

## Frank H. Galbraith's Railway Mail Service Maps, 1897

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Frank H. Galbraith, a clerk with the Railway Mail Service, developed railway maps in the late 1800s to assist railway mail clerks in learning complex railway mail distribution networks for civil service examinations. Galbraith's maps were based on the premise of associating a picture with words in order to create strong first impressions and retain spatial relationships in memory. These maps are highly pictorial in nature and represent the cultural and regional influences in the choice of pictorial images drawn. This paper discusses the political influences that were the impetus for developing Galbraith's maps, the cultural and regional contexts inherent in the maps, and the effectiveness of the maps as mnemonic devices for their intended use.

### INTRODUCTION

*"Galbraith's maps were mnemonic devices based on the premise of associating a picture with words and instilling a strong first impression and association of ideas."*

*"These maps not only helped railway clerks understand their spatial surroundings but also were representations of a method Galbraith believed was effective for people to conceptualize their surroundings spatially."*

Frank H. Galbraith, a clerk with the Railway Mail Service, developed railway maps, informally known as "Gal's Maps," in the late 1800s to assist railway mail clerks in learning the complex railway mail distribution networks. These maps served as memory aids that helped railway mail clerks learn the specific location of counties, routes, and post offices in various states. Galbraith's maps were mnemonic devices based on the premise of associating a picture with words and instilling a strong first impression and association of ideas. While Galbraith's purpose in developing these maps was to create an effective tool for understanding the world in spatial terms, these maps to the historian are symbolic mirrors of political and cultural motivations in the late 1800s. Not only is culture apparent in the choice of pictorial images, but it is also the driving force behind the map's development. The maps' purpose as a memory *tool* reveals to the historian a new value of map production, unlike that of other maps in that era. These maps not only helped railway clerks understand their spatial surroundings but also were representations of a method Galbraith believed was effective for people to conceptualize their surroundings spatially. Galbraith's maps represent more than pictorial place-names. The use of these maps reveals a conceptual process that, although common in the cognitive sciences today, was relatively new in the late 19<sup>th</sup> century.

In order to understand the context in which Galbraith's maps were developed, this paper will discuss the political influences that were the impetus for developing Galbraith's maps, the cultural contexts inherent in the maps, and the effectiveness of the theories for which Galbraith intended for the maps' use. These theories, emphasizing Galbraith's importance of memory retention, will be revealed by parsing out the representative qualities in his maps and incorporating the semiotic ideologies of Charles Sanders Peirce and Ferdinand de Saussure.

### Civil Service Examinations

The impetus behind Galbraith's creation of these maps is a result of an extensive examination process required by the Civil Service Commission. In an effort to separate politics from the post office, the United States Congress passed a Civil Service Reform Act in 1889, which required Railway Mail Service employees to be hired based on merit, rather than by Congressional appointment (Columbian, 1903). Mail clerks were on probation

for a 6-month period, during that time they studied the rail schemes and were tested every thirty days on their progress. By the end of the 6-month probation period railway mail clerks were expected to “distribute accurately” to 1,500 post offices and were required to read about 100 envelopes in 7 to 12 minutes with 5 to 10 errors (Cushing, 1893). Thus, the examinations were particularly difficult. The importance of the extensive examinations is evident in this statement by the committee on Post Offices and Post Roads:

The improvement in case examinations has necessitated a great deal of additional study on the part of the Railway Postal Clerks, i.e., the greater portion of the “lay off” or time off duty is now devoted to the hardest kind of hard study and nothing is accepted by the Department as a credible examination unless the clerks make a record of ninety-eight percent, or better, which is a higher standard than is demanded or expected by any other profession or calling.

