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Coping with Displacement: Adjustments to Rural Livelihoods Following Relocation from Celaque National Park, Honduras

Benjamin F. Timms
California Polytechnic State University

Abstract
Agricultural intensification is a common outcome of increased population densities in areas of land scarcity. Here, a comparative analysis of households relocated from Celaque National Park, Honduras, serves as a case study of intensification resulting from decreased access to land. However, in contrast to a single trajectory of intensifying agriculture, nearly half of the households used wage labor to acquire additional land in an attempt at post-relocation agricultural extensification. This paper contributes to the agricultural change literature through the application of household strategies of communal action and increased use of familial labor to promote more-extensive forms of agriculture in a situation of land scarcity.

Key words: cultural ecology, Honduras, land-use and land-cover change, agricultural intensification, agricultural extensification

Introduction
From Malthus’ theory of population growth outgrowing agricultural production to Boserup’s (1965) model of population growth driving agricultural intensification, the contributing forces and household strategies of agricultural change have been a key area of research in disciplines engaged in the study of cultural ecology. The importance of, and interest in, agricultural change is amplified by the recent global food crisis that threatens to be more systematic than cyclical this time around, particularly in the developing regions of the world where the vast majority of future population growth will occur (Timms 2009). Hence, the investigation of the causes of agricultural adjustments and the strategies employed by households to adapt in times of global change are as salient as ever.

Agricultural intensification is an increase in the relative amount of agricultural production on a given amount of land. Generally, the study of agricultural intensification in developing regions has been most applicable to lowland areas with fertile soils, particularly in the humid tropics (National
Agricultural Intensification and Extensification Defined

Agricultural intensification is defined here as an increase in the relative amount of agricultural production on a given amount of land. This definition can include increased production on the same, or less, amount of land, or maintaining production levels on a declining land base. Commonly, definitions add the strategy of increasing use of agricultural inputs, be it increased labor or capital-intensive methods, to achieve this feat (Netting 1993; Keys and McConnell 2005). While intensification has been a general historical trend for the past ten-thousand years, the pace of intensification quickened substantially in the past century with the advent of the green revolution and its diffusion to developing regions of the world to address rapid population growth (Borlaug 1958; National Research Council 1993).

In contrast to Malthusian views about exponential growth in human populations outpacing arithmetic advancements in agricultural production, the diffusion of Green Revolution technologies in response to rapid population growth supports Boserup's (1965) proposal that population growth promotes agricultural intensification. More precisely, increases in population pressure stimulate an intensification of agricultural production to meet increased demand. The distinction between population growth and population pressure is important, as the latter is the true driving variable in Boserup’s model that can occur from population growth, a decrease in access to land, or both acting in combination.

While the basic model is one between population pressure and intensification of agriculture, there are many confounding factors that impact the process (Lambin et al. 2001). These include biophysical site characteristics such as soil and climate (Turner et al. 1977), cultural elements such as local knowledge and skills (Netting 1993), and access to markets and adequate supplies of labor (Erenstein 2006). The addition of these driving forces adds important nuance to the understanding of agricultural change and intensification (Turner and Ali 1996). For example, in studying intensive smallholders who practiced diversified agriculture in areas of dense population, Netting (1993) found that intensive agriculture by small-holders can be sustainable and highly productive when dependent on labor-intensive and knowledge-based strategies such as crop diversity and rotation, animal husbandry and use of manure fertilizer, and appropriate irrigation with proper drainage. When these strategies are replaced with external energy sources, such as chemical fertilizers and biocides, the sustainability of the system is threatened, as evidenced by the socioeconomic and environmental critiques of the green revolution (Yapa 1979; Shiva 1991; Osmani 1993).
Further, agricultural intensification need not be a one-way trajectory; examples of agricultural extensification exist as well. Defined here as a decrease in the relative amount of production per unit of land, it often consists of increasing the area under cultivation (Erenstein 2006). In most cases, increasing an area of land under cultivation is a labor-saving strategy and is generally preferred in areas of abundant land availability (Chayanov 1923; Goldman and Smith 1995; Turner and Ali 1996). Under low population densities, extensive agricultural production can also be ecologically sustainable, but it becomes potentially damaging when fallow periods are shortened (Moran 2005).

Intensive agriculturalists can change to more-extensive forms of agriculture when faced with lower population densities, which can occur through population loss, acquisition of more land, or migration to frontier regions where new lands are opened for settlement (Boserup 1965; Netting 1993; Erenstein 2006). Extensification is less common and counterintuitive to the models of intensification, yet it has been argued that intensification can contribute to extensification by increasing production on a smaller land base and opening up additional areas for animal husbandry (Zweifler et al. 1994; Carr 2005).

An additional factor related to agricultural change is the use of wage labor to supplement livelihoods and/or address shortfalls in production due to increases in land scarcity (de Janvry 1981; Brockett 1991; Faber 1992; Stonich 1993), which is a coping strategy to negotiate the negative repercussions related to loss of land. This paper provides a case study of this process. Agricultural intensification created by relocation led to communal capital-pooling and use of familial wage labor to increase capital for the acquisition of additional lands. These additional lands were acquired in an effort to promote more-extensive forms of agriculture, which has been argued to be preferred by small-holder agriculturalists (Chayanov 1923; Yapa 1979; Shiva 1991).

**Research Site and Methods**

**The Contextual Lencan Cultural Landscape**

Located in the western highlands of Honduras, the Celaque Mountains are an extinct remnant of the Central American Volcanic Axis with deeply weathered, moderately acidic, and fertile clay loam soils which, in the highland wet climate at elevations above 1,800 meters, supports the largest cloudforest in the country (AFE-COHDEFOR and GTZ 2002; Wilson and McCranie 2004). At lower elevations, pine/oak savannah woodlands of the humid subtropical climate are characterized by relatively less-fertile, shallow soils with increased acidity and poor drainage (Portillo 1997).

Within the mountains, approximately three-thousand indigenous Lenca small-holders were, prior to relocation, located on the boundary between the lower elevation pine/oak forests and higher elevation cloud forest, accessible only by foot and pack animal along narrow and steep trails (AFE-COHDEFOR and GTZ 2002). Research over the past half-century in western Honduras has catalogued a pattern of Lenca settlements clustered in highland regions with ladino settlements and commercial coffee fincas encroaching from below (West 1958; Stonich 1993; Bass 2006; Schelhas and Pfeffer 2008; Timms 2008).

An additional factor related to agricultural change is the use of wage labor to supplement livelihoods and/or address shortfalls in production due to increases in land scarcity (de Janvry 1981; Brockett 1991; Faber 1992; Stonich 1993), which is a coping strategy to negotiate the negative repercussions related to loss of land. This paper provides a case study of this process. Agricultural intensification created by relocation led to communal capital-pooling and use of familial wage labor to increase capital for the acquisition of additional lands. These additional lands were acquired in an effort to promote more-extensive forms of agriculture, which has been argued to be preferred by small-holder agriculturalists (Chayanov 1923; Yapa 1979; Shiva 1991).
ecological services such as nutrient cycling and pest suppression, and serve as sources of exchange or income. For example, the fertile soils, higher precipitation, and cooler temperatures of the highlands allow for the cultivation of crops such as cabbage, potatoes, and carrots, which can be exchanged or sold at Lenca market centers optimally located between higher- and lower-elevation Lenca settlements, where warmer temperature crops dominate (Brady 2003). Other income-generating activities used to supplement subsistence agricultural production include production of ceramic pottery and roofing tiles for sale at market, and seasonal labor on coffee fincas centered on the western side of the mountains (AFE-COHDEFOR and GTZ 2002).

While the Celaque Mountains have an historically documented cultural history stretching back at least to 1536 (Newson 1982), and likely much longer, in 1987 they were transformed into Celaque National Park, which threatened the residency of the Lenca within the park. Initially, resident populations were allowed to remain within the park's boundaries, but in 1997 a new park-management plan called for the “voluntary” relocation of resident populations (AFE-COHDEFOR and GTZ 2002). Hurricane Mitch struck Honduras in 1998 and provided an opportunity to implement relocation through conditional aid; only households that chose to relocate to one of two new settlements outside the park’s boundaries would receive assistance (Oviedo 1999; Timms 2011).

Sixty-one households accepted this assistance, with forty-five relocated to a new road-accessible site, Otolaca, just outside the southeastern boundary of the park. Land for housing was provided by a local municipality, houses built by the NGO Amigos de las Américas, and arable land donated by the Catholic Church. A second settlement, Los Horcones, was located on a non-road-accessible site outside the southwestern boundary of the park and settled independently by sixteen households, with promises of relocation assistance in the form of house building and land acquisition. The main crux of the research was to investigate the changes in livelihoods, including land-use and income-earning activities, resulting from this relocation from Celaque National Park.

**Research Methods**

Initial pilot interviews and observations took place during a preliminary field research trip in the summer of 2002 to the relocated communities of Los Horcones and Otolaca. In addition, a 1998 data set of social and economic attributes of the relocated households prior to relocation was obtained from the nongovernmental organization Proyecto Celaque (Oviedo 1999).

Based on this data set and initial community visits, a structured interview questionnaire was developed for the collection of comparable quantitative data to analyze three main research objectives related to changes in land use and livelihood strategies created by relocation: (1) changes in access to land, (2) changes in land-use intensity, and (3) changes in income-earning activities. The data measures used to address these research objectives are listed in Table 1. The quantitative survey data is expanded upon with qualitative interview data to explore in greater depth the driving forces and intent behind these livelihood changes.

The main phase of field research was carried out by the author and two local assistants during the summer of 2004. In all, forty-nine of the sixty-one relocated households were surveyed, including all sixteen of the relocated households in Los Horcones and thirty-three of the forty-five relocated households in Otolaca. The information gathered from the questionnaire surveys, compared to the initial survey data collected in 1998 by the NGO Proyecto Celaque, allowed for a time-series analysis of the effect relocation had on households in terms of access to land, land-use intensity, and income-earning activities (Cernea 1991; Hough 1991; Machlis and Soukup 1997).

**Table 1. Research Objectives and Data Measures**

<table>
<thead>
<tr>
<th>Access to Land</th>
<th>Land-Use Intensity</th>
<th>Income-Earning Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of Land</td>
<td>1. Percent of Land Under Cultivation</td>
<td>1. Number of Income Activities</td>
</tr>
<tr>
<td>2. Number of Land Parcels</td>
<td>2. Percent Fertilizer Usage</td>
<td>2. Percent Selling Animals</td>
</tr>
<tr>
<td>4. Number of Animals</td>
<td>4. Family Members in Coffee</td>
<td></td>
</tr>
<tr>
<td>5. Agrodiversity</td>
<td>5. Weeks in Coffee</td>
<td></td>
</tr>
</tbody>
</table>

While eighty percent of relocated households were included, statistical normality was not assumed due to the relatively small dataset and tests of normality indicating non-normal distributions, particularly the post-relocation data where limited options of the relocation process created skewness and clustering of values. Hence, multivariate regression analysis to investigate relationships between variables was not applicable. Instead, comparison of dependent variables to determine significant changes before and after re-
location was performed with a Wilcoxen signed rank test, and correlations between variables were computed with a Spearman's rho test.

**Results and Discussion**

**Access to Land**

The average post-relocation amount of land of 1.24 ha is strikingly small, especially in relation to a previous estimate by Boyer in 1982 that claimed an average household in the mountains of southern Honduras required 7.2 hectares of land to fully supply their subsistence using a three-year fallow cycle (from Brockett 1998: 80). Further, there was a significant increase in the number of land parcels. Traditionally, households in Lenca settlements owned a single parcel of land surrounding their dwellings (West 1958). Increased numbers of parcels, while used by many small-holders throughout Central America to take advantage of multiple climatic and soil zones (National Research Council 1993), in this case represents a need to search more widely for available land in a settled region, creating an additional hardship in terms of time required to reach separate land areas.

