Toponymic Generics in Maryland

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American toponymic literature has traditionally focused on formal settlements or usage transformations. Attention to topographic terms has been limited largely to spatial distributions and enumerations. Stewart attempted to trace historical linkages to the rendering of names.[1] In so doing, he also noted the transfer of meaning of some of those terms. Spatial distributions were emphasized by Kurath, who mapped selected generics.[2] Zelinski also mapped selected generics, speculated on the significance of dissimilar patterns of occurrence, and noted problems that would be encountered with additional study.[3] McJimsey noted earlier that 737 separate topographic entries could be found among Virginia place names.[4] Heckewelder merely translated from Lenni Lenape the names of features in the Middle Atlantic States with no attempt to field-check for accuracy or change over time.[5] Finally, Kuethe examined published names from the topographic maps of Maryland in order to discern the distribution of *runs, creeks,* and *branches.*[6]

The above studies indicate that no two generics have identical distributions. Not surprisingly physical nonequivalence and language diversity have been cited as explanation for spatial variations of generic

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[1]G.R. Stewart, *American Place Names* (New York: Oxford University Press, 1970) and G.R. Stewart, *Names on the Land* (Boston: Houghton Mifflin, 1958).

[2]Hans Kurath, *A Word Geography of the Eastern United States* (Ann Arbor: University of Michigan Press, 1949).

[3]Wilbur Zelinsky, "Some Problems in the Distribution of Generic Terms in the Place Names of the Northeastern United States," *Annals of the Association of American Geographers,* 45(1955), 319–349.

[4]G.D. McJimsey, "Topographic Terms in Virginia," *American Speech,* 15(1940), p. 16.

[5]J.G.E. Heckewelder, "Names Given by the Lenni Lenape or Delaware Indians to Rivers, Streams, and Places Now in New Jersey, Pennsylvania, Maryland, and Virginia," *Pennsylvania German Folklore Society,* 5(1940), 1–41.

[6]J.L. Kuethe, "Runs, Creeks, and Branches in Maryland," *American Speech,* 10(1935), 256–259.

and usage.[7] Perhaps more because of language diversity than physical nonequivlanence, Burrill noted that connotative distinctions among toponymic generics are decreasing.[8]

Vague connotative distinctions are readily evident when one examines the literature on toponymic generics. In attempting to convey attributes of a generic, definitions often do not identify what the entity is that has been isolated. For example, *creek* is defined variously as "a small stream of water that serves as the natural drainage course for a drainage basin of nominal size or small size,"[9] "a stream of less volume than a river,"[10] "a natural stream of water smaller than and often to tributary to a river,"[11] and as a flow of water "smaller than a river but bigger than a brook."[12] *Run* is defined as "a brook or small creek,"[13] "a creek,"[14] "a natural channel of water,"[15] and "a generic for a small stream."[16] *Hollow* is defined as "a small ravine"[17] and "a depressed or low part of a surface, especially a small valley or basin."[18] In view of the fact that *creeks* and *runs* and *hollows* do exist as places identifiable on maps—printed and mental—and are defined as imprecisely as quoted above, Burrill's contention that distinctions decrease with time appears to be correct.

Or is it? The paramount problem in studying generic derivation, definition, and distribution noted by Zelinsky was that the full nature of the interrelationships between toponymy, other cultural phenomena, and the physical environment may never be known.[19] Lacking access to each individual who ever contributed in any way to the rendering of a geographic name, it is true that the *full* nature will remain unknown. However, the perceived hierarchy of decreasing size

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[7]Zelinsky, p. 346.

[8]Meredith F. Burrill, "Toponymic Generics," *Names,* 4(1956), p. 236.

[9]R.A. Durrenberger, *Dictionary of the Environmental Sciences* (Palo Alto: National Press Books, 1973), p. 56.

[10]American Geological Institute, *Dictionary of Geological Terms* (New York: Anchor/Doubleday, 1976), p. 99.

[11]*Webster's New Collegiate Dictionary* (Springfield, Mass.: G.C. Merriam Company, 1977), p. 268.

[12]Dudley Stamp (ed.), *Dictionary of Geography* (New York: Wiley, 1966), p. 103.

[13]AGI, p. 372.

[14]*Webster,* p. 1013.

[15]Durrenberger, p. 204.

[16]Stewart, *Names,* p. 413.

[17]AGI, p. 208.

[18]*Webster's,* p. 545.

[19]Zelinsky, p. 349.

noted definitionally may be tested for validity and the results compared to historical accounts of derivation. Thus more of the interrelationships may be understood than were previously acknowledged.