– *Committee on Post Offices and Post Roads of the 50<sup>th</sup> Congress as quoted on an advertisement for Galbraith’s Railway Mail Service maps (McEwen, 1897)*

The spatial information that the railway mail clerk had to memorize was extensive. They were required to know how all the mail for any office within the state reached its destination, and they had to pass the exams with 98% accuracy (Cushing, 1893). The subject areas on which the clerks were tested were weighted based on their importance (Table 1). The strongest emphasis was placed on geography, railway systems, and addresses, all of which are spatially based subject matter. The examination included questions concerning the location and proximity of cities to rail lines, water bodies, political boundaries, and the principal rail and road connections and railway centers. Railway mail clerks were also responsible for reading addresses accurately and knowing where the addresses were located.

The time leading up to the development of Galbraith’s maps in 1897 was characterized by a significant increase in the general operations of the Railway Mail Service. The number of pieces to be sorted more than qua-

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| Subjects                              | Relative Weights |
|---------------------------------------|------------------|
| Orthography (spelling)                | 1                |
| Penmanship                            | 1                |
| Copying                               | 2                |
| Letter-writing                        | 1                |
| Arithmetic                            | 2                |
| <b>Geography of the United States</b> | <b>4</b>         |
| <b>Railway Systems</b>                | <b>5</b>         |
| <b>Reading Addresses</b>              | <b>4</b>         |
| Total of Weights                      | 20               |

Table 1. Relative weights given to sections on the Railway Mail Service examination (Cushing 1893).

*“Galbraith assures the Railway Mail Clerk that by using the maps, one will not only improve oneself, but will also improve and benefit the public service.”*

drupled between 1896 and 1898 and the complexity of the rail schemes<sup>1</sup> attributed by rail lines and route mileage doubled (White, 1910). The demands placed on the railway mail clerk were critical, making studying route schemes a difficult and tedious process. The schemes were not geographically based and were derived from many sources, mostly local, such as clerks, postmasters, contractors, and stage drivers. Post route maps were seldom used because they were not widely available (White, 1910, 9). Therefore, the distribution scheme was represented in the form of a list completely lacking the visual spatial relationships that are inherent in maps. Although maps may not have been widely used, railway clerks had these distribution networks spatially memorized: “In [the clerks’] minds they had accurate maps that included every post office in a dozen states, and the right railway mail route ” (Borchert, 1999, 18).

The standardization of and emphasis on geographical knowledge among Railway Mail Service employees prompted widespread production of schematic maps by centralized administrations. Various correspondence schools, such as the Columbian Correspondence College in Washington D.C. and the International Correspondence School in Scranton Pennsylvania, provided study courses for the civil service examination but did not offer schematic maps for the purposes of study until after 1900 (Columbian, 1903). The Post Office Department began to publish maps specifically for use in the railway system by the 1880’s, but these maps may have proven to be ineffective study aids thus providing a need for Frank Galbraith’s Railway Mail Service maps.

### **Galbraith’s Railway Mail Service Maps**

Frank H. Galbraith was a Railway Mail Service clerk for 15 years before creating his maps. His long history and understanding of the functioning of the Railway Mail Service gives credence to the value of the maps among the Railway Postal Clerks. At a time when employment in the Railway Mail Service was based upon skill rather than patronage and perhaps in response to the fear of waning patriotism in the wake of Civil Service Reforms, Galbraith assures the Railway Mail Clerk that by using the maps, one will not only improve oneself, but will also improve and benefit the public service (McEwen, 1897).

*“Galbraith emphasized his own associative ideas with place-names and chose pictures that would most effectively create an impression in the railway clerk’s mind regardless of the actual origin of the placename.”*

He introduced the railway scheme as a visual and spatial entity by associating pictures with words on the maps to heighten the interest in studying. The maps were marketed by the McEwen Map Company in Chicago (*Figure 1*), were hand drawn and used solely by Railway Mail Service employees and Post Office mailing clerks; they were not intended for the general public. The maps were rented for \$1 a week with a deposit of \$10, which many thought was excessively pricey, evidenced by the McEwen Map Company having to justify the expenses on advertisements. Eight maps are known to exist for the following states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, and Nebraska.