<table>
<thead>
<tr>
<th>Table 2. Access to Land Measures (asterisk represents a two-tailed Wilcoxon Signed Ranks Test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Access (ha)</td>
</tr>
<tr>
<td>Pre-Relocation</td>
</tr>
<tr>
<td>Post-Relocation</td>
</tr>
<tr>
<td>Difference</td>
</tr>
<tr>
<td>Z Score</td>
</tr>
<tr>
<td>Significance Level*</td>
</tr>
</tbody>
</table>

In addition to the decrease in quantity of land was a decrease in its quality, as measured by perception of soil quality. Eight-nine-point-seven percent (89.7%) of households claimed the soils in the relocated communities were worse or much worse than the soils in their previous land holdings. While perception of soil quality is not a physical measurement of soil characteristics, it does reflect how the soils in a given location suit the needs of household crop production tied to local agricultural knowledge, technology, and methods (Jansen 1998). Further, the change in soil characteristics had repercussions for crop choice and soil inputs.

The changes in access to land were both a direct result of the relocation process and, afterwards, of the actions of households. For example, 0.70 ha of arable land was initially donated to each household in Otolaca by the Catholic Church. In response to this minimal donation, twenty of the forty-five sampled households in Otolaca cooperatively purchased an additional parcel of land, which was subdivided among them based on their respective contributions, resulting in the doubling and even tripling of household land-holding size. While household demographics showed no discernible difference between those acquiring more land and those that did not, sixteen of the twenty Otolaca households that participated were from the same original community within the park, El Cedro, while those that did not participate were exclusively from the original community of Poza Verde. This suggests that original community ties were important in collective action.

In Los Horcones, relocation assistance from the NGO Proyecto Celaque turned out to be less than promised and consisted of a single load of roofing timbers and tiles, delivered to a village two hours away on a path passable only by foot or mule. In lieu of outside assistance, the households in Los Horcones individually purchased land parcels and built houses. The households in Los Horcones were previously better endowed with land and animal resources in comparison to those relocated to Otolaca, and hence were able to negotiate their own relocation with the ability to purchase land through the sale of their animals, increased wage labor on coffee fincas, and personal loans within the relocated community to finance the purchases.

Interviews and informal discussions in Los Horcones uncovered an advantage for the independent resettlement process, which was closer in proximity to their former lands than in Otolaca. While it would take a household in Otolaca more than a full day of walking to reach their old communities, those in Los Horcones were located within a forty-five-minute to two-hour walk from their original lands within Celaque National Park, and three of the households in Los Horcones reported continuous cultivation of these previously utilized land holdings. While park regulations outlaw clearance of new lands, all lands previously and continuously cleared can be cultivated. If allowed to reforest, effective control of the lands returns to the Honduran forestry agency COHDEFOR (AFE-COHDEFOR and GTZ 2002).

These three households shared basic demographic characteristics. While the average age of the head of household for Los Horcones was forty-five years, the age of the head of households for these three were sixty-two, sixty, and fifty-five. They also had larger households of twelve, ten, and nine members, which exceeded the community average of 7.7. Further, these large house-
holds reported four adults, higher than the community average of 2.9. In comparison, three other households reported a desire to work their previous land holdings but were unable to do so, and in turn their previous lands had begun to reforest and reverted to state control. These three households had a younger age for the head of household (thirty-one, thirty-two, and thirty-two), smaller family size (five, six, and seven), and only two adults per household. These results indicate an advantageous adaptation whereby larger households were able to obtain additional lands in new ecological zones and expand both production and agrodiversity—continuing cool-weather crop production in the park while expanding warm-weather crops in the resettlement—based on availability of family labor.

**Land-Use Intensity**

The loss of access to land resulted in an intensification of land use as measured by percent and absolute amount of land under cultivation, a decrease in animal husbandry and agrodiversity, and an increase in the use of purchased fertilizers and biocides (pesticides and herbicides). The increase in the percentage of land under cultivation, coupled with an absolute decline in the amount of land under cultivation, is significant in that the traditional land fallow system was disrupted. A decrease in the amount of land with a perceived decrease in soil quality coincided with greater percentage of land cultivated, supporting the conclusion that the creation of land scarcity has led to intensified land use.

**Table 3. Land-Use Intensity Measures**

<table>
<thead>
<tr>
<th></th>
<th>% of Land Cultivated</th>
<th>% Purchasing Fertilizer</th>
<th>% Using Biocides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Relocation</td>
<td>61.7%</td>
<td>61.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Post-Relocation</td>
<td>88.3%</td>
<td>98.0%</td>
<td>36.7%</td>
</tr>
</tbody>
</table>

In response to the change in soil conditions, purchased fertilizer use increased substantially from 61.2% of households to 98% and biocide usage increased from 0.0% to 36.7%. When the households were asked to explain the use of biocides, it was reported that the previous year’s maize crop had been decimated by an insect invasion. The loss of land, coupled with the new ecological conditions, led to a decrease in agrodiversity and reliance on fewer crop varieties, which also increased the risk of pest invasions. The presence of pests was further exacerbated by the abandonment of the traditional fallow system, which relied on the use of cutting and low-intensity burning of fallow cover to cycle vegetative nutrients back into the soil and clear the land of weeds, pests, and crop diseases. In the relocated communities, the loss of fallow periods obviated the use of fire, which has also been discouraged by authorities within other areas of the region (Jansen 1998). In response, the adoption of biocides was necessitated to replace the role of fire, which increases production costs and can lead to the pollution of land and water resources (Murray 1994). Together, these capital-intensive inputs increased the cost of production and signal the intensification of agricultural production as traditional processes are abandoned (Keys and McConnell 2005).

The decrease in land ownership also negatively affected animal husbandry. In addition to selling their livestock to raise money to purchase additional lands, the households that owned animals in the highland settlements prior to relocation reported the lack of land in the relocated settlements as a factor in the decrease in animal ownership. Besides a reflection of land scarcity, these results exhibit a breakdown in the fallow system, a decrease in diversity of farm activities, and the drawing down of their “hooved bank account” in order to expand land holdings (Brady 2003: 66).

**Table 4. Change in Animal Husbandry and Agrodiversity (asterisk represents two-tailed Wilcoxon Signed Ranks Test)**

<table>
<thead>
<tr>
<th></th>
<th>Number of Animals</th>
<th>Number of Crop Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Relocation</td>
<td>2.53</td>
<td>6.45</td>
</tr>
<tr>
<td>Post-Relocation</td>
<td>0.35</td>
<td>4.04</td>
</tr>
<tr>
<td>Difference</td>
<td>-2.18</td>
<td>-2.41</td>
</tr>
<tr>
<td>Z Score</td>
<td>-4.344</td>
<td>-5.594</td>
</tr>
<tr>
<td>Significance Level*</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Agrodiversity, measured here by the number of different crop varieties grown, declined in response to the decrease in land ownership and new ecological conditions. While the traditional *milpa* crops of maize and beans, along with sugarcane, remained the major staple crops, ten of the eighteen varieties of crops grown were abandoned after relocation. Most of these abandoned crops, such as cabbage, radishes, and potatoes, are more suited to the cooler temperatures and higher precipitation of the highlands as opposed to the drier and warmer climate of the lowlands.

The climatic characteristics of the lowlands did create better conditions for the cultivation of other crop varieties. For example, plantain, cassava, and
pataste were adopted by several relocated households and were grown for household consumption. The cultivation of coffee, which was non-existent in the highlands, by seven households occurred in Otolaca and represents a market-based crop that, in the future, once the trees begin to produce, would turn into an income-earning activity for the households. However, even with these crop substitutions, the overall trend was a decrease in agrodiversity and a greater reliance on basic foodstuffs.

Table 5. Change in Number of Households Growing Crop Varieties

<table>
<thead>
<tr>
<th></th>
<th>Decreases</th>
<th>Increases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Relocation</td>
<td>Post-Relocation</td>
</tr>
<tr>
<td>Peaches</td>
<td>35</td>
<td>2</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>32</td>
<td>30</td>
</tr>
<tr>
<td>Wheat</td>
<td>31</td>
<td>0</td>
</tr>
<tr>
<td>Linseed</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>Cabbage</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>Chan</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Avocado</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Radish</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Potato</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Carrot</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Lemon</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Squash</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Mustard</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Income-Earning Activities

Income-earning activities had previously been a part of the livelihoods of the Lenca households, but land scarcity, increased land taxes, and the increased costs of land-use intensification necessitated by relocation increased reliance on wage-abor activities to provide subsistence in lieu of the sale of surplus agricultural produce and crafts. Prior to relocation, 71.4% of households sold surplus crops, particularly cabbage, at the traditional Lenca market town of Belen Gualcho. In addition, fifty percent of animal-owning households had marketed their animals. After relocation, only one household had sold crops at a market, and the sale of animals ceased entirely. The decline in market activity in the sale of agricultural products represents not only a decrease in production, with the bulk of production used solely for household needs, but also the geographical separation of the producers from their traditional market, Belen Gualcho, which was located on the opposite, western side of the Celaque Mountains.

Table 6. Percent of Households Engaged in Market Activities (asterisk represents only animal owning households)

<table>
<thead>
<tr>
<th></th>
<th>% of Households Selling Animals at Market*</th>
<th>% of Households Selling Produce at Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Relocation</td>
<td>50.0%</td>
<td>71.4%</td>
</tr>
<tr>
<td>Post-Relocation</td>
<td>0.0%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

While there was a decrease in the number of income-earning activities, the change in the types of activities represents an important shift in livelihood strategies. Prior to relocation, household members engaged in the sale of agricultural produce, wage labor on coffee fincas, production and sale of roofing tiles, and the manufacture and sale of ceramic pottery. After relocation, most of the household members abandoned the sale of agricultural produce, roofing tiles, and ceramic pottery in favor of wage labor on neighboring ladino farms and a substantial increase in wage labor on coffee fincas. The income-earning strategies for the relocated household shifted from the production and sale of crops and crafts to almost sole dependence on wage labor for income.

Table 7. Number of Households Engaged in Income-Earning Activities

<table>
<thead>
<tr>
<th>Income-Earning Activities</th>
<th>Before Relocation</th>
<th>After Relocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor on Coffee Fincas</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>Sale of Crops at Market</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>Sale of Animals at Market</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Pottery Production and Sales</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Roofing Tiles Production and Sales</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Labor on Ladino Farms</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

Not only did relocation shift income-earning activities toward wage labor, it altered the age and gender division of income activities. Prior to relocation, adult males produced roofing tiles while adult females were predominantly responsible for ceramic pottery production. Adult males also worked seasonally on the coffee fincas, which consisted primarily of picking coffee.
beans during harvest. For example, 73.5% of the households reported only one male household member working on the coffee fincas annually prior to relocation. In a complete reversal, post-relocation households reporting only one member working on coffee fincas fell to 26.5%, and the time spent increased significantly. The work also changed from merely picking coffee to other activities, such as coffee processing and tree maintenance, that included male and female adults and children able to work.

Table 8: Income-Earning Activity Measures

<table>
<thead>
<tr>
<th></th>
<th>Income-Earning Activities</th>
<th>Household Members Working in Coffee</th>
<th>Weeks Working in Coffee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Relocation</td>
<td>2.25</td>
<td>1.88</td>
<td>2.33</td>
</tr>
<tr>
<td>Post-Relocation</td>
<td>1.43</td>
<td>4.71</td>
<td>7.12</td>
</tr>
<tr>
<td>Difference</td>
<td>-0.82</td>
<td>2.83</td>
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</tr>
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<td>Z Score</td>
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<td>-4.879</td>
<td>-5.837</td>
</tr>
<tr>
<td>Significance Level*</td>
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<td>0.000</td>
</tr>
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</table>

The time devoted to working on coffee fincas increased to a greater degree in Los Horcones, where households averaged 7.88 weeks per year, as opposed to 6.76 weeks in Otolaca. As previously mentioned, the households in Los Horcones required additional income to purchase land and build houses, both of which had been provided for the households in Otolaca. Further, thirteen of the households in Otolaca participated in a new income-earning activity, laboring on the neighboring ladino farms. Throughout the year, male adults and children now perform wage labor in the fields for the ladino farmers, and female adults and children process the maize (husking, washing, grinding) during the harvest. While households in Los Horcones devoted their labor to working in coffee, those in Otolaca expanded their wage-earning activities and, hence, devoted slightly less time to working in coffee.