The data base was provided from U.S. Geological Survey topographic quandrangles scaled at 1:24,000 which were compiled or revised using photogrammetric techniques. Constancy of scale and the accuracy of photogrammetric procedures were necessary for measurement purposes.

In order to test the hypothesis that *creeks, runs,* and *hollows* are drawn from different statistical populations and therfore have different morphometric properties, three sets of twenty basins each were selected for analysis. Basis selected had to meet several criteria. First, catchments must carry as part of the geographic name published on the sheet either the term *creek* or *run* or *hollow*. The use of named features eliminated irrelevant names and fostered the use of original derivations. Cartographers normally adopt the names of streams that are supplied by local residents in the area being mapped. The U.S.G.S. has adopted no hierarchy of stream nomenclature,[20] so if real differences exist among properties of *creeks, runs,* and *hollows,* those differences will reflect the perceived interrelationships that existed when the features were named. Second, drainage had to be well-defined. Ponds, marshes, and multiple or braided channels eliminated a basin from consideration. Confusion of drainage lines or of slope proved to be very minor in the actual mechanics of measurement. Third, man-made structures such as bridges, dams, and canals were avoided as much as possible, for they would potentially cause additional ambiguities. Finally, the basins selected for study must have rather close juxtaposition. Proximity would allow for greater homogeneity of perceptions during initial settlement and, hence, consistency in name derivation. Most basins are in the three western counties of Maryland where Kuethe found the highest concentration of *creeks* and *runs.*[21] Although Kuethe did not consider *hollows* in his study, they are common on the landscape. In order to satisfy conditions (2) and (3), six hollows and one run were taken from West Virginia counties immediately adjacent to Maryland and within the Potomac River drainage.

Basins were delineated by first extending the blue line streams until no contour crenulations were encountered. Tributaries and unmapped

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[20]Personal communication with Don C. Orth, U.S.G.S. representative to the Board on Geographic Names, 26 May 1980.

[21]Kuethe, p. 256.

channels were added wherever a series of crenulations so indicated. Discrepancies between numbers and lengths of channels taken from topographic sheets in this manner and those obtained by direct field measurement tend to be small.[22] Further, because all basin mapping was performed by the same individual, operator error should be consistent.

Morphometric properties were analyzed both to determine internal organization within a set but also to discern difference between sets. Properties selected are basic to the geometry of basin organization and are diagnostic of internal function. They do not represent a comprehensive list of form attributes.

Properties analyzed include Strahler orders for an indication of magnitude or scale;[23] basin area, measured in square miles with a polar planimeter; basin perimeter, in miles, measured with a map measurer; basin relief, greatest vertical difference in height within the basin, in feet; relief ratio, an index derived by dividing basin relief by basin perimeter times 100; cumulative length of all streams; drainage density, a ratio of total length of all streams in a basin to its area in square miles; the total number of stream segments in a basin to area in miles squared; and mean channel gradient in feet per mile.

Analysis of variance was performed to test the hypothesis that the sets of *creeks, runs,* and *hollows* were drawn from the same population. The main purpose of the analysis of variance is to test for a significant difference between sample means, and its application attempts to reject the null hypothesis. Data were normalized by transformation to common logarithms as suggested by Doornkamp and King,[24] but raw results are presented in Table 1, where it is apparent that the null hypothesis may be rejected. *Creeks, runs,* and *hollows* are not from the same populations. Their morphometric properties thus reflect real difference and hence different generic connotations.

Creeks, runs, and *hollows* would seem to be descriptive toponyms.[25] Knowledge of toponymic derivation decreases in the order given, however.

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[22]Marie E. Morisawa, "Accuracy of Determination of Stream Lengths from Topographical Maps," *American Geophysical Union,* 38(1957), p. 88 and J.S. Smart, "Topological Properties of Channel Networks," *Bulletin of the Geological Society of America,* 80(1969), p. 1764.

[23]A.N. Strahler, "Hypsometric (Area-Altitude) Analysis of Erosional Topography," *Bulletin of the Geological Society of America,* 63(1952), 1117–1142.

[24]J.C. Doornkamp and C.A.M. King, *Numerical Analysis in Geomorphology* (New York: St. Martin's Press, 1971), p. 163.

[25]M. Aurousseau, *The Rendering of Geographical Names* (London: Hutchinson University Library, 1957), p. 17.