Galbraith’s maps were visual mnemonics that used pictures indicative of the political and social culture at the turn of the last century. His purpose in developing these maps was to use pictures that would associate placename and picture in a familiar context. Although places were often named after postmasters or railway officials, the pictures chosen by Galbraith to represent the placename seldom made such obvious references. Instead, Galbraith emphasized his own associative ideas with placenames and chose pictures that would most effectively create an impression in the railway clerk’s mind regardless of the actual origin of the placename.

Galbraith’s purpose in the design of his maps was to selectively incor-



Figure 1

porate only those features relevant to the study practices of the railway mail clerk. Many railroad maps published at the turn of the century were crowded with copious amounts of type, lines, and various information, typical of maps made for the railroad industry employing cerographic engraving techniques (Woodward, 1977). These crowded maps were considered inappropriate for the use of studying geographic places. Postal maps were particularly guilty of this practice:

In selecting a physical map, avoid, as a general rule, those that are overlaid with typography. Out of deference to the prejudices, or perhaps to the ignorance, of purchasers, the cartographer often endeavors to make the same map serve for natural, historical, and actual political conditions, and consequently he obscures the sheet by a profusion of names. There are, of course, reasons why certain maps must be covered with words, – that is what a postal map is for. (Gilman, 1891)

Galbraith's maps are selective in the sense that not all offices are illustrated with pictures. Urban areas with densely placed railroad post offices (Figure 2) and sparse rural areas with few or discontinued offices (Figure 3) typically are void of picture placenames. No designs are made where junctions are more easily memorized than other offices, so junction points are not illustrated. No designs are made of offices that are of so little importance that they will be discontinued at any time. No designs are made where text is used instead of a picture. And lastly, no designs are made where there is no room for a design (Galbraith, 1898). Thus, these maps are generally not cluttered:

With an ordinary map there is no proper clue to guide the memory, nothing to create interest. It contains a lot of worse than useless dead offices, figures, rivers, lakes, etc., all crowded into the smallest possible

*“These crowded maps were considered inappropriate for the use of studying geographic places.”*

*“With an ordinary map there is no proper clue to guide the memory, nothing to create interest. It contains a lot of worse than useless dead offices, figures, rivers, lakes, etc., all crowded into the smallest possible space, and the result is confusion confounded and confounded confusion.”*



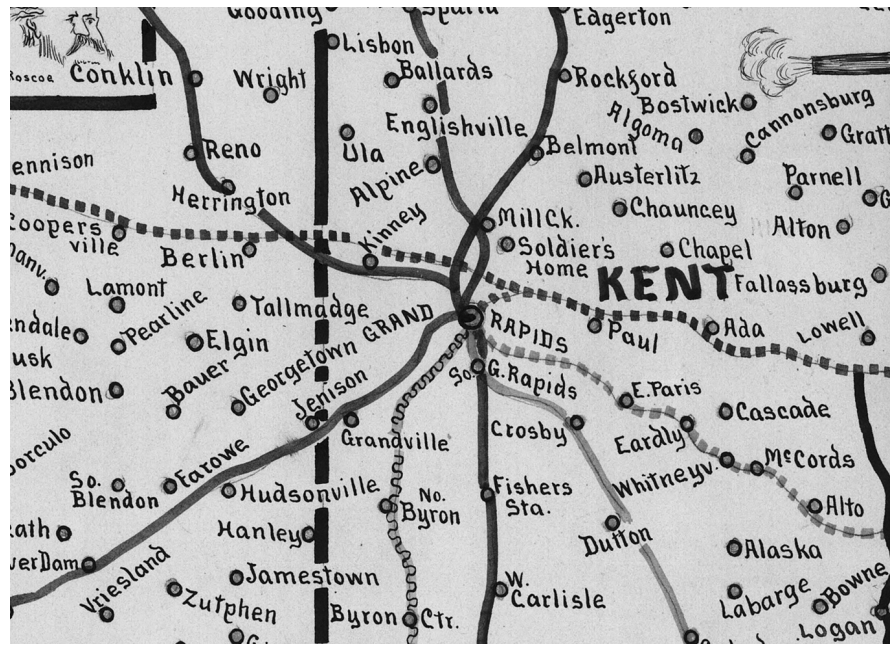


Figure 2



Figure 3

space, and the result is confusion confounded and confounded confusion. (McEwen, 1897)

