THE PLAN FOR THE VALLEYS:
ASSESSING IAN McHARG’S VISION 50 YEARS LATER

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ABSTRACT

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Development pressures threatening northwestern Baltimore County, Maryland in the early 1960s led to the creation of a citizens group, the Valleys Planning Council (VPC), which in turn commissioned University of Pennsylvania Professors David Wallace and Ian McHarg to produce a land-use study. The Plan for the Valleys (1964) positively influenced land preservation and planning in this rural area and beyond. The PFV largely reflected McHarg’s philosophy regarding ecological determinism. The arc of his career is addressed in the context of The Plan. This Capstone examines the region’s vulnerabilities which necessitated The PFV, its visionary elements, and its long-term impacts. Focus is given to the political difficulties of implementation, and to the ancillary roles of an urban growth boundary, downzoning, and conservation easements. The partnership between the VPC and County planners was effective, but resists broader application at the same scale. The PFV, in fact, was only partially implemented. While it functioned as a catalyst for the extensive preservation of the countryside, significant design elements were omitted. The related failure to adopt a transfer of development rights program has contributed to a shortage of affordable housing in Baltimore County by limiting a differentiated built environment.
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1.0 INTRODUCTION

This Capstone offers a critical assessment of the Plan for the Valleys (1964), a land-use study commissioned by residents of rural northwestern Baltimore County, Maryland who were concerned about development pressures from impending suburban sprawl. It tells the unlikely story of how a powerful citizens’ group, the Valley’s Planning Council (VPC), saw the need for a visionary plan, whose implementation then suffered the vicissitudes of landowner reaction and Baltimore County politics. A subplot involves the principal authors of The PFV: David Wallace (1917-2004) and Ian McHarg (1920-2001), two University of Pennsylvania professors who formed a business partnership as a result of the commission. Wallace was an established planner and architect with professional connections in Maryland. McHarg was a Scotsman who had created a unique ecology-based curriculum at the University of Pennsylvania’s Department of Landscape Architecture and Regional Planning in the late 1950s. The arc of his remarkable career receives particular attention in this Capstone. The PFV would play an important role in McHarg’s rise as an internationally-renowned environmentalist, while Wallace retained doubts about it to his death. The ideas and techniques used in The PFV would prove to be influential, yet its full scope was never realized. The novel public-private collaboration between the VPC and County planners has inspired substantial land preservation, but the VPC’s commissioning of a private plan is an unlikely model for other regions. Also, the failure of landowners to buy into a transfer of development rights program has partly contributed to a shortage of affordable housing in Baltimore County.
I begin with a brief depiction of the conditions in Baltimore County in 1960 which prefaced the creation of the Valleys Planning Council. McHarg’s ascent at the University of Pennsylvania is then examined through the development of his course, Man and the Environment. David Wallace’s professional achievement, by contrast, was instrumental in receiving the commission for *The PFV* and the formation of Wallace-McHarg, later WMRT. These tenets of *The PFV* are adumbrated: Physiographic determinism, growth projections, optimum development, and the Real Estate Syndicate, a mechanism for transferring development rights. *The Plan* has had broad influence, not the least of which can be seen in McHarg’s *Design with Nature* (1969). It led to the Urban-Rural Demarcation Line (1967), an urban growth boundary which limited water and sewer extension, and also to Resource Conservation Zoning (1976). This was a drawn-out process, however, whose iterations are chronicled at length. *The PFV*’s emphasis on land preservation has also been aided by various Maryland funding initiatives for the acquisition of conservation easements, as well as growth management. This Capstone concludes with an assessment of The Proposition, a quasi-poetic device used early in *The PFV* to organize its goals and assertions.
2.0 BALTIMORE COUNTY 1960

2.1 The Coming Tide

As the decade began, John Kennedy’s election as President of the United States held great promise ahead of the commitment of troops to the conflict in Vietnam. Vestiges of the Cold War were evident in Project Chariot, an Atomic Energy Commission program run by Edward Teller which proposed the “peaceful” use of nuclear explosives for a number of earth-moving projects, including a harbor in Cape Thompson, Alaska (Goodchild, 2004, p. 290). In April the Navy successfully launched Transit 1B, a navigational satellite which would lead to the creation of today’s ubiquitous GPS technology (http://nssdc.gsfc.nasa.gov). The Academy Awards were held in April then. *Ben Hur*, a period film noted for its chariot race scenes, won 11 Academy awards. As for the focus of this Capstone, tradition held on the last Saturday in April in the Worthington Valley with the 64th running of the four-mile, twenty-two fence Maryland Hunt Cup, considered “one of the two great steeplechases in the world”, along with the English Grand National at Aintree (Thomas, 1978, p. 200).

The Hunt Cup, however, was a distinctly American race, for it was run not over brush, but over solid timber fences, some approaching five feet (Appendix I). Despite its prestige, the race offered neither a purse, nor parimutuel wagering. It was nevertheless the focal sporting and cultural event in the Valleys. The estimated 16,000 spectators (Lucas, 1960) who gathered in this bucolic setting included the Duke and Duchess of Windsor, and Vice President Richard Nixon (Carter, 1960). They watched Fluctuate, a 13-year-old brown gelding,
cross the finish line in record time (Rossell, 1975, p. 122). While this annual event electrified the crowd, many attendees were focused on a looming threat to their countryside and lifestyle. Within a year the northern stretch of the Baltimore Beltway (I-695) would be completed (Outen, 2007, p. 12). The region comprising the Worthington, Green Spring and Caves Valleys had virtually no protection against development. Seven years later, however, John Schmidt would be able to write in Baltimore Magazine that “lava-like advance of suburbia” had been contained (1967).

2.2 The Valleys Planning Council

In his landmark essay, *Megalopolis or the Urbanization of the Eastern Seaboard*, the geographer Jean Gottmann described sprawl as a “continuous stretch of urban and suburban areas” and as the “mushrooming of suburbs filling in the spaces between the larger cities” (1957, pp. 189, 191). While Maryland is located in this region, it also has traditionally relied on the contribution of agriculture to its economy. The focus of this Capstone is Baltimore County, a largely rural and agricul-
tural region, that surrounds Baltimore City like an open wrench (Figure 2). The prominence of the equestrian industry in its northwestern region becomes quickly evident outside of metropolitan Baltimore City. The County’s physiography ranges from a coastal region surrounding the Chesapeake Bay to its southeast, to a piedmont region approaching Pennsylvania. This Capstone focuses on the County’s middle section, a ridge and valley region, which contains the three valleys (Figure 3).

In 1960 Baltimore City was in a state of “precipitous economic decline” (Power, 2011, p. 1) with urban flight facilitated by the construction of the Baltimore beltway (I-695). A particular threat to the residents in Worthington Valley was the radial Jones Falls Expressway, which emanated from central Baltimore City. Once it connected to the north-south Interstate I-83, it would place the Valley within a 20 minute drive of the City (McHarg, 1996, p. 176). Residents feared that sewers would be extended next (Horton, 1991). The east-west Green Spring Valley—even closer to Baltimore City—had been named for having the
water of the “greatest purity” which had been marketed since the 1700s (Thomas, 1978, pp. 3, 55). Land grants had initially been bestowed in this area by Lord Baltimore in the late 1600s (Barnes, 1978). Equestrian sport, such as foxhunting, was a common bond among many who moved to or who had second homes here. Yet members of the Green Spring Valley Hunt Club felt encroachment from development early on, and decided to move northward (for the third time) to Worthington Valley in 1925 (Worrall, 1992, p. 39), with the Hunt Cup having already moved to its present location in 1922 (Rossell, 1975, p. 49).

The Green Spring and Worthington Valley (GSWV) Council was founded in 1962 by individuals who took an enlightened self-interest in preserving the countryside. The GSWV has also been referred to as “The Valleys Council” (Wallace) and “The Planning Council” (McHarg), or “The Council” (Wallace & McDonnell). It was renamed the Valleys Planning Council in the mid 1960s, and usually goes by “The VPC” today. The VPC has not operated as a traditional land trust, for it does not hold conservation
easements, but rather has advocated for “a balanced and rational use of the land” (www.thevpc.org). Its initial mission area was 79 square miles of northwestern Baltimore County (Figure 4). Its western edge paralleled the Reisterstown Road, while its eastern edge ran along Interstate I-83, forming a squared U (Horton, 1991).

The original 250 members consisted of some “wealthy landowners” (Avin, 2013, p. 22), “landed gentry” (Power, 2011, p. 18), and “leading citizens” (McHarg, 1996, p. 176). They were also a mixed lot. Wallace and McDonnell described their first meeting with VPC members in March 1963 as “an interesting group with a few big landowners, but mostly people on three to ten acres who liked to look at open land” (1979, p. 12). It cannot be said, however, that the VPC was a grass-roots organization in the conventional sense, for certain members clearly circulated within influential business and political orbits. Many worked in Baltimore City, and a number were fox hunters, who were cognizant that the area could not merely be made a hunting preserve (Schmidt, 1967). Minutes from 1962 indicate the VPC’s desire for “orderly growth”, and the belief that “its own ideas for development will be recognized and adopted by the County government” (MHS, MS 1889). To achieve this the VPC would need a plan.

The first VPC meeting was attended by Baltimore County Executive Spiro “Ted” Agnew, who not only promised his personal support, but according to the minutes said that he “would do everything in his power to see that all County agencies involved cooperate to the fullest extent with the members of our Council, as well as with our professional planners” (MHS, 1962, MS 1889). The fact
that the County Executive attended the first meeting attested to the clout of the VPC’s founding members. Yet Agnew did harbor concerns. He had reservations not only about a takings issue if the region were downzoned from 1-acre zoning, but also “if we accept and back this plan, every Tom, Dick, and Harry who ever took a course in drafting will be making plans across the County” (Wallace, 2004, p. 94). Despite this equivocation, it was perceived that Agnew had “in principle” supported the idea of a private plan, and therefore had also given his blessing to cooperation between the VPC and County planners (Wallace & McDonnell, 1979, p. 12). Tom Karsten, Chairman of the VPC’s Planning Committee, had initially asked the Baltimore County Office of Planning and Zoning (OPZ) to design the plan. However, he was advised that due to a lack of planning staff the VPC would be better off hiring a consultant.

3.0 IAN McHARG AT THE UNIVERSITY OF PENNSYLVANIA

3.1 Early Career

In his autobiography, *A Quest for Life* (1996), Ian McHarg described his ascent from a lower-middle class childhood in Glasgow to enlisting in the Second World War as a private at eighteen, exiting as a Major, and following a circuitous path to becoming a professor at the University of Pennsylvania and a renowned environmentalist. He recollected that “outside Glasgow a beautiful and powerful landscape contrasted with a mean ugly city, a testament to man’s inhumanity to man” (p. 15), a sentiment that would be reflected throughout his work. A former student wrote that McHarg viewed cities as “a Dante-esque form of earthly im-
prisonment” (Bunster-Ossa, 2014, p. 5). McHarg felt his calling early on, dropping out of high school to apprentice with “perhaps the only landscape architect in Scotland” who promised to teach him the profession (McHarg, 1996, p. 22).

An event that gave him great confidence was his first public speech in a Presbyterian church on the life of a Japanese aristocrat missionary named Kagawa (p. 23). Although McHarg does not make the connection, he comported himself with a missionary zeal throughout his life. Stewart Udall wrote that McHarg would “reproduce himself” (p. xii) through his many students and followers, while Cohen asserted that McHarg would “train and prepare an entire generation of planners” (2000, p. 5). Yet, in the summer of 1938, McHarg was just coming into his own as “an apprentice landscape architect, incipient speaker and writer, and professional liberal” when he volunteered to join the Army (p. 29). Given his experience in landscape architecture, he was placed in the Royal Engineers.