Relationships Between Variables

The results indicate a scenario of agricultural intensification and households increasingly reliant on wage-labor activities for income to pay for the rising costs of production and supplement their livelihoods. However, relationships between variables suggest competing explanations beyond agricultural intensification and increased wage labor. In a Spearman’s rho correlation test, the amount of land owned in the relocated communities was positively correlated with the number of land parcels, indicating the expansion of land ownership through acquisition of separate parcels. Since the households were relocated to more-populated areas, land availability was constrained and could only be acquired through the privatized land market (Carter and Salgado 2001). While there was no significant correlation between the amount of land owned and the number of income-earning activities, there was a significant correlation between the amount of land owned and the number of household members working on coffee fincas, along with the number of weeks spent working in coffee. Hence, the increased use of family labor working in the agro-export coffee industry was not just to supplement subsistence, it was a capital accumulation strategy by these households to be used in acquiring additional lands.

Only two other variables were significantly correlated with the amount of land owned: a negative correlation with the percentage of land under cultivation, and a positive correlation with the number of crop varieties grown. The households that were able to purchase additional parcels of land through increased work on the coffee fincas cultivated a smaller percentage of their land, allowing a small portion to remain in fallow. Further, they had higher agrodiversity in their fields in terms of number of crop varieties grown.

Table 9: Spearman’s rho Correlation with the Amount of Land Owned

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficient</th>
<th>Two-Tailed Significance Level</th>
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<tr>
<td>Number of Separate Land Parcels</td>
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</tr>
<tr>
<td>Members Working on Coffee Fincas</td>
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<td>0.004</td>
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<tr>
<td>Weeks Working on Coffee Fincas</td>
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<td>0.005</td>
</tr>
<tr>
<td>% of Land Under Cultivation</td>
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<tr>
<td>Number of Crop Varieties</td>
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<td>0.003</td>
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The lower percentage of land under cultivation could have been a result of the greater number of family members working on coffee fincas for longer periods of time, leaving less labor to fully cultivate their land. However, the greater number of crop varieties grown and greater amount of absolute land under cultivation by the households with more land suggests otherwise. While the need for income is greater in the relocated communities due to a reported lack of agricultural production and increased costs, many claimed the main reason was to purchase land. Respondents stated they would de-
crease their wage-labor work when they had acquired a sufficient amount of additional land. What this suggests is a return to a more traditional and extensive form of agricultural production.

Whether through exploiting family labor in order to acquire more land in Otolaca, or as in Los Horcones where geographical proximity and exploitation of loopholes in national forest policies allowed access to different ecological zones, these are struggles through which households are attempting to return to a more-extensive form of agricultural production. In effect, it exposes another motive for household strategies to persist in the face of externally imposed pressures to adopt intensified agricultural production.

**Conclusion**

Quantitative and qualitative analysis demonstrated an absolute decrease in land owned, an increase in land parcels, and a decrease in soil quality as measured by household perception. As a result of the decrease in access to quality land, the traditional fallow system was substituted with intensified land use. The relative increase in the percentage, and absolute decrease in the amount, of land under cultivation contributed to the decrease in animal husbandry and agro-diversity as households focused on a smaller number of basic crop staples. In absence of the ecological services provided by the fallow system in maintaining soil fertility and controlling pests and weeds, households increased the use of purchased fertilizers and adopted biocides to compensate.

In turn, the costs attributable to the intensification of production increased reliance on income-earning activities to meet household subsistence needs. Land scarcity left households without adequate amounts of quality land to produce a surplus of crops or to support animal husbandry, as reflected in the abandonment of market activity in animal and crop sales. Further, all forms of craft production ceased as the households were geographically separated from the traditional markets and natural-resource base (i.e., clay soils) necessary for these crafts. In the place of a diversity of income-earning activities, wage labor became the main source of income as relocation placed the households in greater proximity to ladino farms. However, the most significant change was the exploitation of family labor for wage earnings on the coffee fincas, which became the dominant income-earning activity.

Elaborating upon the quantitative survey analysis through the addition of qualitative interview data allowed for a more in-depth analysis beyond merely chronicling a case of agricultural intensification. Instead, this research uncovered how Lenca households were able to mitigate the negative impacts of relocation to exploit niches left open to them in the process. In Otolaca, a select group of households found ways to acquire more land through communal action. For Los Horcones, several households expanded the ecological niches available to them by accessing their previous lands due to geographical proximity. The qualitative interview data identified these strategies as attempts to re-create more-extensive forms of agricultural production in which household demographics played a strong role, but not in terms of increasing intensity of production. Instead they are utilizing familial labor as an avenue toward acquiring additional land. The inclusion of a more nuanced understanding of the intent of off-farm wage labor contributes to the agricultural change literature through the application of household strategies of communal action and exploitation of labor to promote more-extensive forms of agricultural production.

**Literature Cited**


Planning Burning Man: The Black Rock City Mirage

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Abstract
Burning Man has evolved from a spontaneous solstice celebration into the world’s largest intentional community. Principle discourse philosophically implores participants to radically challenge society through internal ephemeral city creation, negotiation, and deconstruction. Applying garden city infrastructure as a regional-scale framework might seem ironic, given the chosen site’s desert geography, but basic order allows participant masses to effectively collaborate in a fleeting instant city comprising varied structures, monuments, and volunteer-based public services. Pragmatic innovation occurs largely do-ocratically in villages and at themed camps, allowing most participants to engage in creative communal construction free from prescribed regulatory codes or administrative oversight. While the environment is annually rebuilt, each version is original in mocking, reversing, and reconceptualizing permanent American-style city landscapes. Field observations, however, reveal ideological rifts exist at camp scales, where spatial privatization is demonstrated through elite and isolating turnkey residential camping experiences. Burning Man Project, as an organization, adaptively mitigates these potentially critical suburbanization impacts without limiting principled self-expression. Yet, added population demands and expense for dwelling at Black Rock City are furthering it along the utopian garden city path upon which it is theoretically modeled.

Key words: Burning Man, Black Rock City, Garden City, and Radical Planning

Planning Burning Man: The Black Rock City Mirage
“Burning Man is an incredible canvas for self-expression, but don’t limit yourself. The place where you are right now is even more hungry for creativity, joy and change.” —Julian Cash

Instant cities are as historically diverse as the motivated, self-reliant settlers who fought wilds and wilderness to build them. Isolation and greed at fervent pace sparked the flourish of a truly unique permanent city—San Francisco—a seaport growing from just 400 inhabitants to several thousand within months of Sierra Nevada gold discovery. San Francisco’s success relied, in part, upon disparate immigrants im-

The California Geographer 54, © 2015 by The California Geographical Society
mediately forming new and blended cultural traditions until wealth, technology, and creativity established a mature, distinct society. As with most rapidly expanding autonomous places, it evolved organically—chaotically budding and spreading atop its rolling contours until forming a bay-bounded compact metropolis. Burning Man, a historically San Francisco phenomenon, now forms its annual ephemeral city in Nevada's Black Rock country but represents unexpectedly strong opposition aspects, and paradoxical cases, to the natural trend toward disorder in urban form. Currently in its second decade since relocating to the remote desert site, an exploration of “Black Rock City” (a toponym dubbed by event participants) has origins, functions, and purposes that reveal ideological transformations and physical manifestations similar to the original suburban garden city as proposed by Ebenezer Howard at the turn of the twentieth century.

Fanatical demand for Black Rock City’s gated utopia makes relevant a reexamination of the link between urban theory and workable design, generating debate over that which is unplanned and anarchistic versus the ordered, engineered city. Given that visionary ideology dictates experimentation within physical constraints, the regional result is fundamentally akin to Letchworth Garden City with a bohemian San Francisco flavor. As planning moved progressively toward equitable inclusivity, it remains important to remember that its former tradition held steadfast in the idea that what is built would, in turn, shape behavior. With this important paradigmatic leap forward, planning in practice has generally replaced promoting a conceptual “ideal” with greater procedural regulatory compliance. In contrast, as an organization, the Burning Man Project operates as a private nonprofit entity free from public-process entanglements within its gates, and is able to more easily implement modernist-era infrastructure as a tool to promote safe interactions with the harsh physical site, while still simultaneously encouraging city development into diverse theme camps, communal villages, and magnificent artworks. Yet, findings from a six-year longitudinal participant-observation and ethnography suggest the city is a mirage of theoretical fissures between communal ideology and elite residential manifestations. These visible examples, coupled with escalating ticket prices and increased population pressures, fuel exclusivity no longer representative of multicultural San Francisco, and have the Burning Man Project organization scrambling to mitigate erosive negative perceptions about community along with endeavoring in a long-term rechanneling of growth. This aspiration toward global cultural movement is an acceptance networked by year-round virtual forums and punctuated by active non-sanctioned regional event gatherings, thus allowing Burning Man to grow well beyond current city population limits. Growth shortfalls and failures are felt universally by cities, and preserving ideology (particularly at highly localized scales) can be hard-fought battles for intentional places. In reviewing the Utopian planning tradition, struggles at Black Rock City—with its strong theoretical ties to the model Garden City—appear emblematic of a typified suburban trajectory.

**Burning Man**

Burning Man began in 1986 as a spontaneous summer solstice gathering among friends, led by Larry Harvey and Jerry James, at Baker Beach, San Francisco. With no official purpose, their symbolic “Man” burn, which intended to be cathartic, proved personally meaningful enough to attendees to become annual tradition-worthy. Drawing subsequent exponential increases in attendance meant that within only four years, the capacity for public fire safety was exceeded, and so organizers began a search for a feasible alternate site suitable for multistory wooden effigy immolation (Figure 1). John Law of San Francisco’s Cacophony Society introduced Harvey and James to the Black Rock Desert during an anarchic “zone trip” during Labor Day weekend. Proving suitable, the vast, flat alkali playa was selected as Burning Man’s new annual home.

This shift was significant, and in essence enacted a secular pilgrimage from everyday life to challenge participants to survive in unrelenting exposure to extreme temperature variations and corrosive dust storm conditions over eight days each year. While inhabiting this place,
Burning Man participants found sufficient time and impetus to generate a vibrant heterotopian city climaxed by two ritual burns. Twenty-five years at the desert in total have revealed massive increases in popularity, with 2013’s Cargo Cult theme drawing a record 69,613 participants. Yet irrelevant of population size historically, the City remains a successful expression of an avant-garde aesthetic completely forming anew from and vanishing back into dust.

Burning Man is a philosophical paradox. Fundamentally, it is a postmodern experiment where participants independently and autonomously shape their immediate environments, per aspirational and operational community ethos codified as the “Ten Principles,” yet the larger bounded city is constructed by an organization having a greater social purpose that is implemented in modernist form. Where every participant at Black Rock City is considered to be a citizen, arrival grants rights not found in “default world” cities (those permanent places existing outside Black Rock City fences). Assuming participants vertically interpret the principal responsibilities as outlined in the preparatory Survival Guide distributed to each ticketholder, these intentions are then (re)distributed horizontally about the community for wholesale acceptance, reinterpretation, reframing, or contestation, thus allowing varied manifestations of Burning Man’s guidance for radical inclusion, self-reliance, self-expression, immediacy, participation, decommodification, gifting, civic responsibility, communal effort, and leave no trace to blend the event’s three basic tenets—city, community, and art.