*“On Galbraith’s maps, the rails are easy to find, counties are easily distinguishable, and post offices are locatable.”*

This confusion, as stated on the Galbraith map advertisement, is apparent on a Rand McNally Railroad Map published the same year as Galbraith’s maps (Figure 4). The same area of Belvidere, Illinois is represented in Galbraith’s map in figure 5. On Galbraith’s maps, the rails are easy to find, counties are easily distinguishable, and post offices are locatable. Thus, these maps only contain information that is relevant to the operations of the Railway Mail Service. The Civil Service Examination strongly emphasizes spatial proximity to rivers and major bodies of water but Galbraith chooses to omit this information from his maps. We can conclude



Figure 4. Railroad map of Illinois prepared under the direction of, and presented by, Cicero J. Lindly, Chas. S. Rannels, and Jos. E. Bidwell, railroad and warehouse commissioners. 1898.

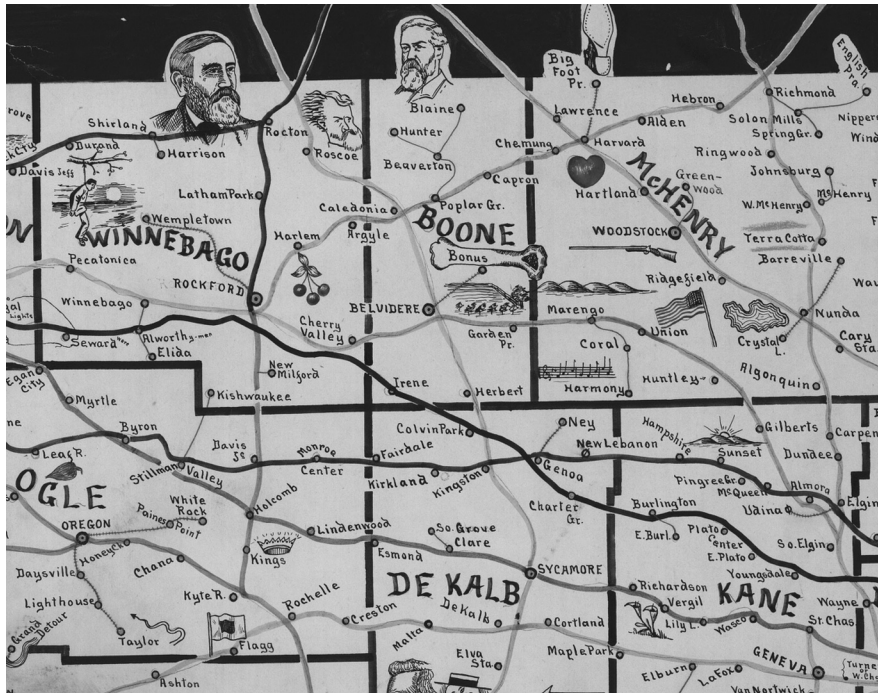


Figure 5

from this and from his narrative on how to use the maps that the purpose of these maps was to focus on the spatial proximity of placename to rail route and not on the proximity to natural features.

“Four Points of Merit” are of value in Galbraith’s maps (McEwen, 1897). First, the maps contain no useless rivers, lakes, dead offices, local names, or miles between one town and another, section lines, etc. Sec-

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*“The McEwen Map Company, which handled the marketing and rental of the maps, claimed the maps were correct to date, meaning that 50 to 250 corrections having to do with offices established or discontinued, name changes, etc. could be made in a year.”*

*“An act or deed in the life of Blaine may occur to you, or it may occur to you the artist made a very poor likeness and that you could do better yourself. No matter what the thought, it has created a slight interest and made an impres-*

*“The effectiveness of associating an idea and creating a strong impression is based upon a continuum of conventions whereby the more enriching associations are more deeply embedded in cultural contexts.”*

ond, they are the “largest and plainest maps ever made.” Third, each railroad system is shown “in a different color or design,” which make the lines easy to distinguish. And fourth, using the maps to study post office locations will help information to be “retained longer than by the use of former methods.”