McHarg was the youngest in the company, and ridiculed as “Art Student” by the commanding officer (p. 63). One can imagine the difficulties he faced in advancing himself from this station, yet rise he did, becoming a paratrooper in the First Airborne Division. In 1943, he was placed in charge of rebuilding aqueducts that had been blown up by the Germans, and learned “advanced techniques in bridge construction” (p. 47). After D-day, a night time parachute drop during 45 knot winds went wrong when McHarg became entangled in his harness: “I was dragged over the runway, across a minefield, through a barbed wire fence, and up a hill, until finally, my anchor caught on some boulders” (p. 51).
These horrific wartime experiences were occasionally offset by moments of repose in nature, however. McHarg recounted that after the earlier bloody siege of Monte Cassino he was given a few days leave in Ravello, whose tranquility he would never forget (p. 47). Despite having travelled throughout Europe and North Africa, it appears to have been these contrasts—similar to that of the depressed conditions in Glasgow to its nearby mountains—that resonated most with McHarg. He summarized his time this way: “These experiences have generated and maintained my conviction of nature’s power; they have provided substance for a succession of sermons, generating principles for a sequence of projects” (p. 59). One pictures him going through the War with a pocket Wordsworth.

Although McHarg certainly gained a visual and pragmatic education, he claimed that the greatest benefit was actually his growth in self-confidence (p. 64). He quickly put this to use, informing Harvard by telegram that he would attend its graduate program in landscape architecture (p. 66). It worked, although McHarg would spend five years satisfying the requirements to catch up to speed, since he possessed neither a high school nor college degree. He would graduate with a Master in Landscape Architecture (1950) and a Master of City Planning (1951). His pursuit of joint degrees was a harbinger of the grander professorial and professional vision he would later embrace. While the two disciplines share a linked heritage, Anne Whiston Spirn, McHarg’s successor at Penn, remarked that “the two ends of the spectrum—garden design and regional planning—have tended to attract individuals of dissimilar temperaments who borrow
methods and theories from disparate disciplines…” (p. 100). McHarg was, if anything, a great synthesizer.

At Harvard “The Major” was quickly elected chairman of the Student Council, which summarily issued a vote of no confidence in the department of landscape architecture (p. 71). While McHarg unfortunately does not elaborate on this bold stroke, he elsewhere bemoaned the ‘total absence of natural science, the lack of integration of subject matter” in the curriculum (p. 81). He took a course in agricultural economics that was largely taught by Kenneth Galbraith, and received an A+ for a paper on soil stabilization (p. 75). In the summer of his third year “the most profound event” (p. 78) of his first years in America occurred when he was awarded a stipend which allowed him to tour the country with his wife, Pauline. Their visits ranged from coal mines in Kentucky to the landscape architect Thomas Church’s home in California.

One picaresque adventure occurred in Grand Junction, Colorado where McHarg, in need of funds, contacted a Harvard colleague who advised him to “dress in your best clothes. We will represent you as a distinguished British planner to the town manager” (p. 79). The town manager was duly-enough impressed to offer a commission for a comprehensive plan, but due to obvious time constraints, they settled on a park instead. McHarg’s Harvard thesis—the first collaborative effort involving three of his colleagues—concerned a redevelopment proposal for Providence, Rhode Island. It was well-received and included input from “sociologists, economists, political scientists, city planners, architects, [and]
engineers” (p. 91), a multi-disciplinary approach that McHarg would become famous for adopting later with a different set of specialties.

He returned to Scotland only to experience a severe bout of tuberculosis while working on a new affordable home program. He also had begun teaching at the Glasgow College of Art (Spirn, 2000, p. 102) and at the University of Glasgow, but was not a practicing landscape architect (McHarg, 1996, p. 131). He was then recruited to the Department of City and Regional Planning at the University of Pennsylvania in 1954 to create a curriculum in landscape architecture, a challenge for which he described himself as “ludicrously unprepared (p. 121). His charge was to “reestablish” the Department of Landscape Architecture (p. 135) a task for which he figured he had three years to accomplish, or it was “up and out” (p. 129).

3.2 Man and the Environment

This innovative course, which was first offered at Penn in 1959, would not only raise McHarg to national prominence, but also serve as a testing ground as McHarg’s interests expanded. It began with 25 students, rising—according to McHarg at least—to 250 at its peak (p. 158), becoming “the most popular course on the Penn Campus” (Steiner, 2006, p. xiii). The course was divided into four sections with 36 total lectures, of which McHarg would deliver only six (p. 157). The four sections involved the scientific version of evolution, the perspective of religion on nature, the “physiological and psychological relationships of man and nature (McHarg, 1996, p. 157), and the ecological view, which he considered its
heart and soul. The course’s inclusion of environmental science appears to have filled a vacuum McHarg first encountered at Harvard. Another novel feature was the emphasis it placed on the inquiry into the attitudes of man towards the environment. McHarg's virulent viewpoint would be evident in a later speech, “Man: Planetary Disease” (1971). He felt strongly that mankind was not only polluting and destroying nature, but that the discipline of ecology had to incorporate an understanding of soils, hydrology, geology, and meteorology.

McHarg credited an earlier commission, the Metropolitan Open Space Study, for teaching him the primacy of ecology. This extensive study, begun in 1957, “had the largest effect, certainly on me, as a precursory ecological enterprise. It laid the foundation for the Plan for the Valleys…” (p. 152). It was here that McHarg first employed an inventory of “rivers, streams, lakes, ponds, and their flood plains, aquifers, aquifer recharge areas, steep slopes, forests, woodlands, and prime agricultural lands” (p. 142). A suitability analysis would then determine where to allow development, constrain it, or forbid it. This was followed by the Harvey Cedars commission on the Jersey shore, which McHarg described as “the first university project to apply ecology to planning” (p. 176). It was determined that the sand dunes were “ephemeral”, convincing McHarg that “this ecology study revealed where building could safely occur, and where it could not” (p. 169).

Man and the Environment was continuously evolving. In 1961, McHarg joined a National Institute of Mental Health committee on environmental variables which would lead to the eventual introduction of ethnography and anthropology.
He would also commence to bring in many notable hires with differing specialties. The addition of Nicholas Muhlenberg to the faculty in 1962 appears to have been crucial, for it “provided for the indispensible context in the curriculum” of “geography, environmental science, and management” (Cohen, 2000, p. 213; McHarg, 1996, p. 172, Spirn, p. 104). By 1964 the entire department “had proclaimed ecology as its fundamental discipline” (Cohen, 2000, p. 175). The pedagogical underpinning would be based on notions of what McHarg termed “ecological determinism” in a 1966 eponymous essay in which he refers to the Valleys (McHarg, 2006, pp. 41-2).

In another article “Human Ecological Planning at Pennsylvania”, McHarg posited two notions of fitness: One pertaining to conventional Darwinian adaptability, other to the ability to “recover from insult or assault” which he otherwise characterizes as “problem solving” (McHarg, 2006, p. 93). Ecological planning in essence focused on the suitability of the physiographic region, especially as it related to the river basin and biome.

It therefore was that approach whereby a region is understood as a biophysical and social process comprehensible through the operation of laws and time. This can be reinterpreted as having explicit opportunities and constraints for any particular human use. A survey will reveal the most fit locations and use.” (McHarg & Steiner, 1997, p. 95).

While ecology broadly speaking concerns the interaction of biology with nature, human ecology would involve science, philosophy, and art (Cohen, 2000, p. 23)—the latter field providing patterns that would be especially pertinent to landscape architecture and planning.
The popularity of Man and the Environment served as a platform for a number of self-reinforcing developments in McHarg’s career. The director of the CBS affiliate in Philadelphia was familiar with the course and asked McHarg if he were willing to do a TV Show entitled *The House We Live In*. McHarg of course accepted. While he acceded that landscape architecture “does not engender jealousy” (p. 162), he nevertheless was clearly skilled at leveraging his nascent celebrity. The show on appeared CBS for 26 Sundays 1960-61, and then replayed on PBS throughout the country for a decade (Ian L. McHarg Papers). The interview subjects, many of them Nobel Laureates, were mostly scientists and theologians. Topics ranged from plate tectonics to Islam. Most of the first season’s shows involved religion. McHarg was obsessed—there is no lesser word—with his interpretation of the Christian sanction of man’s dominion of nature. He himself had “embraced the heresy of pantheism” from an early age (McHarg, 1996, p. 18).

*The House We Live In* was an extension of his classroom, well before cable television. His interviewing technique mimicked a format he had originated in the 1959 offering of Man and the Environment (Steiner, 2014, p. 142). McHarg would give his guests extensive room to extemporize, yet he often interrupted and prodded them. One fears that the astronomer Harlow Shapley may have never recovered from this “exchange”:

[McHarg] Could I interject just a little? Would you excuse me? I have a macabre story. The cataclysm has occurred leaving all life extinct except algae in some deep pit, some silt with abundant lead and this algae has developed enormous resistance to radio-activity. One algae says to another algae, “Next time, no brains.”
[Sharpley] That’s a good one (McHarg, 1960, n.p.).

McHarg’s fevered intellect was difficult to repress. The topics did not include landscape architecture or regional planning per se, although the interview with Lewis Mumford would have been illuminating in this regard (transcripts from the second season are no longer extant). Perhaps McHarg’s primary subject matter would have been too pedestrian for the medium of television in 1961. Nevertheless, I would suggest that The House We Live In did influence McHarg’s multi-disciplinary gospel of ecological planning, for many guests on the show would in turn invite McHarg to lecture at their respective institutions (I.L. McHarg Papers).

McHarg’s influences were on a continuum, a testament to his creativity and foresight. I will by no means offer an exhaustive list here (see Cohen, 2000; McHarg & Steiner, 1996). As for man’s treatment of nature, McHarg was influenced by George Perkins March, Aldo Leopold, Ebenezer Howard, and Frederick Law Olmsted among others (p. 162). Fellow Scotsman Patrick Geddes (1854-1932) most likely was an influence, even though McHarg only briefly mentioned that he found Geddes “fascinating but difficult to read” (McHarg, 1996, p. 122). Geddes was a Scottish geographer and biologist who advocated for regional planning, and was such an influence on Lewis Mumford, McHarg’s mentor and friend, that Mumford named his son “Geddes” (Spirn, 2000, footnote 10).

Anne Spirn, who would succeed McHarg as head of the Department of Landscape Architecture and Regional Planning, convincingly compared a valleys
section map (1911) by Geddes with a map (1969) by McHarg and wryly noted that “the desire to be seen as original is typical of landscape architects, who fail repeatedly to build upon prior efforts and often reiterate ideas without advancing them significantly” (p. 102). Cohen corroborated the debt of McHarg’s empiricism to Geddes, who insisted on “the systemic surveying of bioregions before any planning would be undertaken (2003, p. 31). In his 1981 article on ecological planning at Penn, McHarg did state that “while responding to universal laws, each region is believed to comprise unique attributes of place-folk-work, as first identified by Patrick Geddes, and these will determine the capabilities, opportunities, and constraints of the region and thus the potential of the hypothetical futures [italics mine] (McHarg, 2006, p. 95).

While McHarg perhaps should have admitted a greater debt to Geddes, his papers at the Penn Architectural Archives reveal not only great humor, but a willingness to praise others. A binder for Design with Nature (1969) contains a scribbled out page with a typed cutout superimposed by yellowed tape which reads in part, “I do know that the book contains no single original idea and so surely any merit it does contain must redound to those who gave fabric to the quilt” (I.L. McHarg Papers, H.B.1.4). This startling, barely legible passage did not make it into the published work. McHarg’s willingness to praise also fell upon Sir Peter Shepheard, Dean of the School from 1971 to 1979 whose “greatest distinction is his immoderate modesty, an attribute seldom found among architects” (McHarg, 1996, p. 136).
It must be noted that McHarg was able to sustain a certain degree of cognitive dissonance with respect to attribution. For instance, he acknowledged in his autobiography that Charles Eliot, designer of the “Emerald Necklace” plan for Boston, had developed ecological planning “half a century” before him (p. 82). He later argued that Eliot’s figure should be cast in bronze and displayed at Harvard, while somewhat incredulously also declaring that “I had spent perhaps a decade trying to develop ecological planning before I heard of Eliot” (p. 360). In a subsequent 1997 essay, “Ecology and Design”, McHarg would again resort to his previous refrain that “I invented ecologic planning during the 1960s” (McHarg, 2006, p. 122). While this inconsistency may shed some light on McHarg’s personality it has negligible bearing on The Plan for the Valleys, which would be unique in many respects.