Principles describe and suggest, not enforce, behavior and generally dispute individualist American society by intermingling and uniting divergent heterodoxic tendencies. Through chance encounter and creativity, participants use space to play out and perform alternative experiences, identities, and spiritualities. While seemingly able to achieve a purer democracy, the organization known as Burning Man Project instills top-down, consensus-based decisions via its Board of Directors; yet, field successes rely on a liberal “do-ocratic” and cooperative approach for formation of Black Rock City by empowering participants to select and execute roles and responsibilities for themselves, thus infusing the residential and artistic landscape as grassroots-style development. It is important to recognize that, unlike permanent “default world” cities, here ticket-purchased citizenship guarantees no decision-making stake in larger city planning efforts.

“You have to do something. If you see a civic need, and begin doing something to supply it, you get incorporated into the project—the project is different from the event—you get incorporated into our or-organization. We absorb resources that way. And when that happens, at every level of this endeavor, we work by consensus. That means you have a voice, and if you know what you’re talking about, and you actually do something, then you will acquire an authentic voice. If you accomplish much, then you’ll gain a greater voice.”

In “doing,” individual participants, theme campers, and village residents engage in creative communal construction free from bureaucratic limitations and cumulatively manifest founder Larry Harvey’s vision for the world’s largest intentional community.

**Garden City Replica**

Larry Harvey is hardly the first man to achieve lofty urban ideological aspirations; Ebenezer Howard devoted much of his life a century prior to making his garden city vision a reality. In creating one of the first modern new towns, an antidote to industrialized London tenements, Howard aimed for humanist reform of London’s contemporary social disorder through balanced utopianism and pragmatism. In a time before planning legislation or professionals existed, Howard reasoned inductively. Upon returning to London, Howard adapted a morally virtuous yet determin-istic City Beautiful plan to marry urban employment opportunities with pristine rural beauty and healthful living conditions. With grand axes and inspiring monumental foci, Howard envisioned the springing up of a new civilization. To-morrow: A Peaceful Path to Reform (1898) synthesizes more than a century of literature and experimentation on urban ideology and design practice, which culminates in a comprehensive reformist Garden City to be rooted in rural place and strong community values.

The Garden City, as theorized, prioritized social processes over physical form but relied on meticulously sited concentric rings for efficient, accessible transportation and a complementary heterogeneous land-use schema. Considered to be one of the earliest modernist intentional zoning trials, population parameters were set at a maximum 32,000 persons clustered in a 1,000-acre plot buffered by 5,000 acres of cultivated agriculture and green belts. Important public facilities were focused at the core and surrounded by a Grand Avenue with sizable plaza. Encapsulated by radiating inner rings that prioritized the public realm—this core served as a community hub, marketplace, and educational demonstration facility. Midway streets provided varying residential densities and typologies connected by coop-erative kitchens. Heavier industrial uses were reserved for the outermost periphery, where multi-modal linkages connected the garden city to the
larger world beyond. Perimeter green belts functioned not only to bound growth and maintain isolation but also to concentrate and intensify community life within.

Garden cities, originally designed as cooperatives, required philanthropic land speculation to fund initial construction, though community governance was reserved for a local, bipartisan, resident-elected board. As proposed, rental revenue generated from increasing land values was intended to repay original absentee investors until residents earned sufficient wages while working farms, factories, shops, or in public service positions to collectively own their land. Howard idealized a self-sufficient economy, having a high quality of life attributable to short commute distances and a preserved countryside.

Black Rock City may offer a derivative vision, but Burning Man Project maintains a similar mission, “to produce positive change in the world,” by designing an alternative space, albeit temporary, that fosters its grand objective—something that has been historically challenging to intentional places. While the Burning Man Project’s official website details city history, little record is available surrounding which influential Utopian model should be credited for inspiring Black Rock City’s regional design—though it is clearly visible, given that the degree of order is highly geometric. Produced originally to satisfy commercial, profit-earning recreational activity Bureau of Land Management (BLM) Special Event Permit requirements, the official site plan was the brainchild of Rod Garrett, Larry Harvey’s long-time friend and a professional architect/planner. In drafting a simplistic schematic reflecting the first temporary autonomous desert zone trip, Garrett’s “rounding the campfire” design demarcated centralized gathering and camping hubs and outlined basic transportation routes (Figure 2). In striking contrast to its anarchistic foundations, submitting an official plan codified an innately protective circular form and represented a marked leap toward today’s highly organized contemporary Black Rock City.

Tragic accidents, followed by lawsuits, one involving a motorcyclist and another an injury related to a motor vehicle running into an occupied tent during 1996’s Inferno-themed event, fostered greater BLM regulatory oversight. Organizers not only added a printed “limitation of liability” disclaimer to each Burning Man ticket, but also chose to pedestrianize and control camp densities rather than continue allowing automobile-connected campsite sprawl. In addition, the following year ushered in a one-time experiment with alternative form held on a privately owned parcel (Figure 3).
and it has since remained intact—with only slight modifications by Burning Man Project each year to accommodate population growth (Figure 4).

The current plan consists of thirteen curvilinear streets (named alphabetically), bisected by wide radial boulevards located at thirty-minute axes, a safe clock-like wayfinding feature that funnels participants toward the Man’s plinth. Street life is vibrant at Black Rock City, with the innermost Esplanade best described as a reversed Main Street lined by a leisure-oriented land-use mix continuously occupied by pedestrians, bicyclists, and “mutant vehicles” (also referred to as “artcars,” these elaborately ornamented motorized vehicles no longer resemble their original automobile bases) (Figure 5).

Black Rock City is peppered with notable, yet less visible, planning achievements. Optional zoning now takes place via the “Placement” process, akin to a Community Services Department charged to locate campsites by pre-application review and approval. Geared toward registered themed camps and agglomerative villages, assignments are based upon proposed land uses, space needs, and demonstrable principle contributions. Partly a social engineering tool, placement aims to site complementary uses in a manner that fosters diversity and social interaction but also mitigates sound impacts and separates adult activities from family-friendly camps. Altogether, this residential urban core becomes a densely clustered, 1.5-square-mile, urban experiment within the larger 5.5-square-mile city limits contained within 9 lineal miles of T-Bar and nylon web fencing. At its peak, the city appears as a stark contrast against its 440 square miles of isolated, rugged mountain Black Rock wilderness backdrop.

Center Camp, located at 6:00 and Rod’s Road, named to commemorate Black Rock City’s passing city architect/planner, is a recursive space (a reduced replication of the larger event) and notable official community hub (Figure 6). In close proximity to the Esplanade, Center Camp remains set back so as to accommodate pedestrian and bicycle congestion plus ample room to access health and human services—where, according to Burning Man Project each year to accommodate population growth (Figure 4).

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Man Project, medical care and emergency response times are faster than those found in default cities and are provided at no additional cost to participants. The city center showcases offshoot community services such as Black Rock Solar (clean energy), Black Rock Arts Foundation (public art), and Burners without Borders (disaster relief); all mission-based outreach non-profits formed from or by Burning Man participants in response to perceived default world shortfalls.

Just beyond the core, longitudinal blocks reveal a decreasing population-density gradient from Esplanade outward toward the perimeter Gate Road. While the entire landscape is predominantly composed of single-story developments, higher camp population densities and even a few high-rise style buildings (Figure 7) are observable between Esplanade and the mid city (“G” Street) and along multinucleated sectors along the 3:00 and 9:00 Boulevards, after which blocks shorten from 400+ feet down to 200 feet, and have lower residential densities, neighborhood pocket parks, and small public plazas. In place of infill, growth has been historically accommodated through additional new ring roads found at the periphery. While theoretically possible, purposely contemporary Black Rock City is not a complete circle because functionally, the notched opening allows for passing westerly...
winds but also represents a metaphorical opening for “Deep Playa” [sculpture garden] exploration (Figure 8). Larry Harvey sees this as reforming default social insularity:

“We’ve told people: okay, you’ve got your tight little world of your mates and your friends, and you’re bonded together—that’s like a lot of sub-cultures in our world—but we’ve said don’t close the circle. You cannot close the circle. You’ve got to leave it open so you can bridge out to a larger world, so that you can credit the world outside your circle with as much reality as you see in those around you. And, indeed, so that you can feel that the great world has the same reality, the same sense of inner reality that you feel in yourself.”19

Black Rock City is a remarkable feat, and no small testament to Garrett. His antipodal gated experiment continues to prove workable for inhabiting a physical dystopia while providing a replicable plan for developing an impermanent desert “ephemerropolis” that accommodated a few hundred participants up to tens of thousands in two decades.20 With its single, enduring design, the compact city allows for an efficient, scalable annual lifecycle, beginning from and concluding in nothingness per Burning Man’s Leave No Trace principle and BLM permit mandate.

Black Rock Garden City
Black Rock City, like Howard’s model garden city, has been durable in adapting to changing geographic and temporal circumstances. In part, due to near-identical physical form, the garden city model now serves as a slightly smaller version of contemporary Black Rock City (Figure 9). Black Rock City has a larger populace but is still physically smaller in diameter.

Drafted prior to the motor age, Howard’s boulevards serve as a good plan for Black Rock City’s automobile restrictions by providing radial corridors expanding out from the center. This divides the entire area into equal wards from which more distinct neighborhoods have developed with return trips (Figure 10). Beyond superficial similarities, both examples maintain town centers and community hubs. Expressing self-sufficient ideals, these interior cores function for market transactions even though they are non-monetarily gifted at Burning Man (with ice stations and Center Camp Café’s coffee and tea offerings as exceptions) proceeds from the sale of goods benefit the local Gerlach Elementary School. Economically, both Black Rock City and Howard’s garden city are distributivist experiments with cooperation as the dominant moral imperative. In addition, community-based political aspirations remain unique in that charitable arms were responsible for managing and granting city functions, such as the Black Rock Arts Foundation selection and [partial] grant funding of many large, on-site installations. Howard feared too much commercial activity and relegated limited land-use availability to commerce, thereby constricting competition and reinforcing communality. Benefiting from impermanence, Burning Man attempts a further radicalized market approach by declaring decommodification and gifting principles, wherein persuasive advertising or exploitation is subverted and monetary

Figure 8.—Truth in Beauty sculpture, Black Rock City, Nevada, August 2013. Source: Francine Melia.

Figure 9.—Ebenezer Howard garden city concept, recreated from To-Morrow: A Peaceful Path to Reform, 1898.
Letchworth as an urban experiment ultimately failed because population shortfalls lacked profits required to reinvest in necessary physical infrastructure and basic intentional programming, along with perceived citizen over-involvement in political realms. Issues were compounded by unaffordable, family-sized housing options, and by blue-collar manufacturing employees being largely excluded to fragmented slum dwellings located beyond city limits. This inadvertently created a homogeneous elite of skilled, middle-class professionals dependent on high wages available only back in London. At the expense of inclusive social goals, early growth plateaued, and after a quarter century, fewer than half of the required 30,000 persons resided there. Legal and business tensions led to Howard’s early removal from the Letchworth decision-making processes, which allowed political will to shift away from the founding vision. By no longer stressing self-containment as important, the ideal was quickly dismantled. Usable model components, predominantly residential site-planning and zoning tools, instead gave rise to the eponymous garden suburb—an intermediate satellite city emphasizing regional design without communality or industry. In time, open spaces were subdivided and backfilled, reshaping the once-buffered Letchworth to become a victim of suburban continuity. Outside professional planning, garden suburbs devolved to be a generic term synonymous with any residential development promoting generous greenbelt allocations, such as those pervasive in most American cities.