Galbraith’s maps were not printed, were hand-made, and hand copied. It appears that the maps were first laid out in pencil and then traced with a wide-nib ink pen. The Library of Congress notes on the Minnesota map bibliography only that the map is a hand-colored gelatin transfer. Although all eight maps were copyrighted in the same year (1898), variation in the typography and pen style among the maps may be evidence that the maps were developed over quite some period of time. The McEwen Map Company, which handled the marketing and rental of the maps, claimed the maps were correct to date, meaning that 50 to 250 corrections having to do with offices established or discontinued, name changes, etc. could be made in a year. The Library of Congress has two copies of a map for each state, and they comprise several sheets varying in size depending on the state (Modelski, 1975).<sup>2</sup>

The McEwen Map Company’s predominant marketing theme was based upon the improvement of memory. They state that to properly use Galbraith’s Railway Mail Service maps it is necessary to use “Three Scientific Facts” in memorizing a scheme:

1. A strong impression or interest
2. Association of ideas
3. Repetition

This is how Galbraith suggests one should use the maps (*see Figure 6*).

First, one should mix their office cards thoroughly for a group of counties which lie together. Then, locate the office on the map and carefully study the connection between the design and the office in order to made a forcible impression on your mind. We will suppose the first card is Blaine, Iowa. You look in Buena Vista County and notice the face of Blaine. Now connect the office with the picture, give it some thought before you take up another card. An act or deed in the life of Blaine may occur to you, or it may occur to you the artist made a very poor likeness and that you could do better yourself. No matter what the thought, it has created a slight interest and made an impression. The result is when you come to that office again you will be surprised how well you have remembered it. You will not have to flounder around all over the map, hardly knowing whether you had handled the same card perhaps twenty minutes before (McEwen, 1897).

### **Semiotic ideology**

Research has shown that pictures that depict the text’s spatial and relational content can facilitate the retention of information from that text (Dane-man and Ellis, 1995). Galbraith’s pictorial representation of placenames and post office names serves to support this hypothesis. Each sign determines a particular level of cognitive interpretation from the map user’s perspective; that is, the relationship between the pictorial image and the placename the image stands for varies depending on the degree of cultural convention, or “arbitrariness,” inherent in the relationship (Boon, 1979, 87). The effectiveness of associating an idea and creating a strong impression is based upon a continuum of conventions whereby the more enrich-