Lastly, I would suggest that the German scientist and adventurer Alexander von Humboldt (1769-1859), was at the very least an antecedent kindred spirit of McHarg’s. Aside from the cursory coincidence that both were incessant talkers (Margulis et al., 2007, p. 10; Wulf, 2015, p. 102), they both were highly observant of man’s impact on the environment. Von Humboldt’s discovery of human-induced degradation around the shores of Lake Valencia, Venezuela (and subsequent climate change) smacked of ecological determinism, especially in his analysis of the biome’s web and its physiography (pp. 56-58). McHarg was an admirer of the contemporary British scientist James Lovelock, acknowledging that “the view of the Earth from the moon had a profound effect on me” (McHarg, 1996, p. 365). A version of this photograph would appear on the cover of Design
with Nature. Lovelock’s and Margulis’ Gaia theory, which post-dates much of McHarg’s work, earned praise from him for how it imagined the Earth as an interconnected, self-regulating mechanism, and for “the conception of earth as a singular interacting superorganism that has been actively developing and maintaining the environment” (1996, p. 1). Later in his career McHarg would set his sights on a global inventory of the “world’s population and ecosystems—plant, animal, and human” (p. 374).

3.3 Wallace-McHarg Associates

Like his partner, David Wallace also wrote an autobiography, Urban Planning/ My Way (2004), in which he recounted how he too was recruited to join Penn, although in the broader field of urban design and planning in 1961 (p. ix). These two autobiographies from the primary protagonists in the creation of The PFV afford great insight into the thought processes and priorities behind it. Wallace’s autobiography has a decidedly more somber tone, perhaps because it was published later and also in the year of his death. He and McHarg were colleagues at Penn and at their eponymous firm, but McHarg’s shadow caused inevitable tension between the two.

McHarg would earn the lion’s share of the credit for The PFV, yet Wallace was the one who actually received the commission. Their accounts of The PFV are not so much contrapuntal as complementary, however. Surprisingly, Wallace’s account is more replete with pragmatic details about the creation and implementation of The PFV. The version of events in Wallace’s autobiography largely paraphrased a previous, valuable article, The Diary of Plan (1979), which
he co-authored with William McDonnell, an employee of the firm and subsequent
director of the VPC. There is barely a mention of McHarg in this nuts and bolts
chronology.

Wallace was McHarg’s senior by three years, also served five years in
World War II, graduated from Harvard (although with a PhD), and then worked in
the public sector as executive Director of the Philadelphia Redevelopment Au-
thority. In 1955 the developer James Rouse founded the Greater Baltimore
Committee, a powerful business advocacy group to this day (www.gbc.org), and
brought in Wallace as Executive Director. He was placed in charge of the
Charles Center renewal project in downtown Baltimore City. Completed in 1957,
this extensive 22-acre redevelopment included a centerpiece building designed
by Mies van der Rohe, as well as plazas, elevated walkways, and underground
parking (Power, 2011, p. 7). Jane Jacobs wrote a favorable review in Architec-
tural Forum entitled “A New Heart for Downtown” (1958). Wallace’s career was
also on the ascendancy.

Wallace recalled receiving the phone call from Tom Karsten, who empha-
sized that the objective of the VPC was “not to oppose change but to prevent the
rape of the countryside that unplanned, disorderly development would surely en-
tail” (2004, p. 78). From its outset, the citizens group recognized the need for
planned growth that needed to accommodate some development. Wallace
brought in McHarg because he “felt his [McHarg’s] ecological approach would
compliment my own planning, design, and architectural skills” (Wallace, 2004, p.
10) or as McHarg put it, Wallace “required skills which were additional to those
he possessed (McHarg, 1996, p. 176). The fledging firm of Wallace-McHarg would be paid $43,000 (Wallace, 2004, p. 108). Some clients thought that there was a single principle named Mr. Wallace McHarg (p. 176). The two founding partners, however, had considerably different personalities and roles. Wallace was quieter, more pragmatic, and especially concerned about social justice. His dissertation at Harvard, *Residential Segregation of Negroes in Chicago* (Power, 2011, p. 2), was described by McHarg had described as “remarkably prophetic” (p. 176). McHarg was a showman, and often dogmatic in his adherence to ecological determinism. Wallace conceded that McHarg “was not an easy man to be a partner with, but he could charm an audience and write like a dream” (Wallace, 2004, p. xiii). The firm’s original office was in McHarg’s attic (p. xi).

After a second, brief incarnation as Wallace-McHarg Associates, William Roberts and Thomas Todd became partners in 1964, forming Wallace, McHarg, Roberts & Todd (WMRT). In a magnanimous moment, McHarg admitted that “at WMRT, David Wallace, the founder, was the dominant and most distinguished of the partners,” as well as “indisputably, the dominant city planner in the United States” (1996, p. 213). Although WMRT would grow to over 150 employees at the turn of this century (www.wrtdesign.com), Penn students initially served as an indispenisible farm system during its formative years. In discussing work he had students prepare for the Potomac River basin (1965-66), McHarg proudly admitted “a professional landscape architect or city planner is limited in the projects he undertakes to problems presented by his clients. A professor, in contrast, suffers no such constraints and is enabled to undertake projects he deems worthy of
study” (McHarg, 1996, p. 127). McHarg actually relied on this “wonderful reciprocity” to improve his ecological methods (p. 173). According to Steiner, the “blurred” boundary between the two actually created a “meaningful dialogue between the academy and professional practice” (2006, xii). Spirn corroborated that “the ideas and methods of McHarg and his colleagues at Penn and WMRT evolved in a dynamic dialogue between theory and practice” (Spirn, 2000, p. 103).

4.0 THE PLAN FOR THE VALLEYS (1964)

4.1 Authorship

There were actually two plans, or two versions of the same plan to be more precise. In April 1964, 100 copies of Part II: Technical Report on the Plan for the Valleys (The Technical Report) were delivered to John Spillman, III, President of the Green Spring and Worthington Valley Council, Inc. “in compliance with our contract” to his office in Baltimore (Wallace-McHarg Associates, 1964b, n.p). The Technical Report was completed before the more simplified version known to a broader audience as the Plan for the Valleys, which was published and distributed in June 1964.

McHarg was prone to send both copies for promotion and review. A letter from Elkins Wetherill mirrors a similar response from Lewis Mumford; “Thank you very much for your brochure of the planning study for the Green Spring and Worthington Valleys. I agree with you that this is easier to read than the technical report, and also that it has relevance for Montgomery County [Pennsylvania-
nial” ([Ian L. McHarg Papers, July 17, 1964, 109.IIE.2.3.3]). While the Technical Report has no illustrations or maps, it offers the advantage of paginated chapter headings. Furthermore, the supplementary text and data it provides are quite informative, and merit occasional citation here. The Technical Report explained that its purpose was “to enable the reader to understand as completely as possible the reason for each conclusion, and the basis for each assumption, be it value judgment or fact. That is why the Report is so long” (Wallace-McHarg Associates, 1964b, p. 3). If The PFV is the sonnet, The Technical Report is its exege-sis.

Literature on The Plan often credits McHarg with sole authorship by apparent default (Budensheim et al, 2014; Power, 2011; VPC, 2016). However, this was not the case. Authorship of The PFV was shared between Wallace, McHarg, William Roberts, and Thomas Todd under the rubric of Wallace-McHarg Associates. William McDonnell also did significant groundwork out of the firm’s office in Towson, Maryland (Wallace & McDonnell, 1979, p. 13). He is listed, along with ten “temporary personnel,” some if not all of whom were associated with Penn, mostly as students. Four Consultants are credited, including Ann Strong, a lawyer and Penn professor. Wallace described the primary division of labor with McHarg this way: McHarg would focus on the ecological inventory and visual analysis, he would examine uncontrolled growth, and amid “shouting matches” the two decided on alternate development (Wallace, 2004, p. 82).

McHarg’s charisma and celebrity—he did have his own television show, after all—perhaps explains his somewhat overstated association with The PFV.
Furthermore, McHarg’s emphasis on ecological determinism has arguably been the greatest influence of *The PFV*. Yet McHarg, while attributing some of Wallace’s second-class status to the falling out of favor of city planning, did express remorse. “I began to receive the bulk of public attention and approbation. This was very unkind to Wallace who was a full-time partner, while I was a full-time teacher and part-time partner” (McHarg, 1996, p. 217). For those seeking a crash-course in the persona of McHarg, the film *Multiply and Subdue the Earth* (1969) presented him standing by a fence overlooking the Maryland Hunt Cup course whereupon he delivered this soliloquy:

Show me any civilization that believes that reality exists only because man can perceive it, that the cosmos was erected to support man on his pinnacle, that man is exclusively divine, and then I will predict the nature of his cities and his landscapes, the hotdog stands, the neon shill, the ticky-tacky houses, the sterile core, the mined and ravaged countryside. This is the image of anthropocentric man. He seeks not unity with nature but conquest, yet unity he finds, when his arrogance and ignorance are stilled and he lies dead under the greensward (Hoyt, 5:48).

McHarg’s delivery is mesmerizing, if to the point of being rehearsed. He clearly thought this passage was emblematic of his world view, for it is reprinted on both the back jacket and inside page of *Quest for Life*.

This voice and these thoughts were evident five years earlier in *The PFV’s “Preamble”*, which shared similar language, rhetoric, and cadence. The author of the Preamble—who almost certainly was McHarg—referred to “low grade urban tissue” and feared that “the urban expansion which menaces the Green Spring and Worthington Valley is typical of a national problem” (W-M Assoc., 1964, p.
1). While *The Plan* targeted a specific physiographic region, McHarg envisioned a broader purpose, a "large-scale demonstration" (p. 1) of how sound planning could co-exist with a beautiful landscape.

4.2 The Proposition

McHarg’s distinctive voice is also evident in “The Proposition”, a section which acts as an organizing principle to *The PFV*, since the individual lines branch out into synopses and then section titles. The poetic nature of this stanza appears to be vintage McHarg. The Proposition asserts that the problem and solution involving the Valleys are in fact simple and best understood thus:

*The area is beautiful and vulnerable;*  
*Development is inevitable and must be accommodated;*  
*Uncontrolled growth is inevitably destructive;*  
*Development must conform to regional goals;*  
*Observance of Conservation Principles Can Avert Destruction and Ensure Enhancement;*  
*The Area can Absorb all Prospective Growth without despoliation;*  
*Planned Growth is more desirable and as Profitable as Uncontrolled Growth;*  
*Public and Private Powers can be Joined In Partnership in a Process to Realize the Plan*

Wallace and McDonnell’s diary entry for August 1963 began “the nature of the planning problem is now clear…” (1979, p. 14). The primary objective of *The PFV* was to determine the optimum level of development that would retain the amenity of the countryside, yet also be consistent with public policy. An “Action Program” delineated private and public steps towards implementation. Coordination with the Baltimore County Office of Planning and Zoning (OPZ) would obvi-
ously be paramount in this respect. *The PFV* proposed a design process to achieve this optimum, as well as a mechanism to distribute its benefits.

The methodological approach to the problem involved determining the “essential landscape quality” (n.p.) of the Valleys and then posing various alternatives for preserving them. The approach would entail an analysis of the physical reality, present conditions (population and land use), a growth forecast, a presentation of alternatives, and a discussion of issues relating to implementation. The power of *The PFV* emanated from commonsense observations about the shape of the Valleys and underlying hydrology, or in McHargian terms, the determinants of physiographic form. An almost giddy McHarg recollected, “The problem was an inspired opportunity for a neophyte ecological planner and the solution was plain” (1996, p. 177).

4.3 Genius Loci

The *genius loci*, or the “image of a place which remains long remembered in the mind, its essential quality” was determined to reside—quite simply enough—in the “great, broad, sweeping valleys and the wooded slopes which confine them” (p. 8). The three valleys and their forested walls formed the “Basic Amenity” of the region (p. 32). Other noteworthy features were farmland patterns, the narrow scale of the roads, and even the post-and-rail fence lines. In terms of land use, 15 percent of the Valleys was residential with an average lot size of one and one-half acres, although 40 percent of lots were over five acres (p. 9).
McHarg inimitably described the three social groups of residents as the “very rich” with horse farms and Black Angus cattle on valley floors, upper middle class on the forest slopes who “derived benefit from the beautiful valleys manicured by the very rich”, and poor farmers who worked the plateaus. (McHarg, 1996, p. 178). Wallace and McDonnell’s less physiographic version described the “rich, social people” on gentleman farms, “newcomers” in expensive subdivisions, and farmers and others on roadsides development (1979, p. 13). Another two-thirds of the land area was agricultural, located in the central to northern parts of the region (Wallace-McHarg Associates, 1964a, p. 9). Owner-operated farms constituted three-quarters of the 1361 farms, of which 17 percent were horse farms (p. 9). Commercial and industrial uses were de minimis, while 5.8 percent of the region was institutional (p. 10).