Planners and architects might never immediately realize their actions, but with time, professionals become well versed in the negative societal and environmental consequences associated with poorly planned suburbanization. Only by parsing out usable smart-growth lessons from Howard’s original model—or, more specifically, its compact regional form—do urban disciplines now widely understand why promoting higher-density mixed uses within an efficient transportation network can encourage pedestrian, bicycle, and transit modalities. When combined with large residential populations living in close proximity, overall gains in public safety and social interaction can be achieved. Black Rock City has no doubt benefited from implementation of these best practices, but Burning Man’s greatest asset surpasses Howard’s vision in attempting to create a larger intentional society, not just a model environment, by promoting diversity, compactness, sustainability, civic involvement, and communality—meaning, Black Rock City in theory serves as a culturally unique approach to twenty-first century garden city planning.
Canary in the Coal Mine

Black Rock City’s built environment can best be described as dynamic, changing from event to event, but always rooted in utilitarian foundations. Comfortable protection from the harsh desert climate drives a basic need for portable shelter, whether primitive tent, prefab dwelling, or shaded monumental sculptures. Evolving from participatory habitus, practical experiences, experimentation and creativity, interactivity, function, and intent dictate manifested forms and facilitate art becoming architecture and architecture becoming art (Figure 11).

While core urban settlement exemplifies a “desirable” historic downtown location, much of the city comprises single-level developments, instilling intrinsic egalitarian value to any selected campsite. Yet, when participants are out interacting with the public realm—artwork and the temple as examples—they carry even fewer material ties (Figure 12).

Since installation of Christmas Camp, the first “theme camp” that appeared at Black Rock in 1993, sparked a dramatic shift in participant dwelling preference, nearly half (48 percent) of all participants now organize themselves into whimsical or specialized motif theme camps and larger multi-theme camp “villages” (those having 150+ participants, a mayoral point of contact, and a defined mission statement). Completely optional, pre-placed theme camps and villages are also granted beneficial early arrival for select members. Variety in the built environment has prompted Larry Harvey to select an annual Burning Man theme to more cohesively tie the cultural landscape, yet recurring camp names often reflect status or group interests—such as “Silicon Village” or “Martini Village”—that tether their members to an elevated social strata. Anonymity and identity experimentation are fostered when participants adopt “playanums” in place of their given names and are encouraged to dress in eccentric logo-free fashions. Further enacted decommodification and gifting principles aim to create equality among participants. While residential architecture is still predominantly composed of tents, yurts, geodesic domes, or other creatively pieced-together imported materials, there is a growing economic contrast with those residing in million-dollar recreational vehicles (termed “land yachts”). In recent years, minimal-cost, easy-to-transport-and-assemble, prefabricated, folding hex-ayurts appear to be the emerging, single-family housing trend (Figure 13). These shelters are constructed by taping together Tuff-R or R-Max insulation sheets and can be outfitted using battery-powered, evaporative coolers.

Figure 11.—Temple of Juno by David Best, Black Rock City, Nevada, August 2012. Source: Kerry Rohrmeier.

Figure 12.—La Llorona Art on the Plaza, Black Rock City, Nevada, September 2012. Source: Kerry Rohrmeier.
For the nocturnal participants interviewed, this dark dwelling type is considered to be particularly advantageous.

Visible social strata nearly vanish beyond camp boundaries, but challenges exist as the city and camps continue to grow, because participant space requirements necessitate residing near the periphery. Here people prefer to spend their daylight hours near camp homes rather than venturing out to see other neighborhoods. In this way, these suburbanites reserve their commute energies (whether on foot, by bicycle, or riding mutant vehicle) for travel into the city center as an evening and nighttime entertainment destination. Unlike most default cities whose cores grew blighted and dangerous as residents decentralized, contemporary Black Rock City maintains a twenty-four-hour vibrant downtown by providing a highly engaging, interactive public sphere.

At the edge, participants manifest varied built environments leading to juxtaposed opposing opinions toward residential suburbanization. Some hearken Burning Man’s early culture-jamming influences (as witnessed during the Metropolis-themed event) where camps satirized mass-produced, artificially ornamented single-family tract homes (Figure 14). Still, numerous others continue to embrace its easy, comfortable appeal, thereby plotting along a typified postwar American city trajectory where distance from the center reveals marginal lands lacking control where it is most frequently needed.

Camps arranged with long, unarticulated street façades provide limited connection to surrounding public spaces. Social interactions are reserved for private gatherings held inside private spaces or in a secured courtyard. This orientation creates a dead corner affecting the larger neighborhood and is not strictly limited to residences but also commercial uses (Figure 15).

In light of this, Burning Man Project issued its first and only design guideline specifically targeting “turnkey” (also referred to as “plug-n-play”) vendors, who develop pre-constructed suburbanized camps to break up featureless recreational-vehicle street fronts and “endeavor to provide passersby with some form of public amenity, especially at intersections, which are traditionally highly interactive gathering places. Everyone desires privacy, but providing others with attractive public space is considered good etiquette”
Figure 16.—Tract home development (left) compared with suburban camp near Black Rock City periphery (below), August 2011. Source: Kerry Rohrmeier.

Yet, these same camp placements and orientations were observed following policy implementation, revealing vendor/participant disregard for philosophical ideology and changing residential preference, most likely tied to greater affluence.

It is not surprising to find examples of suburbanization, given that BLM now restricts city population size, along with Burning Man Project’s technology-based ticket distribution mechanism and the significant preparation costs, all of which are steep entry barriers that fuel greater exclusivity (diametrically opposed to intentional inclusive principles). Yet, ideological radical self-expression means anyone is free to live how s/he chooses at Black Rock City, and there is no “right” way to participate. Perceived self-reliance and communal effort dilution associated with turnkey camping is contentious among the Burning Man participant community, and it is also difficult to restrict, given its variety. Some vendors are also participants who offer just basic infrastructure services necessary, so that fellow campers’ time can be spent focusing on beneficial, interactive art projects or larger community offerings. Other vendors are tour operators developing profitable business models based on commodifying opulent experiences that provide the space and setup of motorhomes, port-a-potties, outdoor showers, meals, electricity, and potable water but also contain elaborate provisions and amenities such as shuttled transportation (via private airplane or helicopter), gourmet chefs and staff, security, live performances, decorated bicycles, costumes, satellite communications, and pre-registered mutant vehicles. Turnkey camping differentiates class among participants and erodes egalitarian efforts. Burning Man Project is actively involved in an ongoing dialog with vendors to minimize community impacts, but increased turnkey volumes are placing additional demand on the organization’s Departments of Public Works, Gate & Perimeter, and Placement volunteer resources by requiring added planning and coordination efforts year-round. This in turn reinforces the greater regulation and oversight, design intervention, and accompanying fees, only further perpetuating looming equity issues.

**Conclusion**

The ideological and regional design linkages between Black Rock City and Ebenezer Howard’s garden city remain clear. While the first garden city ultimately lacked profit and suburbanized after failing to attract the population and heterogeneous economic conditions necessary to maintain basic, intentional community tenets, Black Rock City has the good fortune that these conditions do not apply because of ephemerality and increased participant demand. The success of Black Rock City provides an unexpected case for revisiting good city form, and has developed at a time when cohesive, modernist planning approaches are professionally unpopular and instead evince discontinuity and fragmented landscapes. With an efficient, compact, easy-to-negotiate plan, replicating order allows for public safety at a harsh physical site and will likely allow the accommodation of well over 70,000 future participants with minimal revision, and thus continue to rank as Nevada’s tenth largest city, albeit fleeting. Threats to the city exist, as temporal morphological trends reveal a gradual evolution toward Rohrmeier and Bassett: Planning Burning Man: The Black Rock City Mirage
suburbanization found at the periphery, though Burning Man Project maintains it is more concerned with creating a social movement than enacting a visual design exercise. In recent years, steep entry barriers have further fueled exclusivity, and an influx of greater affluence has increased pressure for turnkey experiences, which visibly can, though not all do, signal a loss of larger-city intentions. Left unmitigated, these factors may accelerate an expected garden city trajectory from distributivist experiment to controlled, planned development.

Perhaps knowing whether Burning Man touches participants in a meaningful way, or if just being there simply fills an intrinsic desire to belong, should no longer matter, but rather the fact that tens of thousands of participants each year continue to want to dwell in Black Rock City, even if principle failings provide early warnings of an unappealing intentional-city fate. As an organization somewhat hindered by its own ideals, Burning Man, under direction of its original visionary, recognizes this threat and pays significant consideration to annual planning endeavors, aiming to transition itself well beyond playa limits to several smaller, regionally sanctioned events, and to continued online social community growth. Whatever the future holds, Black Rock City remains a historically powerful contemporary cultural artifact and a reminder not to underestimate the unlikely few whose ideas have shaped the cities of many.

Endnotes
33 Earl Shidler, AIA. Personal interview. Black Rock City, Nevada, August 31, 2012.
The Beached Park

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Abstract

While urban beaches may be functionally, legally, and administratively identical to parks, social scientists and others typically resist viewing them as parks. This paper offers four reasons—one etymological and three historically contingent—to account for the tendency.

The Saltwater Effect

While doing a research project about public spaces in U.S. cities a few years ago, I noticed an odd pattern in the literature I was reading. Social scientists, historians, and others, I observed, rarely write about city beaches as city parks. Although scholarship about “parks” might include case studies of beaches (e.g., Low et al 2005), research focused on beaches makes little reference to the wider literature on urban parks. (The trend is broadly discernable, but examples include Bahnam's 1972 account of Surfurbia; Edgerton 1979; Davis 1992; McKinney 1995; De Ruyck et al 1997; Latham 1997). I have found the pattern slightly odd—even though it appears in my own work (Davidson 2007)! By definition, a “beach” is a very particular sort of landscape, one that lies along the shore of the sea and over which waves break (OED 2015). A “park” is not defined by its location, and one can take an infinite variety of forms—save a beach, it seems. Why is this? Beaches are, after all, prominent public spaces in coastal towns that provide outdoor recreation and contact with nature. Many beaches constitute or are contained within parks administered by city parks departments. Courts equate beaches with parks as “traditional public fora” in determining public access rights to the shore (see, e.g., Thomas 2010). For the average person, a day at a beach is likely to yield many of the same sorts of emotional and physical benefits as one spent at a park. Hence beaches may be functionally, legally, and administratively identical to parks. Why do researchers typically resist treating them as such? Does the presence of saltwater change parks into something else?

In this brief essay, I speculate on why writers insist on treating the beach *qua* the beach rather than as a sub-type of park. I identify the cause as four factors—one etymological and three historically contingent—that currently inform commonsense understandings of parks and beaches. These are, first, the sense of enclosure that is intrinsic to idea of a park, as evident in
the word’s etymology. Beaches, among the most open of spaces, contradict this sense. Factors 2–4 reflect the influence of seminal park planners in the late-Romantic period, when the nation’s first city parks were discussed, planned, and made. In particular, I highlight the influence of Andrew Jackson Downing and the Frederick Law Olmsteds (Sr. and Jr.), whose philosophies and landscape designs did much to condition how subsequent generations of Americans would think about parks. These individuals viewed parks as purposefully planned, constructed, and maintained landscapes. Most beaches, by contrast, occur naturally. In addition, the types of landscapes that the early park planners thought appropriate for their creations bore little resemblance to the flat, sandy surface of a typical beach. Lastly, nineteenth-century park designers, along with a wider stratum of Victorian reformers supportive of the urban park movement, believed that social interaction in well-designed parks would improve the moral and medical well-being of working-class visitors. By contrast, prominent urban pleasure beaches, such as Coney Island and Atlantic City, were viewed as rowdy, uncontrollable places subversive to the reformers’ agenda. As a consequence of these factors, I suggest, beaches and parks are viewed as unalike—even antithetical—landscapes.

I elaborate the points below. The paper is brief, and the case it makes necessarily circumstantial. It is hoped, however, that the paper can help refine thinking about parks and beaches in a way that clarifies why they seem different.