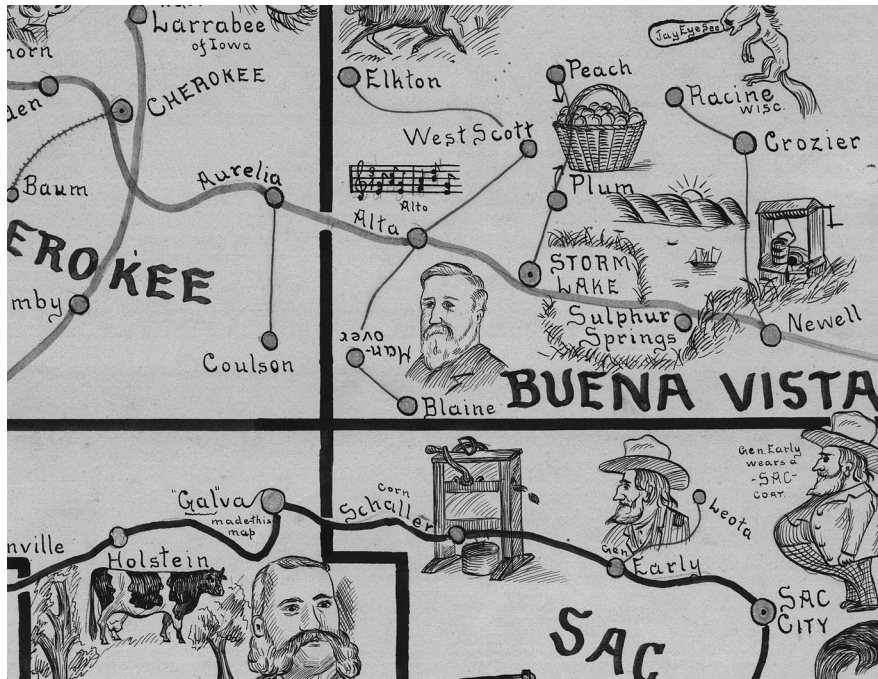


Figure 6

ing associations are more deeply embedded in cultural contexts. Memory retention increases along this same continuum, reflecting Galbraith’s idea of “creating a strong impression” and “an association of ideas” (Figure 7).

Peirce’s classification of icons, symbols, and indices and Saussure’s theory of arbitrariness can be generally applied to Galbraith’s representations as follows: Icons are direct representations based on perceived likeness and resemblance (Liszka, 1996, 37). The interpreter, in this case, the railway mail clerk, is the least involved in interpreting a picture-word association. Likewise the degree of contextual convention inherent in the picture-word association is minimal. Indexical signs are signs where the form that the sign takes (in this case the pictorial image) is contiguously or factually connected in some way without perceived resemblance to what the sign stands for (the placename) (Liszka, 1996, 38). Symbols are abstract representations expressed through a word or part of a word and are based solely on context (Liszka, 1996, 39). It is here where the depth of social constructs determines the pictures’ effectiveness in retaining the placename in memory. The mind takes a “conceptual leap” and is the most highly involved in interpreting the sign.

*“... some of the pictures are ‘farfetched,’ but this is good because it ‘creates interest.’”*

### Text and Pictures as Mnemonic Elements

Galbraith’s advertisement mentions that some of the pictures are “far-

|                       | Icon   | Index | Symbol  |
|-----------------------|--------|-------|---------|
| Interpretation Level: | Lowest | →     | Highest |
| Memory Retention:     | Lowest | →     | Highest |
| Degree of Convention: | Lowest | →     | Highest |

Figure 7



*“... the more involved one becomes in interpreting its meaning the higher the likelihood for memory retention.”*

fetched,” but this is good because it “creates interest.” According to Galbraith, pictures that are more farfetched and interesting will have the highest propensity to be retained in memory. In figure 8, the placename “Bechyn” is a word that is not intuitively associated with a tangible object. However, Galbraith creates an indexical association to the beach, through the use of homonym, and by using a picture of a person in a bathing suit. The map user makes an external association with a bathing suit and the beach, and thus a person on the beach in a bathing suit must be “Beaching.” The association in this example is quite “farfetched,” but the more involved one becomes in interpreting its meaning the higher the likeli-