4.4 Physiographic Determinism

In his essay “The Morphology of Ecological Determinism” (1967), McHarg would later recount how “the concept of ecological determinism was invoked” to arrive at the optimal location for preservation and for development in the Valleys (2006, p. 41). The PFV relied more specifically on “physiographic” determinism, which included such factors as geology, hydrology, soils, and flood plains. Echoing Von Humboldt, The PFV asserted that “each of these processes interacts with the other; each has implications for development” (Wallace-McHarg Associates, 1964, p. 32). Surprisingly not mentioned in The PFV, the very topography of the area was determined by Wissahickon schist on ridges and limestone on valley floor, according to The Technical Report (1964b, 6-2). Subsurface geolo-
gy and the implications for the water supply played a prominent role in *The PFV*’s analysis. It was determined that the limestone formation contained a vast aquifer beneath the Valleys. This drinking water was not only vulnerable to failures from on-site septic tanks, but also to potential sewer failures if lines were ever extended. While this feature alone compelled the firm to advise against any development in the Valleys, the nature of the soils—silt loams with high permeability—were themselves unsuitable for high intensity of septic use (p. 36). Lastly, these soils tended to occur in proximity of flood plains. These basic physiographic observations, therefore, provided a triptic of reasons for why development should not occur in the Valleys.

4.5 Sewerage: The Loaded Revolver

Two key related themes become evident early in *The PFV*. The first was that given the openness of the viewshed throughout the Valleys, complete preservation of the Valleys floor was a necessity: “a small development of any kind will be extraordinarily conspicuous and can effect a major transformation and destruction” (p. 12) (See Figure 1). The second is introduced in a discussion of the average value for unimproved land ($1600 per acre) which ranged to over $7000 based on the expectation of sewer extension (p. 12). The vulnerability of the Valley’s R-40 1-acre zoning became manifest by the extension of sewers: “Should the Valleys be sewered, they will succumb to development and be erased forever. Sewers are like a rifle aimed at the heart of the area” (p. 12). Less than 2 percent of all dwellings in the region received any sort of public utili-
ties (p. 20). The PFV postulated that sewer leakage could be as high a 20 percent (p. 34). McHarg later recollected that “sewers in a valley are only a more technologically advanced method for polluting groundwater” (1996, p. 178). While Wallace and McDonnell admitted they could not offer proof of pollution risks, the discovery of the unconfined aquifer was paramount to The PFV: “The full impact of the sewer issue now hit us” [June 1963 entry] (1979, p. 13).

4.6 The Specter of Uncontrollable Growth

The PFV projected population growth for the greater Baltimore region to double by 1980, while the Baltimore County population was expected to rise a lesser percentage from 500,000 to 800,000 (p. 14). Within the County, however, the Valleys region was projected to grow over four-fold to 73,000 by 1980, and to a range between 110,000 to 150,000 residents by 2000 (p. 14). If the higher end were reached by the end of the 20th century, no open land would remain in the Valleys (p. 22). These numbers did not assume imminent sewer extension, yet allowed for up to 10 percent of the Valleys being developed in the next few years (p. 20). The study explained that this alarmist growth would be due to continued increased accessibility to the area, as well as the pull of its natural beauty. The latter factor is of course one of many contradictory dynamics of sprawl, for those moving to an area for its rural character are also destroying that very quality.

By “uncontrollable,” the study meant the “sequence or larger pattern, without any comprehensive plan or process for creating coherent communities with adequate open space” (p. 19). According to Wallace, modeling this change was integral to the firm’s planning process. He wrote of The PFV’s forecast for “likely
despoliation” (p. 19), that “it literally scared the hell out of everyone” (Wallace, 2004, p. 85). McHarg separately wrote that “the inhabitants of the valleys lived in terror” (1996, p. 177). *The PFV* described how a process of attrition would lead to a “catastrophe” whereby future development would occur “over a considerably larger area than it would actually need to encompass in order to satisfy housing demand” (p. 25). This arguably was the driving force to direct density in a systemic manner, for the model presumed that the Jones Falls interceptor would be extended “well into the mouth of the Green Spring Valley” (p. 20). Technical Report noted two-thirds of development in 12 years prior to publication of *The PFV* had occurred primarily in Green Spring Valley (1964b, p. 14; table 21, A9).

The model produced a map that shares a title with this chapter (Appendix II). It should be noted that colored maps in this Capstone are not cited from the published plan. In a letter to Grady Clay, the editor of Landscape Architecture Magazine, McHarg lamented the use of black and white illustrations since “the Planning Council is too poor to pay for color” (*Ian L. McHarg Papers*, December 29, 1964, 109.IIE.2.3.3). It is difficult to say if McHarg is being ironic here, for the use of color in printing at the time was expensive. The VPC did end up spending $125,000 on the production and promotion of *The PFV* (Trimble, 2011), an extraordinary sum for the day. Yet one senses some venom in McHarg’s remark—he would exact comeuppance with the publication of *Design with Nature*. 
4.7 Optimum Development

The prediction that the analysis produced was that the plateaus would be most tolerant to development, the valleys the least. Other prohibited areas included 50-year flood plains, areas within 200 feet of stream edges (p. 34), and steep slopes over 25 percent (p. 36). The PFV used ecological information first to interpret, and then to reshape, the Valleys’ topography. The forest cover, for instance, was not only integral to the visual character of the Basic Amenity, but also performed a number of ecosystem services, such as erosion control. Maximum density along the forested valley walls was proposed at 1 house per 3 acres, with all trees over a 4-inch caliper subject to a preservation evaluation (p. 38). Similarly, density on forested plateaus would be limited to 1 house per acre, with the concentration of density reserved for the open plateaus (Figure 5). Here gross density would average .6 dwelling units per acre, with open space alongside cluster pods of 4 - 29 dwelling units per acre (p. 45). These areas required central sewer service. While a number of alternate sewer layouts were considered (p. 31), the dictate was nevertheless the obverse than for the valley floors.
Tower apartments of up to 100 units per acre would be located on promontory sites (p 48). As depicted in the “blob diagram” (Figure 6), a schematic of ideal development, The PFV envisaged a connected network of hamlets, villages and towns. Location would actually allow for “the enhancement of the landscape without despoliation of the valleys” (p. 40), with a range in population from 500 residents to 20,000. The variety of housing types and of density concentrations was very important to the authors. They considered affordable housing a “vital” issue in the event of uncontrolled growth (p. 23), yet conversely they also intended that the “Valleys should not and cannot be reserved for upper income housing” (p. 29) as the result of planned growth.

An admirable goal of The PFV was its willingness to assimilate the full projected growth of 110,000 to 150,000 new residents, while also arguing for a rezoning to one house per 25 acres in the Worthington Valley (p. 45).

The Action Program made a number of other recommendations such as differential property tax assessment to protect open lands, as well as the creation of “natural resource zoning” (p. 48), a phased urban growth boundary (UGB), and also a special conservancy district with a self-assessment applicable for the purchase of development rights (p. 51). Extensive attention was paid to the acquisition of conservation easements. As Daniels has noted, these “are most effective
when they accompany a local comprehensive plan, restrictive agricultural zoning, and growth boundaries" (2009, p. 40). The Action Program, which is much clearer to read as presented in *The Technical Report*, called for the County to adopt the PFV’s regulations into its Master Plan by 1966 (Wallace-McHarg Associates, 1964b, 10-11), underscoring that The PFV was a private plan, but relied on public implementation.

4.8 The Real Estate Syndicate

*The PFV* prefigured federal and state programs by envisioning the use of public funds for less-than-fee acquisition, while on the private side it devised the novel Real Estate Syndicate, or what today would be considered a transfer of development rights (TDR) program. *The Technical Report* discussed at length the taxation of capital on gains land transfers (7-21), and argued for the use of an investment trust, which benefited from the avoidance of the double taxation of income and dividend distribution (7-32). *The Syndicate* acted as a general partnership whose capitalization was in the form of debentures and stock that could be exchanged for the relinquishment of development rights. The Syndicate was commonsensical in its purport. “Those whose land will be worth more because of the Plan, can share part of the additional gains with those who voluntarily give up their right to development” (Wallace-McHarg Associates. 1964a, p. 52). Yet its operation would be decidedly more complex.

The primary intent of the Syndicate was to limit the location and timing of development on the valley floors and walls, and instead to direct it to the ridges
and plateaus through a pricing mechanism that would pay for itself. It would use various means—fee purchase, conservation easement, life estate, right of first refusal—to obtain the development rights. The monetized value of the preserved views would in turn need to be purchased by the new developments. Land deemed most susceptible to imminent development would be given priority. The actual development right, however, was not specified despite being instrumental to the feasibility of a TDR program (Daniels, 2007). The PFV contended that property values would rise in the Valleys. Specifically, a difference in projected value of $7 million between uncontrolled and optimum growth could be used to purchase conservation easements (p. 42). This was quite important for convincing the community to buy into The PFV. Furthermore, The Technical Report postulated that that the argument for enhanced value would preempt a potential takings issue (Wallace-McHarg Assoc., 1964b, 7-5).

5.0 THE PLAN REVERBERATES

5.1 “I am sending my final copy”

The VPC’s concerted effort to sell the Plan to a variety of stakeholders—the OPZ, residents, garden clubs, real estate professionals—led to a virtuous cycle of benefit. The PFV received regional publicity (Schmidt, 1967) as well as national coverage—Fortune’s Earth Day issue (1970, February) observed that “one of the most fascinating innovations in protection of the environment,” occurred in the Valleys (quoted in Horton, 1991). Wallace and McHarg wrote an article for their peers in Landscape Architecture Magazine which summarized
The PFV, but was more notable for this trenchant, prefatory accolade from Lewis Mumford:

The Plan for the Valleys, in both its method and approach and its human aims, should serve as a pattern for all future efforts to conserve life values in a growing community, where uncontrolled and misguided developments may...obliterate the very natural advantages that stimulated this growth" (1965, p. 178).

Businesses began to encourage their executives to join the PVC, in part for its social standing (Wallace & McDonnell, 1979, p, 20). A number of landowners donated up to 10 percent of their property taxes as a type of insurance against development augured by The PFV’s growth model (p. 21). Perhaps most surprising, “speculative builders as well as investors in real estate were among the most generous contributors” (Wallace, 2004, p. 100). The developer James Rouse, was at times a competitor and advisor to the VPC (Wallace & McDonnell, 1979, p. 13). In 1965 the OPZ tacitly endorsed the Plan (p. 19).

As a result of The PFV, a number of proposed school sites and private sewers were scotched. The VPC organized 250 members to show up at a Baltimore County Council meeting to demonstrate for the re-location of a proposed landfill on 200 acres in the Worthington Valley (Wallace, 2004, p. 101). A less visible influence of The PFV occurred simultaneously with its preparation when a significant portion of the Caves Valley was put into play for development in 1963. The Report on the Caves Development (Wallace-McHarg Associates, 1964c) was commissioned for $3500 by the Gorn brothers, who had an option to buy 1355 acres, and who had planned a golf course surrounded by 1000 houses (p.
8). In an unusual circumstance, the developer hired the firm that was in the midst of a conservation plan for the larger region, perhaps as a genuflection to the power wielded by the VPC. Wallace-McHarg Associates used this study both to test and to affirm its parallel studies: “The principles outlined in the Plan for the Valleys have particular relevance for the Caves” (p. 4). The bulk of the short (33 pages) and rare report was devoted to proving the financial infeasibility of the Gorns’ plan.

While the report suggested a number of design alternatives, it held to the physiographic imperative that no development could occur in the valley, which overlaid the Cockeysville Aquifer. The study affirmed what Wallace and McDonnell termed “The Truth Map”, which was “a new kind of zoning based on environmental determinism, rather than economics” (Wallace, 2004, p. 87). This solidified the notion that the most suitable densities were one unit per three acres on the wooded ridges, reduced to one acre on the wooded plateau, and subject to market forces on the open plateau. The Gorn deal fell through, but the eventual formation of the Caves Valley Land Trust led to the best example of land preservation throughout the valleys region, according to noted preservationist Dan Colhoun (personal communication, January 16, 2016).