Enclosed Versus Open
One reason why people tend to view beaches as distinct from parks is that beaches are open spaces. A park, as made clear in the word’s etymology, is a bounded place. Early forms of the word “park” appeared in thirteenth-century legal charters to mean land containing “beasts of chase” for landed gentry (Landrum 2014, 16). As the word evolved, its variants extended the idea of enclosure from the realm of territorial privilege to that of physical boundary. French, Gaelic, German, and other European variants of the term in use from the 1300s to the 1800s have been translated as “an enclosure,” “a sheepfold,” “a space surrounded by walls,” and “a palisades to hold wild beasts” (Pearce 1958, 99). European explorers in North America, far from the densely settled landscapes of the Old World, used the word to describe pockets of land surrounded by natural features such as forests and mountains. This use of the word traveled west with explorers along the Oregon and Santa Fe Trails. John C. Fremont, for example, used the term in 1843 synonymously with “mountain cove” to mean a high mountain valley (Pearce 1958, 100). As globalization has spread the Western model of the city park to other parts of the world, its spatial connotations have gone with it. Thus, when critics complained that Hibiya Park in downtown Tokyo was closed off to its surrounding neighborhood, park designer Isoya Shinji responded that the root of the German word for “comfortable,” behaglich, derives from “hagen,” which means “fence” (Shinji 1993, 55). Hence, Shinji argued, some degree of enclosure is necessary to make park users feel comfortable.

Beaches offer the antithesis of enclosure. In presenting the unbroken vistas of the ocean and horizon, the beach evokes the vast sphere of planetary nature that can seem to dwarf the human realm. One Los Angeles psychiatrist prescribes visits to the beach to assist patients who are dealing with personal crises. “There’s something about walking on the beach, seeing the endless horizon and experiencing the ocean’s infiniteness, that helps people who feel so constricted they see no alternatives. It can really help in breaking an impasse,” he explained (Krier 1979). The openness of the beach may be comforting, but it contrasts radically with the boundedness of a park.

The lack of physical barriers on the beach finds its corollary in a lack of behavioral ones. Beaches are the only place where many Americans directly interact with nature in a fun, exploratory manner. Along the shore they “poke about, pick up, touch, shape and play with (the beach’s) physical material and the creatures it supports—crabs, shellfish and worms” (Tunstall and Penning-Rossell 1998, 329). In addition, people on beaches remove much of their clothing, swim, lie down, doze amongst strangers, and behave in other ways that would seem unusual or provocative elsewhere (Edgerton 1979). Some have suggested that the borderless beach, where land and water merge in a liminal realm, is a subversive, carnivalish place that inverts norms of everyday life (Walton 1998; Shields 1991). One can walk in a park looking dapper, but, as photos of Richard Nixon at San Clemente reveal, strolling the surf in Oxfords and a collared shirt looks hidebound.

Created Versus Found
Another contrast between beaches and parks concerns their naturalness. Parks are understood to be planned, constructed, and maintained landscapes. Beaches, in contrast, are by and large the products of natural forces that continually remake them, independent of human will. The idea of parks as designed landscapes owes much to the philosophies of late Romantic-era park planners and advocates, such as the Frederick Law Olmsteds (Sr. and Jr.) and Andrew Jackson Downing. As pioneers of the urban park movement, the Olmsteds and Downing rank among the most prominent figures in the scholarship on park history in the United States. Their prominence...
is justified because they helped plan the nation’s first major urban parks, articulated the importance of parks in their writings and statements, and strongly influenced the attitudes of their peers and subsequent generations of park professionals.

These figures viewed parks as created landscapes. Beaches might provide the same benefits as parks, including healthful environments, contact with nature, and opportunities for recreation, but as found spaces beaches did not qualify as parks. Downing, for example, argued against locating New York’s first major park in Jones’ Wood, a landscaped country estate along the East River, because the shore location was already healthful and recreational and did not need to be transformed into a park. (In 1844, William Cullen Bryant, editor of the New York Evening Post, had endorsed the site for precisely this reason. Bryant wrote that little work would be required to make a park of Jones’ Wood except to “cut winding paths through it, leaving the woods as they now are, and introducing here and there a jet from the Croton aqueduct” (Rosenzweig and Blackmar 1992, 21.)

Several decades later, Olmsted, Jr. and his partner Harland Bartholomew would propose integrating several miles of Los Angeles County shoreline into a regional park system, but only after transforming the beach through intensive engineering and redesign. They proposed raising and widening the beach from Playa Del Rey to Santa Monica Canyon. Along this six-mile stretch, they felt, the construction of homes and businesses had left the beach too narrow. They also proposed building a parkway on the upper berm. At 370 feet across, the parkway would have been nearly four times the width of the Champs Elysees. It was to contain forested land with promenades for pedestrians and roads for automobiles. As an alternative, the planners recommended constructing a causeway 2,000 to 4,000 feet offshore and creating a marina (Hise and Deverell 2000). Only after turning the beach into a human creation would it become a park.

Picturesque Versus Obscene
The type of designs the influential, early park planners had in mind for their creations also helped set beaches apart from parks. These planners sought to realize in their parks specific aesthetic compositions that contrasted fundamentally with the flat, open layout of a beach. Downing and Olmsted, for example, had inherited from Great Britain a specific set of culturally mediated aesthetic ideals for viewing nature. These included, first, the picturesque, a way of visually interpreting the assembled components of an area as a unified landscape. The second, the Picturesque, mediated between the contrasting landscapes of the Beautiful (the small, orderly, smooth) and the Sublime (the wild, powerful, terrifying). They and other nineteenth-century park designers sought to achieve in their parks landscape compositions that created unity while combining elements of the Picturesque and the Beautiful (Young 2004; see also Morawinska 1977). The Sublime, considered ideal for parks in the eighteenth century, fell from favor in the later Romantic era. Olmsted, for example, created pastoral landscapes that would not set loose the tumultuous emotions evoked by the Sublime. As illustrated by Olmsted and Vaux’s “Greensward” design for Central Park, the ideal park included dense vegetation, gentle slopes, and winding pathways that teased users with a pleasant sense of mystery (Schepers 1989, 391; see also Carr 1999). By contrast, beaches tend to be unvegetated spaces that leave little to the imagination. Golden Gate Park offers an instructive case study. The park’s western edge covers what used to be sand dunes several hundred feet from the swash zone. William Hammond Hall, the park’s engineer and first superintendent, utilized an innovative method of stabilizing the dunes by planting them with barley and, subsequently, pine trees and other dense vegetation. When completed, the shoreward-most end of the park contained thick forests and gardens that marked it as distinct from the now-foreshortened beach (Young 1994).

Upraising Versus Lowbrow
A final reason why beaches seem opposite to parks stems from the way in which Romantic-era medical and moralistic conceptions of nature became embedded in the philosophies of the seminal park designers. These figures conceived of nature as salutary to the physical and moral well-being of the urban proletariat (Boyer 1978). The nineteenth-century pleasure ground park was anticipated to bring this virtuous, balance-restoring nature to residents of industrial districts who, it was feared, too often succumbed to disease and dissipation (Young 2004). The reformers’ view of the slums was famously evoked in 1842, when Charles Dickens described the Five Points neighborhood in lower Manhattan: “Debauchery has made the very houses prematurely old. See how the rotten beams are tumbling down, and how the patched and broken windows seem to scowl dimly, like eyes that have been hurt in drunken frays” (quoted in Peterson 2011, 63). In order to deliver nature’s benefits where they were needed, parks would have to be located within walking distance of tenement districts like Five Points. The economics of site selection did not always make this possible. Central Park in New York and Golden Gate Park in San Francisco, for example, were built on the urban fringe, far from the major working-class neighborhoods. However, as park-makers knew, urban growth would eventually bring the
city to the park. Yet a typical beach location would remain permanently on
the edge of a city, where its medical and moral benefits would be attenuated
distant, interior slums.

But could a beach actually achieve the civilizing goals of the reformers?
In this period some of the nation's most well-known urban beaches were
gaining reputations as venues for rowdy, freewheeling behavior. On their
days off, industrial workers sought the liberating thrills and outré freedoms
of beach resorts like Coney Island and Atlantic City, where roller coasters,
saloons, brothels, sideshows, and other attractions formed an alternative sort
of pleasure grounds. To reformers of the 1880s and 1890s, Coney Island was
“Sodom by the Sea” (Kasson 1978, 34). Rather than deriving much-needed
relaxation and contact with nature, crowds were subjected to the mechanistic
thrills of roller coasters and a panoply of unwholesome temptations. Here and
at similar resorts, historian John F. Kasson has argued, the emergent mass
consumers of the industrial age defined their own entertainment agenda,
one that implicitly rejected the lofty normative ends that reformers hoped
to achieve with parks. To influential citizens and opinion-makers, the two
landscapes—beach resorts like Coney and parks—had contradictory influ-
ences on the medical and moral well-being of their users.

Here I conclude my admittedly brief and circumstantial, but hopefully plau-
sible, case. Researchers tend to view beaches as something different from
parks because of four factors that inform current understandings of beaches
and parks. The first, the idea that parks are enclosed spaces, is etymological,
but the other three are historically contingent and owe much to the influence
of prominent park makers and advocates in the initial phase of park making
in the United States. The contingency of three of the factors suggests that
new understandings of these ordinary landscapes may one day emerge.

References
University of California Press.
Cambridge, MA: Harvard University Press.
Carr, E. 1999. Wilderness by Design: Landscape Architecture and the Na-
tional Park Service. Lincoln: University of Nebraska Press.
Davidson, R. 2007. The Beach versus 'Blade Runner': Recasting Los Ange-
Davis, C. 1992. From oasis to metropolis: Southern California and
the changing context of American leisure. Pacific Historical Review
61(3):357–86.
capacity as a management policy tool for sandy beaches. Journal of
Berkeley: University of California Press.
tholomew Plan for the Los Angeles Region. Los Angeles: University of
California Press.
Kasson, J. F. 1978. Amusing the Million: Coney Island at the Turn of the
Krier, B. A. 1979. Safe Harbor: The sea as therapy. Los Angeles Times,
September 16, part viii p.1.
displays of female bathers in the 1920s. Text and Performance Quarter-
Space and Cultural Diversity. Austin: University of Texas Press.
McKinney, J. 1995. A Walk along Land’s End: Discovering California’s Un-
the History of Ideas 38:461–75.
Entry/137946?rskey=yhZTay&result=1#eid [last accessed 12 February
2015].
in Nineteenth-Century New York City. New Haven: Yale University
Press.
Cornell University Press.
Scheper, G. L. 1989. The reformist vision of Frederick Law Olmsted and
Shields, R. 1991. Places on the Margin: Alternative Geographies of Modern-


Symbolic Discourses: The Influence of Denis Cosgrove in the Field of Geography

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“There is no such thing as an uninteresting landscape!”
—Denis Cosgrove

Introduction

Denis Cosgrove was a true humanist and a leader in the field of humanistic geography. Drawn deeply to “the idea of genus loci, the spirit of place” (Daniels 2009: 15), Cosgrove was a stalwart for the academic expressive powers of human geography’s interface with the humanities. Places mattered deeply to Denis Cosgrove, and he found it difficult to understand cultural geographers who did not share his abiding interest in landscape and landscape studies (Duncan 2009: 9). However, it was not landscape alone that held his interest. In his faculty biography for the University of California, Los Angeles (his last faculty appointment), Denis described his work over his career as transforming from a focus on landscape meaning in human/cultural geography to a broader concern with:

… the role of spatial images and representations in the making and communicating of knowledge... [especially] the role played by visual images in shaping geographical imaginations and thus in the connections between Geography as a formal discipline and imaginative expressions of geographical knowledge and experience in the visual arts (including cartography). (Cosgrove 2008)

Quite a hefty statement of purpose, so to speak, but it is entirely representative of Cosgrove’s areas of research interest as well as his scope of influence in the larger field of geography. Appropriately enough for a geographer with humanist tendencies, Cosgrove was a true Renaissance man of the field a (“polymath reminiscent of the Renaissance humanists he admired” [The Independent 2008]); in no sense was he limited in terms of the scope of his produced knowledge. Yet, despite the impressive diversity of his attentions, Cosgrove is perhaps best chronicled as the prototypical modern humanistic geographer as well as a forerunner in the field of new cultural geographies.
Personal History of Denis Cosgrove: Geographic Inspiration, Education, Employment