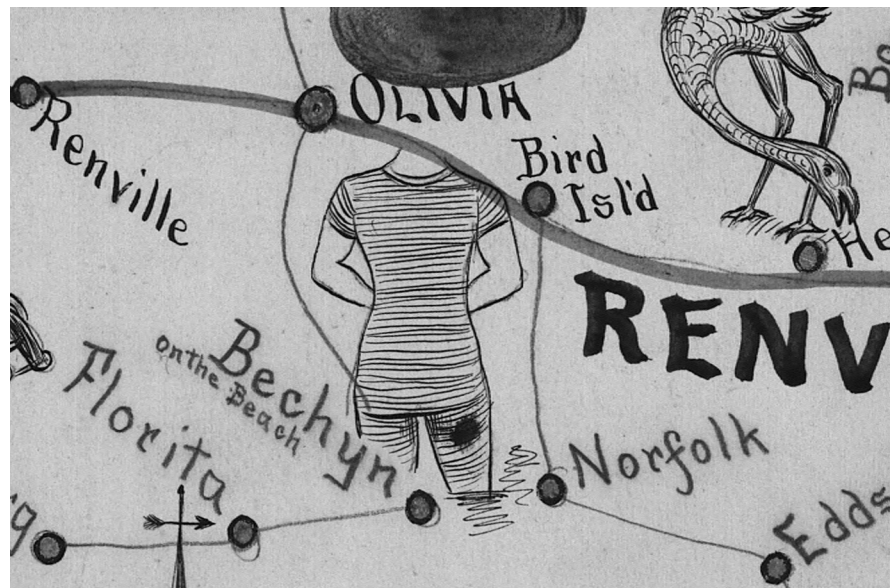


Figure 8

hood for memory retention.

Galbraith manipulates the form and design of text characters by relating a sense or meaning associated with an object. The difference between form and design of text is that form involves the placement of the text and design involves the style of the characters. Figure 9 has examples of text manipulated by form and design. The formation or color of the letters signifies the meaning of the words represented. The letters in “Lehigh” aren’t actually high but having them placed in a vertical position gives us the impression that the letters are getting higher. Likewise, with “Hanover” the words are turned over.

*“Galbraith manipulates the form and design of text characters by relating a sense or meaning associated with an object.”*

In the pictures in figure 10, a more sophisticated level of interpretation is required than that of purely textual elements. “Echo” is an icon; it resembles what it is signifying by spelling out onomatopoeia. The dollar sign is a symbol for the meaning of “Rich.” The picture of “Summum” is indexical. The numbers shown in three rows with a total line indicates a sum. We are heavily involved in this sign and use the text as a guide to determine the arithmetic function. The picture depicting John Hancock’s signature represents various levels of convention for interpreting the sign. In its iconic and indexical form, Hancock’s name directly establishes a connection between the signature style and John Hancock the individual, which requires minimal context to make this connection. A high level of cultural context is inherent in its symbolic form because by convention we