In a 1970 essay, “Open Space from Natural Processes”, ostensibly based on metropolitan Philadelphia, McHarg mentions that he first tested his planning application of ecological principles in *The PFV* (McHarg, 2006, p. 66). He raised the primacy of ecology planning even further in the Potomac River Basin Study, and fine-tuned some methods such as his use of the ecological inventory, or
what his students referred to as the “layer cake” of climate, geology, hydrology, soils, vegetation, and wildlife (Spirn, 2000, p. 107). The overlay of magic marker on mylar transparencies would serve as a checklist not only for the interrelation of various systems, but also how the past created current conditions. Elements of this method could be found in Von Humboldt’s *Naturgemälde*, a three-by-two-foot map with textual detail of Mount Chimborazo in Ecuador (Wulf, 2015, p. 88). A credit to McHarg’s ingenuity is that he had devised a template for Global Information Systems (GIS) from an ancillary technique (Carlsson, 2013).

A positive feedback loop developed between publicity and inquiry for McHarg’s services. A letter from a member of the Zoning and Planning Commission of West Lake Hills, Texas, requested a copy of *The PFV*, compared his region to Baltimore County, and lastly inquired “if development was completed according to plan, whether the landowner’s syndicate was formed and if not, how open spaces were maintained, whether population projections were fulfilled, and pretty much how things are in the area today” (I.L. McHarg Papers, October 28, 1969, 109.III.B.3). Perhaps this led to the Woodlands project in Texas, for McHarg received a call from its developer almost a year to the day later (McHarg, 1996, p. 256). The project involved creating a town in a forest that had unsuitable soil and drainage conditions. WMRT employed its comprehensive inventory method to devise a natural drainage system, which may have prevented eventual subsidence under Houston (Spirn, 2000, p. 108).

McHarg promoted *The PFV* with variations of a form letter in which he often highlighted four aspects of the plan: the growth model, physiographic analy-
sis and principles for development, means to implement the plan, and the “Real Estate Syndicate”. He sent copies to private, public and academic figures, ranging from Ada Huxtable of the *New York Times*, to Stewart Udall, Secretary of the Interior (I.L. McHarg Papers, 109.III.B.3.). A letter to Grady Clay included a customized 1500-word version—reduced from 80,000 words—of *The PFV* (December 29, 1964).

Requests poured in from universities domestic and abroad (Melbourne, Oxford), the Long Island Builders Institute, the Department of Army, planning associations, and various journals. By 1965 he responded to a request, “I am sending my final copy” (June 25), and was true to his word, for this led to a somewhat comical situation whereby he kindly referred each subsequent request to “William C. McDonnell, Director of Planning at the Green Spring and Worthington Valley”. A planner from Sonoma County, California wrote at the end of the decade, “I’ve heard that your Plan for the Valleys is quite good and also scarce. If you would loan us a copy for 3 (sic) weeks, I promise on my scout’s honor to return it” (July 7, 1969).

5.2 The Brandywine Plan (1968)

*The Brandywine Plan* dealt with a similar situation as *The PFV*, and shared some of the same methods and recommendations. This is not altogether surprising, since Ann Strong from Penn was a contributor to *The PFV*, and then one of the primary authors of *The Brandywine Plan*. The report was prepared for a governmental agency, the Water Resources Authority of Chester County,
Pennsylvania. It addressed the Upper East Branch of the Brandywine Creek, a watershed for the city of Wilmington, Delaware, which was vulnerable to development. A brochure version was distributed to explain the plan to the area’s 4200 residents (Upper East Branch Brandywine Project, 1968, p. 6), while a more expansive *Plan and Program* was similar in scope to, although involved a far greater effort than, the PFV’s *Technical Report*. This report had a budget of $500,000, and was considered “an innovative experiment in land use control” (Strong, p. 5). Echoing elements of *The PFV*, Keene and Strong recollected that the “demonstration project” had appeal because of the region’s “strategic location on the fringe of a major metropolis, good stream quality, natural beauty, and an apparent concern for sound growth on the part of the county’s public and private leaders…” (1970, p. 51). Yet a significant difference was that the Brandywine region was targeted by a consortium of the academy, government, and a NGO (The Ford Foundation), whereas *The PFV* was generated organically by citizens from within the Valleys.

*The Plan and Program* began with a thorough description of current conditions in the form of scholarly articles with attribution. Topics ranged from hydrology to land values. Employing multiple population projections, it was determined that land use could accommodate a capacity of 38,000 residents by 2010 (Strong, Coughlin, Keene, Leopold, & Stevens, 1968, II-D-9). Conservation easements would be the primary control to limit or exclude development from critical areas such as flood plains, stream buffers, woods, and steep slopes. As with *The PFV*, growth would be redirected to designated areas, with sewerage a
prime concern. Many of plan’s principles—protecting the water resource and amenity of the area, allowing for growth, compensating for the restriction of development, providing actual economic benefit—mirror those in *The PFV*. Strong wrote in the introduction to the actual plan that, “The Plan differs from many plans in that the translation of the principles for the basin into land use proposals is accompanied by specific recommendations for an action program…” (III-A-1). However, this “almost perfect plan” according to Thompson, “Treats skillfully every technical aspect of the problem, but evidently something was missing in the human dimension” (1969, p. 1180).

Although Daneke praised the plan as being “the most illustrious” of the seminal water conservation plans, in part for its innovative attempts to raise public awareness, he nevertheless concluded that “*Brandywine* is thus an example both of failure to achieve participation by all affected segments of the public and of failure to accommodate those segments of the public which did participate” (1977, p. 18). Ann Strong described a confrontational meeting which occurred in East Brandywine Township in which a small proportion of residents expressed vociferous concern over numerous issues, especially the potential use of eminent domain (Strong, 1975). The protest of this minority eventually led to the plan’s defeat, even though the planners had engaged in extensive outreach to the community. Why did *The PFV* not engender the same reaction? Although the *Plan and Program* placed much less reliance on zoning than *The PFV*, the authors of both plans would have agreed, “Limitations on development were too stringent to impose through zoning alone (Strong & Keene, 1973, p. 9). The ex-
planation could lie in the contrast between the political structure of the two regions. Whereas the Valleys benefited from a sophisticated public-private partnership, “politics in the Upper East Branch townships is primitive” (Keene & Strong, 1970, p. 54). The city-county local government structure of Maryland reduced the likelihood of fragmentation among the citizenry. The Brandywine Plan, by contrast, covered just eight townships (Strong et al, 1968, II.A.1).

5.3 Design with Nature

Coinciding with the publication of Design with Nature, interest in The PFV resurfaced. The connection between the two works is evident in Quest for Life, for McHarg’s chapter on Design with Nature began with an extensive account of his work in the Valleys. McHarg wrote Design with Nature during a sabbatical from 1966 to 1967. He expected a modest reception, but the book became a phenomenal success, topping 350,000 in sales (p. 203). McHarg’s resolve was in full throttle as he not only had to resort (briefly) to self-publishing and direct-mail sale, but also had to figure out the color problem. He credited Gene Feldman, who taught printmaking at Penn, with discovering the most workable color “signatures” and paper weight (p. 202). NASA agreed to the use of the image of Earth on the cover.

In Multiply and Subdue the Earth—released the same year as Design with Nature—McHarg spoke of subdividers in Baltimore County enviously eyeing the Valleys “as if a Homestead Act was about to be signed and the whole bloody lot of them were waiting for someone to fire the pistol” (34:57), a metaphor he also used in his autobiography (p. 177). These two passages are brought together in
the chapter, “A Response to Values” in *Design with Nature*, in which McHarg repeats the pistol analogy, cites examples of “vulgarization,” and laments that the Valleys were “totally unprotected from despoliation by the existing powers of zoning and planning” (p. 79). This work confirmed McHarg’s standing as an environmentalist, and can be read as a synthesis of his ecological planning at Penn with methods originally employed in *The PFV*. McHarg had actually been reluctant to write *Design with Nature*, claiming, “I am not an ecologist” (p. 200). However, one should not be lulled solely by the breadth of McHarg’s fugue-like mind, because there was also a depth to his ecological thought which is beyond the purview of this Capstone. In a short essay describing McHarg’s influence entitled “Creativity permeates the evolution of matter and life,” James Corner wrote that

In drawing from concepts of environmental and organismal fitness—including thermodynamics, feedback cycles, creative adaptation, and inter-relational systems—McHarg uses ecology to paint a vision of the world that is more complex, more integrated, and more based on dynamic interaction and levels of dependency than previous models…” (Margulis et al, eds, 2007, p. 97).

The reach of *Design with Nature* would extend from ecology to geography, forestry, and soils. Its ethical sensibility would highlight the value of sustainability and resilience. It created a template for environmental impact assessments, which are so basic to planning today.

*Design with Nature* would be the apex of McHarg’s publishing career. He would shortly move on to a host of other commissions and projects, including the inaugural Earth Day in 1970, and landmark federal environmental legislation. Fame would have its demands, however. A number of letters in the architectural
archives at Penn indicate that McHarg became unresponsive to certain speaking requests. His renown was spreading. A precocious undergraduate student at Brandeis wrote that she was “impressed” with Design with Nature, and that she was preparing a land use paper for a policy course. She added a laundry list of questions about the Plan for the Valleys, such as the viability of the Syndicate, and this whopper, “Do you have, by any chance, a compilation of instances where land has been developed in disregard of natural processes?” (I.L. McHarg Papers, May 12, 1970, 109.II.B.1.4). McHarg’s reaction, priceless no doubt, was fortunately undocumented.

6.0 SLOW PATH TO IMPLEMENTATION

6.1 Urban-Rural Demarcation Line (1967)

Of the two legislative legacies of The PFV, the urban growth boundary was delineated rather quickly, but the full realization of Resource Conservation Zoning would take almost 25 years.

Maryland established county zoning enabling legislation in 1933 (Frece, 2008, p. 169), yet a number of development regulations were left to the Maryland Department of Health, which allowed for on-site septic systems—provided the soil passed a relatively lax percolation test—on a lot as small as 25,000 square feet (Outen, 2007, p. 6). During the 1950s almost one-quarter of new development relied on on-site septic (Williams, 1959). The spread of suburbia during this period—often enabled by federal policies such as tax expenditures and highway projects—led to the inevitable conversion of farmland. In 1956, Maryland had the
foresight to implement the first legislation in the U.S. protecting farmland by enabling differential assessment, which lowered the property tax on agricultural land (Keene, 1977, p. 13). However, this alone has had limited success in slowing farmland conversion.

During the nine years preceding the publication of The PFV in 1964, Maryland had lost 716,000 acres of farmland, or 11 percent of the state’s total acreage (Wallace, 1981, p. 15-4). This realization led to years of deliberation at the state level regarding how to supplement property tax relief with other tools such as the purchase of development rights (PDRs), the transfer of development rights (TDRs), and the establishment of agricultural districts. The latter proved to be particularly contentious, because “farmers objected to the mandatory nature of the various controls, fearing loss of equity in their land because of restrictions on development” (p. 15-5).

The urban growth boundary (UGB), known as the Urban-Rural Demarcation Line (URDL), grew out of these circumstances. The first urban growth boundary in the U.S. was implemented in the thoroughbred region of Lexington-Fayette County, Kentucky in 1958 (Pruetz, 2012, p. 91). Despite the equestrian connection between Lexington-Fayette and Baltimore Counties, there is no evidence of a strong link between the two UGBs. The URDL first appeared on an OPZ map in June 1966, but was not promulgated until an amendment to Bill 40 required that gas stations outside of the line be located in a Commercial-Rural overlay district (Outen, 2007, p. 10). The URDL was meant to optimize funds spent on infrastructure within urban areas, while preserving agricultural and natu-
eral resources as open space (Budensheim et al, 2014, p. 12). Wells and septic systems would be relied upon outside the line, while higher density zoning inside of it would receive water and sewer services. The URDL roughly followed the Metropolitan District line, which had been drawn up in 1924 to delineate the extent of public water and sewer service (Outen, 2007, p. 10). It also followed watershed boundaries, County boundaries, and attempted to take advantage of gravity flow where possible.