Geographic Inspiration
Denis Edmund Cosgrove was born in Liverpool, England, on May 3, 1948, as the second of six children. For his early schooling in Liverpool, Denis was enrolled by his father (a devout Roman Catholic) in a Jesuit school, St. Francis Xavier School (The Telegraph 2008). Although a country, a channel, and half a continent separated him from the Vatican, his life was still very much attuned to the far-reaching influence of Rome. The global scope of the faith, as well as its tenets, stayed with Cosgrove throughout his life, influencing not only his personal credo, but also his work. His other interests in the global began around this time as well: “Cosgrove traced his geographical passion to a toy globe showing Liverpool as the centre of the world, while the ships in Liverpool’s great docks held the promise of exotic realms to be experienced” (The Independent 2008). These docks also provided a great deal of inspiration to Cosgrove’s developing geographic imagination. The Cosgrove family had no television or car, but took Sunday walks along the Liverpool dockside (The Telegraph 2008). Liverpool had been hit hard by German air raids (second only to London within the United Kingdom) during World War II, though its ports stayed in operation throughout and were a vital supply route for the British. The postwar period saw dramatic reconstruction to the port, including the building of Seaforth Dock, though these changes were also accompanied by a significant loss of employers in the region. But to a young Denis, these walks along the dockside were a glimpse into a truly global world: the discharging of cargo, the exchange of goods, the ships from exotic locales from around the world. Geography became his passion; however, his school had a low opinion of his pursuit of the subject. As “an A-stream student he was forced to drop it in favour of Latin and Greek (protesting to the headmaster, a priest, his mother was told emphatically ‘geography is a girl’s subject’)” (ibid). Consequently, Denis taught himself much of his early understanding of the discipline, reading books on overseas places that he’d found for himself. Eventually, he was able to take up geography as part of an A-level curriculum and pursue his interest at the collegiate level.

Higher Education
Nowadays more of a rarity in the field, Denis Cosgrove was a classically trained geographer, receiving all three of his academic degrees within the subject. His collegiate career began at St. Catherines College Oxford (where he received his BA) and continued at the University of Toronto (where he earned his MA). His doctoral work was undertaken back in England, where he studied at Oxford University. Cosgrove’s doctoral dissertation, titled *The Palladian Landscape: Geographical Change and Its Cultural Representations in Sixteenth Century Italy*, is his first publication of note that encapsulates his enthusiasm for landscape studies, symbolic inference, and geographically oriented cultural cues. Cosgrove used his dissertation as a means to interpret the “countryside of northern Italy as a ‘way of seeing’ and of reading the surviving Palladian villas of the Veneto as symbols of 16th-century culture,” a concept that stumped some of his more “dyed-in-the-wool empiricist… boots-on-the-ground” colleagues who struggled to get their heads around some of Denis’s abstractions (Delano Smith 2009: 5). He was, in fact, crafting his vision of landscapes as readable texts; landscapes were to him as much cultural vestiges as physical spaces, and ripe for analysis on how we view, picture, imagine, and interpret them. Interestingly, Cosgrove’s dissertation was not originally submitted as a capstone achievement to a Ph.D, and instead earned a “B.Litt” degree (Bachelor of Letters/Literature). Later on, the paper was resubmitted and awarded a Ph.D, though by this time Cosgrove was already working at his first faculty appointment at Oxford Polytechnic, which he began in 1972.

Employment
Cosgrove’s time at Oxford Polytechnic University was particularly notable for his integral part in a small team that designed and launched that university’s first geography degree program. The other principal faculty member on that team, David Pepper, described the program as one that both reflected disciplinary concerns of the time and was forward-looking. “It gave substantial scope to cultural geography and to environmentalism, neither of which were then prominent in British universities, but both of which increasingly interested Geographers as the late 20th century wore on” (Pepper 2009: 7). To have a program as Pepper describes was truly advanced thinking, as these are now some of the discipline’s most prominent and productive sub-areas. Also during his time at Oxford Polytechnic, Cosgrove’s interest in preserving, not divorcing, the relationship between cultural and physical landscapes emerged. Cosgrove was a champion of “the importance of the social, material, cultural and ideological aspects of environmental problems,” most strongly that “this whole notion of environment and nature is an intellectual construct—a projection of human wants and desires. There isn’t some kind of objective thing out there” (Pepper 2009: 8). This notion of accepted realities being forged as human constructs was an idea that deeply pervaded all of his following work and came to be one of Cosgrove’s most influential contributions to geographic thought.
After eight years at Oxford Polytechnic, Cosgrove took a position as a senior lecturer (and later a reader) at Loughborough University. Cosgrove spent fourteen years at Loughborough, his longest of any appointment, and while he never rose to the position of full professor there, it is where he co-wrote his landmark piece, *The Iconography of Landscape* (discussed later). Cosgrove next moved on to Royal Holloway, University of London, in 1994, “undoubtedly attracted by the prospect of a Chair in a rapidly expanding Department” (Driver 2009: 19). Here, Cosgrove served as the director of the department’s newly created Social and Cultural Geography Group and also launched his own journal, *Ecumene*. *Ecumene* means “the habitable earth” in ancient Greek, which as [Cosgrove] pointed out, stands as an acronym and mnemonic of the journal’s subtitle: environment, culture, meaning” (Duncan 2009: 9).

His time at Royal Holloway also allowed for Cosgrove’s true inclinations as both a geographer and a humanist to emerge, as he established lasting connections between geographers and other scholars across the arts and humanities at Royal Holloway, “in Renaissance studies, in classics and in Italian [etc.]” (Driver 2009: 20). Additionally, he grew increasingly interested in key thinkers of international, historical, geographical thought, notably those beyond English shores—in France, Germany, and Italy, especially. “Amongst many other things, this enabled an increasing number of international collaborations with geographers overseas, from Padua to Rio de Janeiro” (ibid). This interest in the forms and contents of various global ways of thinking, along with his impressive international scholarly relationships, led to his honorary doctorate from Tallinn University in Estonia (Soderstrom 2009: 23). To put it in simple terms, Cosgrove:

...wrote sometimes about London and Los Angeles, but also about Rome, Venice and Vicenza or about the world as a whole. He was, moreover, inspired not only by the usual pantheon of Anglo-American theorists, or of French theorists recycled by the American academia, but also by untrendy French historians, Italian geographers, or German philosophers. So he looked beyond his backyard, and he therefore also resisted the temptation to inflate his backyard to the size of the world, or, in other words, to consider the city in which he lived or the academic milieu in which he worked as a universal model. (ibid)

These relationships serve as ideal examples of Cosgrove’s polymath tendencies: a globally thinking geographer with a humanist’s sensibilities.

Cosgrove’s final appointment, before his untimely death in 2008, was at the University of California, Los Angeles, where he assumed the inaugural position as the Alexander von Humboldt Chair of Human Geography in 1999.

His choice of Alexander von Humboldt for his named endowment seems an entirely appropriate one. Denis, of course, played a leading role in the creation of the ‘new’ cultural geography, but he was also – like von Humboldt – a true Renaissance man whose knowledge and conversations stretched well beyond disciplinary boundaries. In addition, Denis was someone who had a holistic conception of, and belief in, Geography as an intellectual project. In this, Nature... provided an essential place. What he showed was the many ways in which the natural world can be represented and envisioned. (Roberts 2009: 16)

For Cosgrove, Los Angeles was a superlative landscape to “read”; it was neither a “placeless metropolis” nor a “postmetropolis of shining surfaces and empty simulacra,” as it has been criticized by many others (della Dora 2009: 24). Instead, southern California was, to him, a place “rich with history, crossroads of different cultures, and thus sources of continuous fascination... where, as he said, ‘the geographic nexus of land and life was transmuted culturally into a landscape and lifestyle’” (ibid).

Contributions to the Field
A discussion of Denis Cosgrove’s influence on modern geographical thought would be incomplete without a substantive look at some of his most influential publications. Here, three of Cosgrove’s most significant writings are considered, not only in terms of the ideas they present, but also because of their larger impact on geographic dialogue and broader scholarship.

The Iconography of Landscape
This book, published in 1989, is a series of essays edited by Cosgrove and his colleague, Stephen Daniels. Landscapes are treated as constructs ripe for study, across a multitude of media and surfaces. Their central thesis is that landscape is “a cultural image, a pictorial way of representing, structuring or symbolizing surroundings” (1) as well as an important mode of social, cultural, and political communication. Interestingly, Cosgrove and Daniels did not intend the book to be a text for new cultural geographers (a tradition not yet invented), but rather a text in historical geography (Daniels 2009: 14). And yet the book has been received as one that “changed everything,” providing an understanding of how a synthesis of geography, history, literature, and art could make a coherent and consequential intellectual argument (Brotton 2009). “The book undoubtedly had a significant impact
on geography, but for those of us working in different areas, it also changed our understanding of why geography mattered, and Denis was right at the forefront of that change” (Brotton 2009: 10). In the eyes of Stephen Daniels, the text is a success both for its effect on dialogues in larger scholarship and for how it encourages geography students without a grounding in the humanities to not only “understand works of art and architecture but make a valuable contribution to their meaning through exercising their geographical imagination” (Daniels 2009: 14). To this end, the book is both a forerunner in new cultural geographies and geohumanities and an important resource for furthering geographic education.

Social Formation and Symbolic Landscape
Published in 1998 to wide release, Social Formation and Symbolic Landscape presents further arguments for the social and cultural politics of landscape. Whether he was analyzing sixteenth-century Venice or twentieth-century America, Cosgrove saw the writing and description of the world as “central to our understanding of who we are as a species” (Brotton 2009: 11). Social Formation and Symbolic Landscape was yet another means by which to convey his ideas about the importance of this “earth-writing”; geography in perhaps its purest form. The book’s guiding thesis is that landscape constitutes a discourse through which social groups have historically framed themselves and their relations with both other groups, as well as the land. This discourse has close epistemological and technical relationships to ways of seeing places (Cosgrove 1989: xiv). Of note, the discourse is not only about how we see places, but about how we construct depictions of place, our relationships to place, and the ways we’d like others to see us in those places. There is a decided value in the text placed upon the relevance of the material world in the construction of meaning, as well as a “respect for the practical knowledge imbued in acts and processes of visual representation” (Martins 2009: 21). Cosgrove once again utilizes his perhaps most-venerated medium as case studies: works of art, particularly Italian and particularly of a humanist tradition. Poetry and text from the European and American tradition are also used to similar effect; all these humanistic pursuits are a glimpse into a “text” by which landscape studies can be explored and pursued. In Cosgrove’s vision, they offer powerful insights and scholarly material on our collective relationships with, and views of, place.

Apollo’s Eye: A Cartographic Genealogy of the Earth in the Western Imagination
Further evidence of Denis Cosgrove’s imagination and scholarliness is on display in his 2003 book, Apollo’s Eye. This work represents Cosgrove’s turn in attention to the deeper cultural meanings of the so-called “paper landscape”: the landscape of the map (Delano Smith 2009: 5). Via maps, visual representation is still in play, though in this imagery the whole of the earth can be grasped, located, communicated, and shared all at once. Scale, then, becomes an important concept in reference to the depiction and reading of places. Scale can distort an image, it can be limited or expanded, and most of all it can provide a varied perspective. In talking about landscapes and scale, Cosgrove deftly notes their ability to be at once “vast in conception and yet jewel-like in detail” (Cosgrove 2003: 128), both sides of the proverbial coin in an ordered global scale. His colleague Catherine Delano Smith posits that by scale, Cosgrove meant not merely mathematical scale, but scale as “the measure of the smallness of humanity and the vastness of the cosmos, Renaissance man’s word for the universe” (2009: 6). Here, she argues, Cosgrove was spiritually and intellectually at home: at the crossroads of humanity and humanity’s depiction, etherealness and groundings on Earth.

