is a complex process. For further discussion see Hall, 1986, 1989, 2000, 2006, 2012; Carlson 2001, 2012 (for both authors best starting places are the 2012 papers).

# Conclusions

As several of the other contributions to this workshop have asserted, we need clear decision rules for bounding systems. However, they also suggest that those rules may need to be different depending on what questions we are asking and why we are bounding systems. This is why Chase-Dunn uses the term “rules of thumb.” The decision rules need to be flexible to deal with different conditions. In cases such as the “problematic” categories for long distance impacts or border skirmishing I would suggest that, rather than getting bogged down in disputes about overly detailed bounding rules, we might use **minimal and maximal boundaries** in our analyses to see if the choice of boundary makes significant changes in any conclusions we might draw from our investigations. This kind of bracketing is common in physical sciences and elsewhere. The idea is to compile the data in two sets:

* a high-bar data set where interaction between state and frontier is two-way, but does not attend to the nebulous frontiers and transmissions through nonstate peoples;
* a much broader outer boundary where there is little or no interaction, but includes frontier fringe areas;
* any process that is categorized as problematic could be addressed in this way.

Then the results of various statistical analyses can be compared. If both sets of measures point to similar conclusions, we can have confidence in those conclusions, and have some evidence that they are quite robust. And consider those instance **not** problematic. If, however, they point to different conclusions, we will need to rethink the questions asked of the data. We might also need to re-examine some of the data sources to see if something else is happening in the nebulous regions. Here I am thinking of Ferguson and Whitehead’s (1992) discussions of how leaders try (and often meet with some success) to monopolize access to state goods by controlling trade through their territory. In such cases the narrow boundary would be those immediate neighbors to the states. But the broader boundary would need to encompass those areas where down-the-line trade allows some regularity of exchange. Here we could use the same kinds criteria employed in delimiting state. This approach has the drawback that placing the boundaries will need to accept considerable variation and tentativeness. The key issue remains, do the differences lead to different conclusions, not pursuit of precision for precision’s sake.

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Note: also see Turchin, Peter 2011.

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1. This discussion summarizes much of my own work, but especially Hall 2009 and 2013. Many more references and examples are found there. [↑](#footnote-ref-1)
2. The literature on comparative frontiers is voluminous. An excellent resource is Richard W. Slatta’s Comparing Frontiers: A Working Bibliography, on line at: http://faculty.chass.ncsu.edu/slatta/hi216/comparebib.htm. Classic sources

include: Gerhard 1959; Hofstadter and Lipset 1968; Lamar and Thompson 1981; Lattimore 1940, 1962a, 1962b, 1962c; McNeill 1964; Taylor 1972. Many archaeologists have studied frontiers: Gosden 2004; Parker and Rodseth 2005; Smith and Rubinson 2003; Weber 1982, 1992, 2005; Weber and Rausch 1994. Some interesting descriptions are: Bartlett 1993; Chappell 1993; Power and Standen 1999. A few accounts use world-systems analysis: Batten 2003; Dunaway 1996; Hall 1986, 1989. [↑](#footnote-ref-2)