The URDL was implemented at a propitious time. Although the Maryland Department of Health had placed a moratorium on sewer extensions in 1963 due to leaks (Wallace & McDonnel, 1979, p. 13), pressure was again mounting to extend the Jones Falls Interceptor into Green Spring Valley (Schmidt, 1967). The URDL imposed a halt to this, but by 1970 both the State and County Health departments were continuing to endorse sewer extensions to some restaurants and to a State building with failed septic tanks, only one mile south of the Valleys (p. 23). When the County Council rejected this, it was the first legislative victory for The PFV, despite having been endorsed by the County years earlier. Yet the URDL nevertheless has suffered from the same limitations as differential assessment, as it was not enough in itself to reduce the prevailing rate of development. Even Lexington-Fayette’s downzoning to 10-acre minimum lots outside it UGB would result in a similar rate of development, except on larger lots (Pruetz, 2012, p. 93). The URDL has barely moved, however, in large part because it was designated at a time of high population projections, and therefore held con-
siderable capacity for growth absorption. This would be very beneficial for certain elements of The PFV.

6.2 County Politics

In October 1973, United States Vice President Spiro Agnew, a vituperous critic of the liberal establishment—yet defender of cronyism (Wills, 1969)—defiantly resigned from office pleading *nolo contendere* to tax evasion (Naughton, 1973). While Agnew adamantly contended that he had received not bribes but campaign donations (Agnew, 1980), his lawyer—once released from lawyer-client privilege—testified that Agnew had admitted that bribery had been occurring in Maryland politics “for a thousand years” (Clines, 1996). Richard Cohen, who covered Maryland politics for the Washington Post, has referred to the 1970s in Maryland as “the golden age of corruption” (Holden & Messitte, 2006, p. 1). Cohen recounted that many individuals testified to having received kickbacks while Agnew was Baltimore County Executive from 1962 to 1966 (p. 6). Hundreds of thousands of dollars of bribes were supplied not only by developers, but also by architects (Outen, 2007, p. 35). Before serving as Maryland Governor, Agnew had been appointed to the Baltimore County Zoning Review Board (3 years), and then elected Baltimore County Executive (4 years) The plight of Agnew might not have been worth mentioning had not his successor as County Executive, Dale Anderson, himself been convicted of 32 Federal counts on kickback-related charges (UPI, 1974). Anderson would not be the last.
In this political milieu, two important events occurred. In 1974, Baltimore County established a People’s Counsel (not to be confused with the utility-monitoring Office of People’s Counsel). The Counsel is appointed by the County Executive and serves as a citizens’ advocate in planning and zoning matters. The Counsel defends the zoning map and master plan, reviews 600 to 700 Zoning Commissioner cases a year, as well as numerous appeals (Outen, 2007, p. 36). A second unique element to Baltimore County planning is the Comprehensive Zoning Map Process (CZMP), instituted in 1976. Every four years any stakeholder—the OPZ, the VPC, landowners, County Council members, or any citizen—can petition the County Council for zoning changes. The 2016 CZMP, for instance, has an upzoning petition by a developer that is being contested by the VPC (VPC, 2016). One would think that a requisite four-year re-assessment of a vulnerable land preservation tool would be rife for abuse. As a practical matter, however, despite the fact that Councilmen receive the bulk of their campaign funds from developers, many petitions are for downzoning (Phillip Worrall, Personal Communication, March 20, 2016).

6.3 Resource Conservation Zoning (1976)

It took until the mid-1970s for the novel partnership between the VPC and the County envisaged in the final line of The Proposition to yield substantial results. During the 25-year period leading up to the legislation of RC Zoning in Baltimore County, land devoted to farming decreased by 56.3 percent, while the average size of a farm rose a similar percentage to 127 acres (Wallace, 1981, 15-
46). However, it was concerns about water quality in the County’s reservoirs that began to galvanize citizens’ groups, the VPC, and the County Planning Board to take action through rezoning. Since zoning in rural Baltimore County remained at a maximum density of one lot per acre, development could still easily leapfrog over the URDL and into the countryside. The result was that the use of septic systems continued to spur rural residential development and the conversion of a great deal of farmland and forests (Newburn & Ferris, 2016, p. 222). In fact, according to those involved in the enactment of RC Zoning, prior to it “all of the County's zoning regulations promoted development” (Budensheim et al, 2015, p. 4).

Zoning in Baltimore County harkens back to 1955 when it changed to a councilmanic governance structure—districts based on population, not geography—consisting of a County Executive, Administrative Officer, and a Council representing seven districts. Coincident with the charter change in the County, new zoning maps and residential zones were established, ranging from R-6 (minimum lot size of 6000 square feet) to R-40 (minimum lot size of 40,000 sq. ft., or almost an acre). Zoning Districts were determined primarily by perk tests for septic systems, which meant that the de facto minimum lot size for zoning was roughly 1 acre (Budensheim et al, 2014, p. 8). No agricultural zoning existed in the rural areas covering two-thirds of the County (Outen, 2007, p. 21). However, this was not problematic for these areas until the mid-1960s, since most homes were built around village centers (Wallace, 1981, 15-47).
The ensuing growth boom, combined with environmental concerns, prompted the County legislature to curtail development (15-48). In 1970 Bill 100 changed the metric of these zones from minimum lot size to density in order to produce better design, in part by segregating rural from urban areas (Budensheim et al, 2014, pp. 9-10). This “density zoning” was meant to allow for more flexible clustering of dwelling units on a tract to accommodate environmental constraints and irregular parcels (Outen, 2007, p. 21). The Bill changed R-6 to DR 5.5, or 5.5 dwelling units per acre. R-40 became DR 1, or one unit per acre. Two new zones, RAE 1 and RAE 2, allowed for significantly higher densities of 40 to 80 units per acre, respectively.

An atavistic feature of the new zones, however, included minimum lot sizes for Rural Deferred Planning (RDP – 10 acre minimum) and Rural Suburban Conservation (RSC – 3 acres), the most pertinent to the Valleys region. The Baltimore County Council however, summarily lowered the minimum lot size for both these zones to one acre, all but negating the difference between them (Budensheim et al, 2014, p. 10). Jack Dillon, who was on the County Planning staff at the time, told me that developers and the real estate industry forced the zoning reduction (Personal Communication, January 26, 2016). Most of northern Baltimore County was re-zoned as RDP, but this did little to hinder development—for all practical purposes, the area had become a “rural residential development zoning district” (p. 15). In five years leading to RC Zoning, one-acre rural zoning witnessed 11,368 acres subdivided into 3781 lots (Wallace, 1981, 15-49). While politics may have won out, necessity would soon be the mother of invention.
An important catalyst for change occurred when the Maryland Department of Health recommended downzoning to three acres as a result of faulty septic systems and possible water contamination (Outen, 2007, p. 21). This validated the power of the URDL, as well as McHarg’s general concerns about unsuitable septic locations. The planning staff then commenced a comprehensive effort based primarily on tax maps to demonstrate that the pattern of development was threatening the County’s agriculture industry, particularly as one subdivision spread into another (Budensheim et al, 2014, p. 8). Many farmers wanted to retain their development rights, and were of course compromised if adjacent farmers sold. The County planning staff organized the North County Advisory Group, which was comprised of a wide array of stakeholders in the region. The ensuing plan relied on five Resource Conservation zone classifications:

I. RC 1 – Flood plains
II. RC 2 – Agricultural
III. RC 3 – Deferred Planning Zone
IV. RC 4 – Watershed
V. RC 5 – Rural residential

RC-2 areas were based on prime soils, absence of subdivisions, and critical mass in terms of size and farming intensity. One development right was conferred for the first 20 acres, with another right for each additional 20 acres. RC-3 applied to the outside edge of the URDL and was meant to discourage development with a relatively low density factor of .3, but with clustering on one-acre lots. RC-4 served as an overlay zone for all streams and reservoirs, and included a
prohibition on building steep slopes over 25 percent, echoing The PFV. RC-5 was proposed for development next to existing subdivisions and villages, with a two-acre minimum lot size.

When Bill 98-1975 was vigorously debated before the Planning Commission and County Council, the minority of detractors were represented by the development industry and certain large landowners, who were concerned that the downzoning would drastically reduce the value of their property (Wallace, 1981, 15-49). A contemporaneous news account said that the bill “pitted farmer against farmer, farmer against builder, and farmer against environmentalist” (Jacobsen, 1975). David Wallace described how the Falls Road Association—one of 35 in the region and comprised of farmers—considered the PFV “a conspiracy of wealthy residents to secure the development value of the area for themselves” (2004, p. 105). Yet none of these groups was as acrimonious or as concerted in opposition to The PFV as the Chester County Freeholders’ Association was to the subsequent Brandywine Plan (Keene & Strong, 1970, p. 52).

To assuage these interests, a special exemption for higher development on non-productive land gained little traction (Wallace, 1981, 15-49). The final bill—whose iterations included 19 amendments from one councilman, and 28 “technical” amendments—covered 56 percent of County land (Outen, 2007, p. 22). The County planning staff, which had good relations with the farming community, pressed the notion that land values would increase (Budensheim, 2014). This key contention from The PFV would need more time to gain currency. Per-
haps Agnew’s initial guarded endorsement of *The PFV* had taken some of the steam out of its legislative implementation.

The year 1976 would witness a confluence of important events. The extensive Resource Conservation rezoning was approved to coincide with the new comprehensive zoning maps (CZMP) to be issued in 1976. In 1976, Wallace, Roberts and Todd (WRT) was hired to produce the County’s “Growth Management Plan” as its Master Plan was called, in which it applied the methods espoused in *The PFV* to the entire County (Wallace, 2004, p. 109). The Interim Development Control Act (IDCA) was imposed, restricting subdivision before the new zoning was enacted. This was necessary and proved how prescient McHarg (and Wallace) had been with the often used metaphor about developers waiting for the pistol to be fired. In the four months since the bill had been passed, 221 tracts had been subdivided, totaling 1661 acres (Wallace, 1981, 15-50).

A new County Executive requested a reassessment of active farms which resulted in a resuscitation of minimum lot sizes. Eventually, RC-2 was altered in 1979 so that any farm up to 100 acres could be subdivided once, and again for each additional 50 acres. Many residents I interviewed in this region, however, would add a caveat that, “We have 50-acre zoning, but not really.” This compromise with the farming community occurred because many farms are comprised of several separately deeded parcels. Since these parcels are subject to one subdivision, there is a significant “hidden” density potential. This ostensibly strengthened RC-2, therefore, had an inherent weakness which resulted in con-
continued development. Once again, a growth management tool would prove to be helpful, but not sufficient to stem the tide of development.

6.4 Growth Management in Maryland

Kathleen Wallace (no relation to David Wallace) wrote in the *National Agricultural Land Study*—echoing Gottmann—that "the enactment of such a restrictive agricultural zone on the heart of the northeastern Megalopolitan Corridor is an unusual occurrence" (1981, p. 15-52). She ventured a number of factors which explained the passage of RC Zoning, including a temporary slowdown in the "growth boom", the trust that farmers had in the County planning staff, and the bill’s complexity, i.e. "many people did not even realize what was in the bill" (p. 15-53). Maryland has in fact been at the forefront of growth management, having sponsored a number of land preservation programs leading up to Smart Growth legislation in 1997. Noteworthy programs have included the Maryland Environmental Trust (1967), The Maryland Agricultural Land Preservation Foundation (1977), and the Rural Legacy Program (1997).

The Maryland Environmental Trust (MET) was created as a state land trust with a mostly private board of trustees, and acquired its first conservation easement in 1972 (MET, 2016). It specializes in private donations, coordinating deal, and can arrange for tax abatements. A more pertinent program for the Valleys area has been the Maryland Agricultural Land Preservation Foundation (MALPF), which was established "for the purpose of acquiring easements on farm and woodland by purchase or gift" (Wallace, K., 1981, 15-7). The primary
source of MALPF funding is meant to be a 17.05 percent share of the 0.5 percent real estate transfer tax. Assessing its first year of operation in 1980, Wallace noted, “The fact a preservation program exists at all is an indication that the principle of preservation has been widely accepted” (15-30). Former MALPF Chairman, Dan Colhoun, told me, “The future of agriculture is in easements, because the day will come when any land not in easement will be developed” (personal communication, January 16, 2016). There has been a waiting list for MALPF easements, partly because the state has redirected funding (MDA et al, 2015), yet largely because “few farmers will resist a realistic alternative to development” (Daniels & Bowers 1997, p. 19).