Geographic Influence

Broader geographic thought and philosophy
Denis Cosgrove’s approach to geographic thinking, as partially illustrated by the publications above, was unique in its purposeful balance between tradition—the legacy of geographies past—and innovation, the promise of geographies to come (Driver 2009: 20). In no greater sense was Cosgrove’s interest in humanistic ideals at play than in his advocacy for the critical importance of maintaining geographical perspective within a classical tradition. To Cosgrove, orienting to these kinds of classic modes of thinking work to enable geography’s potential for contribution to broader, interdisciplinary debates across scholarly fields (Atkinson 2009: 17). While he was a geographer through and through, his vision was never narrow, but instead focused on the multiplicities possible in geographical thinking across boundaries.

Cosgrove’s philosophical orientation is well described by his article “New Directions in Cultural Geography” (1987), which he co-wrote with Peter Jackson for Area. The article advocates for a new cultural geography that is “contemporary as well as historical (but always contextual and theoretically informed); social as well as spatial (but not confined exclusively to narrowly-defined landscape issues); urban as well as rural; and interested in the contingent nature of culture, in dominant ideologies and in forms of resistance to them” (Jackson 2009: 11). Much of Cosgrove’s overarching philosophy is evident in this manifesto; in fact, this description outlines much the work produced in the following decades not only by Cosgrove,
but by the multitude of geographers emerging in the freshly defined subfield of new cultural geographies.

Above all, Cosgrove was a leader in bringing vision, imagination, and representation to the forefront of geographical thinking. His works “sustained a longstanding fascination with places, landscapes and their representations” (Atkinson 2009: 18), notably exploring the ways in which geographies are both shaped by and also shape imagery of place. In Cosgrove's eyes, landscape reigned supreme, not only as a topic of study, but also as a medium by which to generate geographical meaning and create geographical knowledge. The production of regions and places was driven by an understanding of landscapes, often via an exploration of the importance of visual imagery, art, the graphic (maps included) and the pictorial. This humanistic view of space was in no sense nonrepresentational, but rather an ultimate representational take on spatial understanding.

Development of the Field
Notwithstanding that he was a pioneering human geographer, Cosgrove’s most lasting legacy may be his insistence on not divorcing human geographies from their physical geography counterparts. He was committed fully to a unified discipline—a discipline concerned with society-environment relations (Pepper 2009: 7) and an acknowledgment of the shared common history of geographic exploration. This philosophy speaks strongly to Cosgrove’s “Renaissance-esque” sensibilities, his appreciation of a multitude of subject areas, and his groundedness in the whole of the discipline.

The journal he founded, Ecumene (now called Cultural Geographies), is also a lasting testament to this principle within the discipline. The goal of the journal was to provide a medium for the new cultural geographies that were developing at the time of its founding. However, the ultimate intention was to provide an academic space that would triangulate “the interface of the humanities, social sciences and environmental sciences. As such, the journal’s goal was not only to reach across academic fields, but to also reach out to rich environmental and place-based traditions” (Duncan 2009: 9). Cosgrove’s selected name for the journal, once again, spoke to his intentions for the larger trajectory of geography. Ecumene stands as an acronym and mnemonic of the journal’s subtitle: environment, culture, meaning. It is fitting that even his journal’s name was layered with symbolic significance and an interdisciplinary spirit.

Conclusion
A Renaissance man with a firm grounding in a single field, a pioneer of new geographies and yet a classicist, Denis Cosgrove seems at times a contradiction in terms. Where he most shined, however, was in proving that there was no contradiction in being identified as both a geographer and a humanist. His work will be remembered as a frontrunner in new cultural geographies and for demonstrating the effectiveness of integrating humanism into the discipline. Cosgrove regarded broad geographical vision as a noble perspective and was as committed to the geographical tradition as he was to propelling the field into its potential interdisciplinary future.

Literature Cited
Jackson, Peter. 2009. The making of “landscape surgery” at Royal Hollo-
Martins, Luciana. 2009. Denis Cosgrove and the “cultural turn.” Cultural
Geographies 16(1):11–12.
Pepper, David. 2009. Denis Cosgrove: Reflections on His Career at Ox-
phies 16(1):15–16.
Söderström, Ola. 2009. Denis Cosgrove in Europe. Cultural Geographies
The Telegraph. 2008. “Denis Cosgrove: Geographer who addressed the
co.uk/news/obituaries/1900517/Denis-Cosgrove.html (last accessed
March 11, 2013).
UCLA Department of Geography. 2008. “2008 von Humboldt Event—A
Symposium and Memorial in Honor of Professor Denis Cosgrove.”
Geographic Chronicles

Gary Booher, 2014 Conference Organizer
Los Angeles Geographical Society

(Reprinted from the Winter 2014 Bulletin)

The Los Angeles Geographical Society and Los Angeles City College were proud to host the 2014 California Geographical Society Conference. It was a busy but rewarding weekend for over 300 persons who attended, with great speeches and field trips, many papers and posters, excellent meals, and abundant networking and socializing.

A Mediterranean barbeque was a gourmet feast on Friday evening outdoors in the Quad, with herb-roasted chicken in ground walnut and pomegranate curry, Moroccan herb-rubbed beef brisket with yogurt sauce, and Portobello mushroom stuffed with vegetables and herbs. Afterwards, President Jim Wan- ket officially opened the conference in the adjacent El Camino Theater with an informative illustrated presentation about “Los Angeles in Maps,” by Glen Creason, Los Angeles City Map Librarian.

Thanks go to many persons who made it all happen: Gary Booher as conference organizer, Mike Farrell as campus host from Los Angeles City College, Kris Jones as field trip coordinator, and Yair Pilowsky as student representative. Conference activities went smoothly due to countless hours and intensive effort by these individuals.

In addition, many local geographers and related professionals led interesting field trips, mostly using Metro transit: Brandon Farley for MetroRail overview, Lorne Platt for Arroyo Seco and Northeast Los Angeles, Steve Slakey for Downtown Los Angeles, Meredith McKenzie and Yair Pilowsky for Los Angeles River walk, Perias Pillay for Metro Expo Line, Steve Koletty for Blue Line and Harbor boat tour, Cesar Espinosa for Latino Los Angeles, Steve Graves for Griffith Park hike, and Bill Selby for eating in Los Angeles.

But expert field trip leaders were not alone. Often participants added insight into the reading of the landscapes. Collaboration is how CGS geographers make these field trips special for everyone. Also, a hallmark of CGS is how a team spirit prevails in the face of unforeseen circumstances: assess, adapt, overcome! Friday was an unseasonably hot day (where was the cool, overcast “May gray”?), for which people on the Los Angeles River walk adapted by dipping their toes
in the water in a soft bottom portion of the river. Sunday was cooler, and Steve Graves led the largest group through Griffith Park, augmented by the informed comments of participants. A collaborative spirit prevailed for Eating in Los Angeles, as no bus appeared and many people cheerfully embarked by caravan to the restaurants for eating delight.

The core activities on Saturday featured a Presidential Plenary presentation in the El Camino Theater by Wendy Cheng, assistant professor at Arizona State University and co-author of *A People’s Guide to Los Angeles*. Enveloping the Presidential Plenary were twenty paper sessions, three panel discussions, and one workshop. Paper presentations spread to a diverse range of topics for seventeen faculty or professional papers, sixteen graduate papers, and thirty-three undergraduate papers (minus a few who canceled). Paper sessions were complemented by the presentation of approximately twenty-three posters (one faculty, nine graduate, thirteen undergraduate), six digital cartography (two graduate, four undergraduate), and four manual/paper cartography (two graduate, two undergraduate).

Saturday climaxed with the evening awards banquet in the Student Union, with another delicious meal and awards for student scholarships, papers, posters, and mapping. Certificates of appreciation were also given for: Friend of Geography to Gary Booher of the Los Angeles Geographical Society, Distinguished Service to Jennifer Helzer of Cal State University Stanislaus, and Outstanding Educator to Michael Schmandt of California State University Sacramento.

All of you made possible a wonderful weekend of sharing, learning, honoring, networking, and socializing. The Los Angeles Geographical Society and Los Angeles City College congratulate and thank each of you for making the journey to the big city of Los Angeles for a great weekend with other geographers.

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2014 CGS Annual Conference Award Winners

**JOE BEATON POSTER AWARDS**

**Undergraduate Posters**

**First Place:**
Long Fung, Pasadena City College
*Does Proximity to Metro Gold Line Stations Increase or Decrease Condo Property Values in Pasadena?*

**Second Place:**
Crystal Moncada, et al., CSU San Bernardino
*A Geographical Information System (GIS)-Based Evaluation of Landslide Susceptibility Mapped on the Harrison Mountain Quadrangle of the Santa Ana River*

**Third Place:**
Will Firch, Humboldt State University
*Urban Geography of a Gold Rush Town: Weaverville, California, in 1860*

**Graduate Posters**

**First Place:**
Rosangela Carreon, CSU Fullerton
*Remote Sensing Climatic Impact on Snow Cover for the San Gabriel Mountains in Southern California*

**Second Place:**
Maggie La Rochelle, UC Davis
*The Motivated Farmer: Place Relationships and Meaning-Making at the UC Davis Student Farm*

**Third Place:**
Lourdes Johanna Avelar, CSU Long Beach
*The Geographies of Fear in Cal State Long Beach Campus*

**DIGITAL MAP AWARDS**

**First Place:**
Troy Lawson, Cal Poly San Luis Obispo
*Historical Mapping for the City of San Luis Obispo*

**First Place:**
Marlyn Montgomery et al., Humboldt State
*Community Cartography in California*

**Runner Up:**
Andrew Shensky, CSU Fullerton
*A Web App to Supplement a STEM-based Curriculum in School Gardens*
PAPER MAP AWARDS

First Place:
Hans Frederiksen, CSU Sacramento
Tsunami Inundation Zones in the Los Angeles Area

Second Place:
Madison Most and Maritza Munoz, CSU Northridge
Maps on Human Canvasses

Third Place:
Joel Clark, San Jose State University
California Heavy Rail Passenger Service

TOM MCKNIGHT PAPER AWARDS

Undergraduate Papers

First Place:
Matt Conway, UC Santa Barbara
Predicting the Popularity of Bicycle Sharing Stations: An Accessibility-Based Approach

Second Place:
Estefania Sanchez, CSU Northridge
Drug-Related Murders: The Effects of Drugs and Violence in Mexico

Third Place:
Yono Yurwit, Soka University
Farmers Markets and Local Food Access in Orange County, California

Graduate Papers

First Place:
Katherine Glover et al., UCLA
Lake Sequences from Big Bear Valley, San Bernardino Mountains, California, Provide Insight into Western Paleoclimate over the Past 100 ka BP

Second Place:
Kevin Erbas-White, CSU Fullerton
Mapping Habitat Niches of Rattlesnakes in Southern California with Remotely Sensed Imagery

Third Place:
Stacie Townsend et al., UC Davis
The Landscape of Urban Agriculture in California’s Capital City

GEOSYSTEMS AWARDS

Undergraduate Award
Zachary Truskolaski, Sonoma State University
Environmental Responsibility and Corporate Mining: A Temporal Assessment Using Land Cover and NDVI Classification

Graduate Award
Melissa Miller, CSU Fullerton
Spatial Analysis of Sea Star Populations in Marine Protected Areas Versus Unprotected Areas: Los Angeles and Orange County, California

DAVID LANTIS SCHOLARSHIPS

Undergraduate Award
Felix Rodriguez, CSU Northridge

Graduate Award
Anay Palavox, CSU Fullerton

DISTINGUISHED TEACHING AWARD
Dominique Evans Bye, Clark Magnet High School

FRIEND OF GEOGRAPHY AWARD
Gary Booher, Los Angeles Geographical Society

DISTINGUISHED SERVICE AWARD
Jennifer Helzer, CSU Stanislaus

OUTSTANDING EDUCATOR AWARD
Michael Schmandt, CSU Sacramento