Coastal rivers were encountered by early Marylanders who named them in the English custom.[26] This meant that going upstream, the parent stream kept the same name. Indian custom had dictated a different name for each segment or branch.[27] As tributaries were encountered upstream, they were termed *branches.* Transformation of meaning gradually occurred for the term *creek.*

Creek originally meant a tidal stream or tidewater.[28] It was later used to mean a flowing stream. Inevitably some *rivers* became *creeks,* and some tributaries of major rivers also became *creeks.* That variations of discharge volumes existed simply led to scalar variations in *creeks.* Use of the generic faced competition from *brooks* in New England and *branches* in the South. Nevertheless, *creek* became the most commonly occurring term for a small stream in the eastern United States.[29]

As settlement extended toward the Appalachians, slope increased, and stream velocity with it. Stewart mentions a comparison of stream velocities by noting that *branches* in Virginia and Maryland "had little current and could not so well be called *runs.*"[30]

Runs, then, were (and are) swift-flowing tributaries of either *creeks* or rivers. Increased velocities of runs *vis-à-vis* creeks had to have been perceptual, for surely no effort was made systematically to determine velocities until relatively recently. Most gauging stations in the Potomac Basin have been in existence only thirty or forty years, although occasional data may be found which date from about 1900. Whether the perceived higher *run* velocities were relative to the *creeks* into which they flowed or only that the basins which were occupied by *runs* were tributaries is not known. The perceived difference in velocity is still unverified, despite several references to it in the literature.[31] Validation is inferred, however, from the morphometric data in this study.

Hollows represent a toponymic enigma. From the literature a *hollow* generally is a term for a lowland. No study has been found which indicates how that term came to be applied as a generic to small streams. Further, while *runs, creeks, brooks, branches,* and *forks* have regional concentrations of usage, *hollows* do not.[32] The fact remains

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[26] Stewart, *Names,* p. 59.
[27] Heckewelder, p. 38.
[28] Stewart, *Names,* p. 59, and McJimsey, p. 19.
[29] Kurath, p. 61.
[30] Stewart, *Names,* p. 60.
[31] Stewart, *Names,* p. 60; Kuethe, p. 259; McJimsey, p. 27; Zelinsky, p. 322.
[32] Zelinsky, p. 337.

that *hollows* represent an attempt to ascribe characteristics of streams and stream basins which are hierarchically related to *runs* and *creeks.*

Despite overlapping distributions of *runs, creeks,* and *hollows* and with no definitive standard connotations implicit in either the rendering of those terms or in the later mapped acceptance of generics already in local usage, a hierarchy was rather consistently applied in Western Maryland and adjacent counties of what now is West Virginia. Whatever the true perceptions may have been—the full nature of the interrelationships between toponymy, other cultural phenomena, and the physical environment—the hierarchy discerned more than just ranking of size.

It is true, of course, that *creeks* drain basins which are larger than *runs* which, in turn, are larger than *hollows.* However, stream basins are organized, structured, and functional systems. And from the summary statistics in Table 1 it is apparent that the internal organization is different among *creeks, runs,* and *hollows.* In general agreement with Horton's laws of drainage composition,[33] *hollows* have shorter stream lengths, fewest stream numbers, and steepest mean slopes compared to *runs* or *creeks,* which represent the other end of the range. Secondary attributes of relief, drainage density, and stream frequency are greatest for *hollows* and least for *creeks.*

Burrill noted that the Board on Geographic Names encountered many examples of differing interpretations of meaning in an attempt to standardize geographic names.[34] Considering the ethnic and cultural diversity of settlement history in the United States, it is perhaps too much to expect that a single standardized connotation can be identified for each toponymic generic. That regional differences in connotations exist is both self-evident and the prospectus of additional study, both for those interested in geographic names and for those working in geomorphology. Certainly the use of morphometric properties provides a means for arriving at regional, if not standard, connotations.

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[33]Robert E. Horton, "Erosional Development of Streams and Their Drainage Basins," *Bulletin of the Geological Society of America,* 56(1945), 275–370.

[34]Meredith F. Burrill, "The Language of Geography," *Annals of the Association of American Geographers,* 58(1968), p. 3.

Table 1. Summary Statistics for Selected Morphometric Variables

Variate	Runs		Creeks		Hollows		F-Ratio[a]
	Mean	SD	Mean	SD	Mean	SD	
Area (mi^2)	3.44	1.78	10.27	6.88	1.55	1.03	24.51
Perimeter (mi)	8.60	3.29	15.50	5.88	6.01	1.58	30.13
Relief Ratio	2.43	1.58	1.65	0.66	3.41	1.59	19.88
Cumulative Stream Length (mi)	32.87	21.20	85.79	63.30	19.71	13.20	15.95
Drainage Density (mi/mi^2)	9.63	2.78	8.52	1.44	12.94	2.61	19.09
Total Stream Numbers	193	171	378	307	145	119	6.59
Stream Frequency	57.47	35.43	37.07	13.01	95.48	40.93	17.01
Mean Slope (ft/mi)	285	136	208	101	441	223	10.79

[a] Tabled value of F .99 df 2,58 = 4.98.

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