MALPF collaborates with a number of other agencies, especially the Department of Natural Resources, which houses the complementary Rural Legacy Program. Rural Legacy focuses on preserving parcels of fewer than 50 acres, especially wetlands, streams, or forests which must be chosen from sponsored areas. Prospective farms, if located in a RL territory, can have prime soils (MALPF) eased separately from wetland or otherwise non-qualifying land in smaller proportion (RL). MALPF engages in public-private partnership with MET, and benefits from a state-county partnership in matching funds. Lastly, the funding mechanism through the real estate transfer tax makes eminent sense, since a more active market leads to more funds for preservation. According to Jack Dillon, MALPF’s first easement in 1980 “tied in perfectly with RC Zones” (personal communication, January 26, 2016). It also coincided with the influential National Agricultural Lands Study, which addressed the self-reinforcing “imperma-
nence syndrome,” whereby increases in development and population create a vicious cycle inducing farmers to sell their land (Coughlin & Keene, 1981). Daniels has cited the four primary challenges facing farmers in the wake of sprawl as profitability, resource stewardship, generational continuity, and pressure to sell out to development (2001, p. 2).

The Supplement to the Plan for the Valleys (1989), although validating The PFV, purported to assess new methods and information gleaned in the wake of continuing development pressure. Prepared by Wallace, Roberts & Todd (McHarg had long left the firm), The Supplement concluded in the same positive tone as The PFV by confirming that future growth could be accommodated. Population in the County had in fact only grown to 714,000 versus a 1980 projection 800,000, which allowed WRT to extend its initial projection 30 years to 2010 (1989, p. 2). Yet encroachment was evident in this section title, “Sprawl Has Occurred Over the Past Decade in Spite of Country (sic) and Use Controls” (p. 2). Especially problematic was that RC 4 was “encouraging an unintended channeling of suburban density growth along streams” (p. 2), which had resulted in “discontinuities between boundary locations and the locations of resources meant to be preserved “(p. 12).

The Supplement reasserted the use of planning and zoning to direct development, and recommended a rezoning of RC 4. It also reaffirmed the use of a TDR program with designated sending areas. While the importance of the water quality resource for the Valleys was emphasized, The Supplement also prioritized agricultural, historical, cultural, and open space preservation. New recom-
mendations included a light rail system, the promotion of mixed uses, and a tax abatement for redevelopment. Another noteworthy element to the Supplement was its emphasis on traffic, validating the dictum that development is driven by water supply, sewerage systems, and roads. As a sign of the times, the report acknowledged a Roads Committee of nine members (p. 33). A general concern related to pressure for the widening and straightening of roads through the Valleys, for as The Supplement asserted, “Bad roads are good roads for the Valleys” (p. 16). A specific concern related to a proposed road linking Hunt Valley and Owings Mills, MD. Wallace recollected that “such a connection would have been a death knell for the valleys as open space” (2004, p. 112), and that furthermore, it would “actually generate traffic demand that did not exist without the connection” (p. 111). McHarg would have reveled in this analysis, having studied the impact of induced capacity on highways in Scotland (1996, p. 104). The Supplement used extensive traffic analysis to argue for alternative routes on a more regional level. The VPC eventually prevailed in this particular fight.

Traffic is an especially pernicious impact of sprawl (Downs, 2001; Knee-bone, 2009). As the automobile facilitates urban flight, equity issues arise from the prohibitively higher cost of living in the suburbs (Grad, ed., 2015, p. 98). Coughlin and Keene have described sprawl, or “urban growth pressure”, as “a great flood, moving out slowly into the countryside raising land values as it goes” (1981, p. 16). Yet sprawl is not fiscally sustainable due to the extension of water and sewer, among other municipal services (Daniels & Lapping 2005; Kelsey, 1996). Redirecting growth has been a staple of Maryland policy since the Smart
Growth legislation was enacted in 1997. Elements of this program have included the preservation of the environment and open space, and incentivizing compact development in Priority Growth Areas (PFAs) where the state focuses its infrastructure investments.

Echoing *The PFV*, Downs has said, “A basic principle of smart growth should be to accommodate future growth, not choke it off” (2001, p. 5). Downs stressed the need for regional collaboration, and was concerned that efforts to suppress sprawl in one location would exacerbate it elsewhere. Nevertheless, the County downzoned 9000 acres from RC-4 to RC-2 as a result of not only similarity between the zones, but also excessive development cited in *The Supplement* (Outen, 2007, p. 23). Punctuating its unreceptiveness to growth, the County enacted further downzonings in 1998, and created additional RC zones in 2000 (Appendix V).

7.0 THE PLAN 50 YEARS LATER

7.1 The Proposition Revisited

_The area is beautiful and vulnerable;_

The conclusion to this Capstone evaluates lines from The Proposition (the order of which has been rearranged for clarity). An early section in *The PFV*—“The Plan Realized”—imagined how a few elements of it would be manifested 20 years forward. Now a full 50 years removed from publication, we are afforded a number of metrics for assessment. To what extent was *The PFV* implemented and how successfully? *The PFV* imagined that the Green Spring Valley’s slopes
would have become more densely wooded, overhung by “silhouettes of apartment buildings on the ridges” (p 5). Neither happened. The expectation for “the serene sweep” of the Worthington Valley has held true to this day, however. The view depicted in the 1964 photograph (Figure 1), for instance, is unchanged. The Caves Valley has also matched predictions, although again with no apartment buildings. While the Green Spring Valley—the most vulnerable—has lost its [genius loci], the Caves and Worthington Valleys have survived largely intact, in part because of the willingness of the owners of hobby farms, working equestrian farms, and agricultural farms to sell or donate conservation easements on their land.

Through 2015, Baltimore County preserved 62,828 acres towards a goal of 80,000 acres, primarily in the north and northwestern parts of the County (Pash, 2015; Appendix IV). McHarg proudly wrote in 1996 that the Valleys “more than 30 years later still retain their pastoral beauty” (p. 177). Wallace, however, was not shy to express his disappointment in McHarg’s attitude towards The PFV: “McHarg felt that his objectives of preventing despoliation of the natural landscape had been realized, and I suppose my disappointment is irrelevant” (p. 77). Or, as he also wrote more pointedly, “The failure in implementation was irrelevant to him [McHarg]” (p. 108). McHarg was in fact quite candid that a number of his early plans would have “no effect” (p. 152), yet he saw value in the ideas they generated and the potential application to future projects. Perhaps Spinn’s general remark applies to The PFV: “The conflict between preservation
and change is McHarg’s most persist inconsistency, and it highlights the contradictory positions of landscape architecture as a profession” (2000, p. 102).

Uri Avin has contended that although *The PFV* earned an APA National Planning Landmark Award in 2010, its reputation has been “obscured by legend,” for the plan itself was only partially implemented (2013, p. 21). This is partially true. None of the major design elements, such as the hamlets or villages, was built. No real estate syndicate was created. This leads one to believe that *The PFV*’s reach exceeded its grasp, or to borrow from Voltaire’s naïve optimist Dr. Pangloss, that the plan attempted to be “the best of all possible worlds”. Tom Karsten of the GSWV expressed contemporaneous concern that *The PFV* was “completely unrealistic” and advised for a “drop back and punt” backup plan, which was never adopted (Wallace & McDonnell, 1979, p. 19). In a letter to Lewis Mumford seeking endorsement for the Landscape Architecture article barely a month after *The PFV*’s publication, McHarg regretted that “the probability of success is quite small,” even though he espoused the methodology (I.L. McHarg Papers, July 6, 1964, 109.III.B.3). None of this, however, is to say that McHarg was preoccupied with the mere aesthetics of the *The PFV*, or of the Valleys themselves.

Cohen has noted that McHarg appreciated “the beautiful, the sublime, and the picturesque in nature,” and as a parallel, the picturesque form in art (Cohen, 2003, p. 12). McHarg likely was an admirer of the Hudson River School, whose founding most observers credit to the émigré Englishman, Thomas Cole (1801-48) (Harvey, 1998). McHarg and Cole would have been kindred spirits in their
views of man’s self-perceived dominion over nature. Cole’s series of paintings, 
*The Course of Empire* (New York Historical Society, 1833-36), reflected his skep-
ticism towards the triumphalism of American manifest destiny. The final painting, 
“Desolation”, is consonant with McHarg’s soliloquy from *Multiply and Subdue the 
Earth.*
Figure 7 Thomas Cole, The Oxbow (Metropolitan Museum of Art, 1836)

Figure 8 The Western Run, Worthington Valley (VPC, 2016)
Of particular note for this paper is Cole’s masterwork, “The Oxbow” (Metropolitan Museum of Art, 1836), in which a storm is depicted having passed over a pastoral landscape (Figure 7). On a distant mountain appears the approximation of the Hebrew letters for “The Almighty” when read upside down from the God’s-eye view—McHarg would have had a field day with this!—perhaps indicating the artist’s desire to return to less cultivated times (Howat, 1987, p. 127). The Connecticut River is shaped like a question mark, and may be asking the viewer to mediate the difference between the revealed cultivated landscape and the rugged wilderness on the other side of the river. By sheer coincidence, the VPC’s signature photograph on its website (Figure 8) also posits the Western Run curling like a question mark in the midst of a beautiful, pastoral landscape. The protection of the basic amenity in the Valleys has been indeed largely achieved, yet questions remain in the landscape itself.

*Development is inevitable and must be accommodated; Uncontrolled growth is inevitably destructive; The Area Can Absorb all Prospective Growth without despoliation; Planned Growth is more Desirable and as Profitable as Uncontrolled Growth;*

The PFV’s most immediate regional impact was the URDL, which has stood the test of time. The URDL has since been successful at directing growth: 90 percent of Baltimore County’s population lives within it, despite comprising only 33 percent of the County’s land area (Moore, 2010, p. 77). Since the boundary allowed for ample accommodation, the specter of uncontrollable growth has not
materialized. A far-reaching influence of The PFV has been its emphasis on planning, and on the feasibility of both accommodating and redirecting growth within an open space amenity. The action steps for implementation correctly envisaged the utility of zoning and conservation easements as land use controls, in addition to the complimentary role of governmental programs such as such as MALPF, Rural Legacy, and Smart Growth. For example, the URDL helped to delineate Priority Funding Areas in Baltimore County.

Nevertheless, a question mark remains over the failure of the Real Estate Syndicate. Why would a TDR program work so well in nearby Montgomery County, MD, but not in the Valleys region, despite demographic and developmental profiles shared between the two? Why has the extinguishment of development rights prevailed over their reallocation? McHarg himself lamented the failure of the Syndicate. He also acknowledged that it might have been poorly conceived, for despite representing a distinct physiographic unit, there was “not a socially cohesive community” (1996, pp. 178-9). The authors of the Plan and Program also recognized this: “A proposal such as the Brandywine Plan, which seeks substantial changes in many areas of personal concern to residents, will
be implemented only if it responds to deeply felt needs and desires of the people it will affect” (Keene & Strong, 1970, p. 58). The explanation for the lack of community buy-in might lie in what I would term the *spiritus loci* of the Valleys.

Consider the amenity of the Valleys—its *genius loci*—as a commons, in which it is in the rational self-interest of individual landowners who benefit from the open space nevertheless to maximize the (development) value of their property, even if that ultimately is self-defeating because doing so degrades the long term interests of the community (Hardin, 1969). Discretely sewer-ing the plateaus seems in retrospect to have been a naïve proposal, and in conflict with the preservation of the Basic Amenity, if one were to adopt a purist’s approach to the landscape. Residents may have sensed a TDR program would be a Trojan horse in the form of a sewer that over time could enable further, unplanned development. “*Timeo Danaos et dona ferentis*” (Virgil, Austin, 1962, II. 49), or “I fear the Greeks especially when bearing gifts,” may have resonated here (as it did in the Brandywine Valley). The community—however disparate—seems to have adopted an all-or-nothing approach towards the maintenance of open space, and collectively overcame the paradox of the commons by consenting to conservation easements and to downzoning. Otherwise, the inducement to sell or donate development rights would have been significantly lower if the countryside had become sprinkled with hamlets, villages, and even partially visible apartment buildings. The design of differentiated housing types made eminent sense from a planning perspective, yet a critical mass of residents resisted before the vicious circle of the impermanence syndrome could establish a toehold.
As *The PFV* itself noted, “To many of the resident owners of undeveloped land, the character of the land represents a way of life” (Wallace-McHarg Associates, 1964a, p. 23).

Although Avin had doubts about the Syndicate, he has also criticized how *The PFV’s* “fine-grained and highly differentiated pattern of dense and preserved lands” has instead become occupied by scattered large-lot subdivisions (p. 21). On the one hand this type of development has supported the PFV’s contention that property values would be enhanced. Even in the more agricultural northern area of the Valleys, for instance, Nickerson and Lynch observed no difference in value between preserved and unpreserved farmland: “Contrary to our expectations, we find little statistical evidence that voluntary permanent preservation programs significantly decrease the price of farmland in MD” (2001, p 350). Lynch, Gray, and Geohegan have also noted that when contiguity of parcels was included in their model, the eventual effect of a conservation easement on market price was negligible (2007, p. 508).

The downside to the success of preservation has been the high cost of housing, however. The median cost of housing as a percentage of household income for Baltimore County is high, as one-quarter of residents pay 35 percent or more (Baltimore County, 2010). In the Valleys region, for which discrete data are not available, there is ample anecdotal and proxy evidence that housing is even less affordable. Although the County is a separate political jurisdiction, one cannot ignore its bucolic juxtaposition to the urban decay of Baltimore City, recently highlighted by riots in April 2015. The Valleys are linked to the urban core
through public water and sewer, but a sociological divide exits in addition to the URDL. The City is otherwise landlocked, and therefore unable to expand through annexation. Its population is now significantly less than that of Baltimore County (U.S. Census, 2015). The County in fact recently settled a lawsuit regarding discriminatory housing practices (Donovan, 2016; see also Thompson v. HUD, 1995). A telling trend has also occurred within Baltimore County itself, as population has actually declined outside of Priority Funding Areas, indicating a lack of affordable housing in rural areas such as the Valleys (Maryland Department of Planning, 2016). Knaap and Frece have argued that Maryland Smart Growth has lacked pragmatic balance, and encouraged anti-growth NIMBYism (2006, p. 454).

Wallace actually held the dystopian view that the partially implemented Plan for the Valleys was the result of an “elitist conspiracy among rich white landowners and the government they controlled to provide de facto segregation” (Wallace, p. 247). This is partially true, but only in a glass half-empty sense. Wallace may have been prescient regarding County-wide housing issues, yet there is no evidence of a “conspiracy” for intentional economic, class, or racial segregation of any sort in the Valleys. To contend such is tantamount to a blanket condemnation of Valleys residents. What Wallace appears not to have appreciated is that the spectrum of stakeholders—including small- and large-lot landowners, golfers, farmers, horse people—were primarily concerned with protecting the Basic Amenity. The phenomenal extent of land preservation has not only been at the expense of some of The PFV’s important design elements, but obversely a
result of their failure. Avin was concerned that The Syndicate would necessitate “clear winners and losers” (2014, p. 22), although the absence of it has produced the same result in a broader sense.

By way of analogy, in the late 1970s McHarg moved to Unionville, Pennsylvania, a Piedmont region 40 miles west of Philadelphia which was otherwise quite similar to the Valleys—a beautiful rural area inhabited by farmers and horse people. McHarg observed that the preservation of the King Ranch was the direct result of the fox hunting fraternity, which he termed “a very effective planning device” (1996, p. 179). It should be noted that a character in Oscar Wilde’s A Woman of No Importance famously described fox hunters as “the unspeakable in pursuit of the uneatable” (1893, n.p.). One senses that Wallace would have agreed with this assessment, even though the coalition of VPC members was a broader demographic group. The fact remains that there is often a Reapolitik to land preservation in a given area which involves landed or wealthy residents, and the desire for contiguous land preservation may supplant planning efforts to introduce higher-density housing.

Observance of Conservation Principles Can Avert Destruction and Ensure Enhancement;

One can appreciate how far the planning process has evolved since McHarg asserted that before Design with Nature “there was no enabling legislation requiring ecological understanding and planning” (1996, p. 206). The implementation of Resource Conservation Zoning in Baltimore County was a contentious process, yet it has produced impressive results. Most of the County’s
watershed (92 percent) has been preserved, providing drinking water to 1.8 million residents in the region (Outen, 2007, p. 22). Despite McHarg’s thumbprint on this accomplishment, he seems to have had a momentary lapse of self-promotion: “I believe it is fair to say that public planning, notably zoning, has protected very little; it is, at best, a delaying procedure” (McHarg, 1996, p. 178). Yet RC Zoning has been a very effective delaying procedure, especially in the face of the quadrennial CZMP. This is particularly impressive, since Daniels and Lapping have noted that land use regulations are “notoriously impermanent, subject to variances, special exceptions, and conditional uses” (2005, p. 318).

RC Zoning has coincided with a dramatic deceleration of farmland conversion. This had been occurring at an unsustainable rate beginning in the early 1950s (Appendix VI). While agricultural census data are desultory due to sampling changes, the overall trend reveals why residents of the Valleys were so alarmed in 1960. Baltimore County lost 49,823 acres, or 31 percent of total farmland, from 1954 to 1974 (Appendix VI). After the implementation of RC Zoning, County farmland has dropped to 70,419 acres (2012), yet preservation programs such as MALPF have come close to matching the pace of development despite funding pressures (MDA et al, 2015).

While downzoning has had obvious impact on the density of development, however, it has exerted “little or no influence” on the rate or probability of development (Newburn & Ferris, 2016, p. 235). Wallace and McDonnell have questioned elsewhere, forlornly, whether only through “the power of eminent domain will suburban sprawl be averted?” (1979, p. 11). The extensive use of voluntary
conservation easements in the Valleys, however, seems to have contradicted this somewhat defeatist notion. Either way, a recent Maryland septic bill (2012) has both reinforced and supplanted RC Zoning. The Bill prohibits on-site septic inside major subdivisions, whose definitional size varies by county. If the area is categorized as Tier 4, an individual county may allow up to seven lots on a rural property, and Tier 4 areas constitute 90 percent of the land outside the URDL in Baltimore County (Newburn, 2014).

*Development must conform to regional goals; Public and Private Powers can be Joined In Partnership in a Process to Realize the Plan*

Wallace was somewhat dismissive of the initial impact of the plan, stating that it initially had negligible impact on OPZ policy, even though County planners benefited from the “wealth of technical information” provided by The PFV (Wallace, 2004, p. 100). By 1969, Baltimore County “more or less” went with The PFV in its *Guideline*, although its vision of 100,000-person metro centers and greenbelts was abandoned in 1975 (Avin, 2014, p. 22). The regional vision of *Metrotowns* (1962) for growth to 3.5 million by 2000 also fell far short, as did the creation of a metropolitan planning agency (Outen, 2007, p. 7). Yet The PFV clearly has played a role in the orientation of regional planning. As Theresa Moore, former Executive Director of VPC wrote, the plan “galvanized the residents of northwestern Baltimore County, gained the respect of county agencies and elected officials, and laid foundation for moving in the direction of smart growth” (2010, p. 6). As a result, sprawl in the County has been projected to be
the lowest in the region for the first two decades of this century (p. 5; www.friendsofmd.org).

The VPC’s territory has expanded to 135 square miles, and now includes the Prettyboy and Loch Raven watersheds, whose reservoirs provide water to Baltimore City and five adjacent counties (www.thevpc.org). The VPC’s commissioning of the Plan for the Valleys was an unprecedented initiative, but would be very difficult to emulate for most communities. The founding members had financial and political means to fill a vacuum in planning at the County level. Besides, comprehensive plans are much more prevalent today, even at the township level. In 1964 however, The PFV gave credibility to the process, and was ultimately adopted by County planners. In a relatively sanguine moment, Wallace noted that “If the goals had been set lower, the plan would not have attracted national attention—attention that has kept the council [VPC] going, creating a climate of credibility and hope” (2004, p. 107). The VPC has since waged numerous campaigns with—and occasionally against—the County regarding land-use management. Daniels and Bowers have noted, “To succeed in the political aspects of farmland and open space protection, it is important to form partnerships between local government, landowners and citizen organizations” (1997, p. 22; see also Keene, 1979, p. 122). The initial partnership between the VPC and the Baltimore County OPZ can serve as a guiding example in this regard, although without the necessity of a private plan.
7.2 The End of Wallace and McHarg

McHarg’s name is no longer attached to the firm he co-founded, although Wallace, Roberts, and Todd (WRT) continues as a thriving firm today. The falling out culminated in Brobdignagian fashion in 1979 when the Shah of Iran was deposed. In one of the more fantastical periods of McHarg’s career, WMRT had done extensive work on Pardisan, a 700-acre garden near Tehran with a $1.8 billion budget (Power, 2011, p. 290). While innovative—the project was sponsored by the Iranian Department of Education to exhibit animals in their natural habitat—it did seem to contradict the principles of ecological determinism by introducing irrigation and air conditioning into an arid region. Despite this, the commission had been sought largely at McHarg’s urging (McHarg, 1996, p. 295). The other partners clearly had reservations, for the plan listed McHarg as the sole author, and also cited him as “partner-in-charge” (WMRT, 1975, p. 91). According to McHarg, when Iran failed to pay accumulated fees, the partners confiscated his share of the firm’s assets and locked him out of his office (1996, p. 96). Wallace claimed that McHarg had reneged on a promise to cover the loss in the event of regime change (Wallace, 2004, p. 194). McHarg’s departure removed an important platform for his work which he would not be able to replace. As Anne Spirn noted, “When McHarg’s practice ended, his ideas and methods, as he articulated them, ossified” (2000, p. 12).

His tenure at Penn also assumed a downward arc. As McHarg revealed in his autobiographical section, “Assault and Injury”—a clever, if self-indulgent borrowing from his notion of ecological fitness—under University of Pennsylvania
policy he was required to resign his administrative position at the age of 65. In his dissertation, *A critical assessment of Ian McHarg’s human ecological planning curriculum at the University of Pennsylvania* (2003), William Cohen cited a number of reasons for the program’s demise (pp. 214 - 247). These included the loss of faculty, the loss of the field laboratory that was WMRT and other resources, and a shift towards more of a design orientation. Student preferences were changing too, along with employment opportunities within planning. McHarg left his chairmanship during near the peak of enrollment in landscape architecture, yet regional planning had fallen to fewer than 10 students (p. 220). During McHarg’s final year of teaching *Man and the Environment* he simply replayed episodes of *The House We Live In* (p. 194). He died in 2001, having received may accolades during his lifetime, although he would never know of the annual award posthumously given in his name by the VPC as an appreciation for his work on the *Plan for the Valleys*. He would never realize his McHargian goal of a global ecological inventory, alas, but fame would be his. Lynn Margulis wrote that after Frederick Law Olmsted, McHarg was “the most influential landscape architect this country has ever seen” (Margulis et al eds., 2007, p. 16).

David Wallace had already assumed a lower profile at WRT by the time of the publication of *A Supplement to the Plan for the Valleys* in 1989. While he would perhaps be best known for the redevelopment of Baltimore’s Inner Harbor, his remarkable career would earn him the APA’s Distinguished Leadership Award in 2003 ([www.planning.org](http://www.planning.org)). The profession recognized him for distinguished practice, teaching, and writing. To the end, Wallace remained disap-
pointed in *The PFV*; “Unfortunately the Valleys cannot be considered, as has been touted, to be the first successful large-scale example of humane development and conservation of the countryside by citizen action” (2004, p. 78). He conceded that the landowners were nevertheless pleased by the end result, especially since many had not bought into the entire plan. As for his former, ebullient partner, Wallace also conceded, “He [McHarg] says in his autobiography that I envied him and perhaps I did. Our different objectives drove us apart, but how the man could talk and write!” (p. 196). Wallace died from a mutual suicide with his wife in 2004. Each was terminally ill.
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Appendix I The 1978 Maryland Hunt Cup (Winants, 2000)
Appendix II The Spectre of Uncontrollable Growth (McHarg, 1969)
Appendix III Optimum Growth for the Valleys (McHarg, 1969)
Appendix IV Conserved Land in Baltimore County (Pash, 2015)
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Appendix V Resource Conservation Zones in Baltimore County (OPZ, 2015)
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Appendix VI Farmland Loss in Baltimore County (U.S.D.A)
Appendix VI I. L. McHarg (University of Pennsylvania)