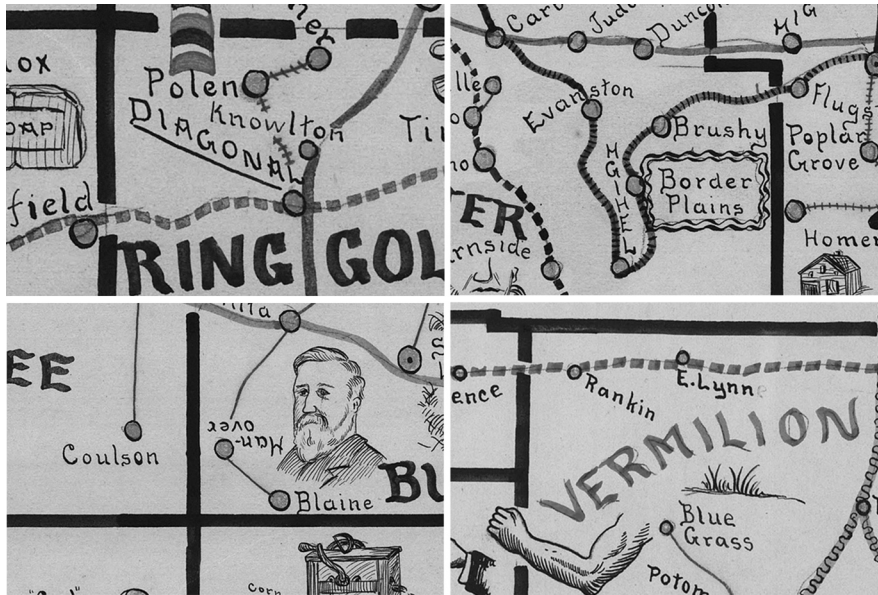


Figure 9

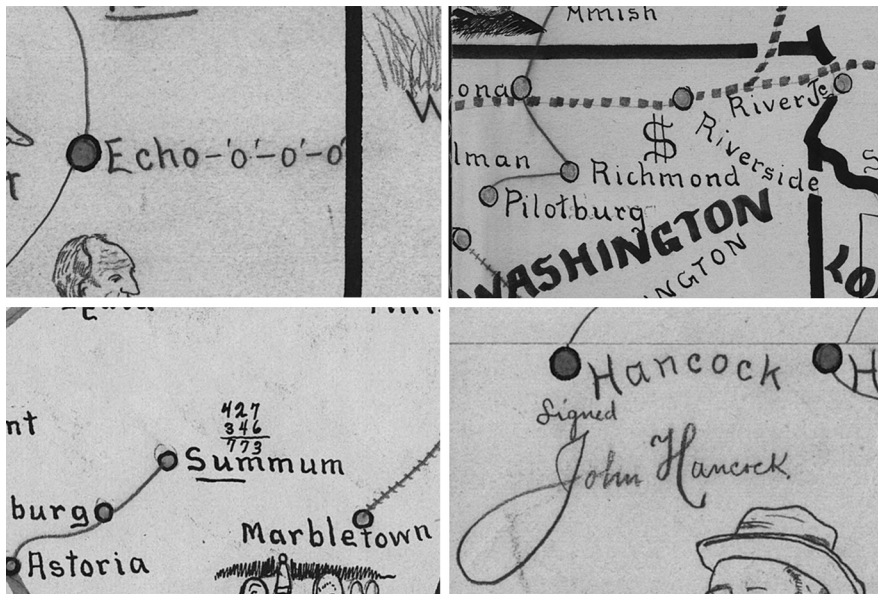


Figure 10

associate John Hancock with his historically significant signature.

By associating a symbol to the placename, rather than an icon or index, a more in-depth interpretation is required. For example, in figure 11, Galbraith uses an identical picture to represent two different place-names. A frog picture is used iconically in "Frogtown" and symbolically in "Hopkinton." A picture of a fork is used iconically in "Fork" and either iconically or symbolically in "Sterling." "Hopkinton" and "Sterling" have a higher level of involvement in the interpretation of the sign. In figure 12, an example of Galbraith representing different objects using a similar picture is shown where a picture of St. Nicholas is an icon and a symbol of Christmas and a "Holliday." "Webster" is represented by different pictures with an iconic portrait and a symbolic dictionary; text is added to help the interpreter with the context.

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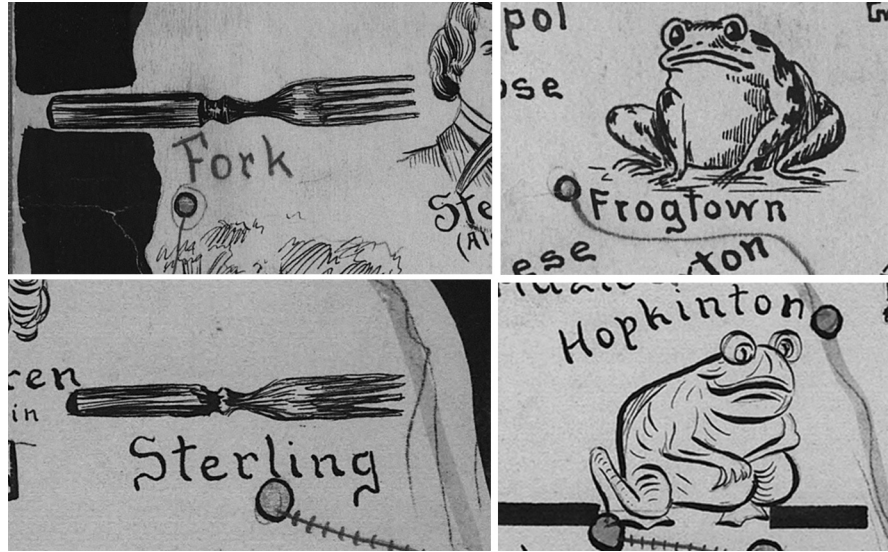


Figure 11

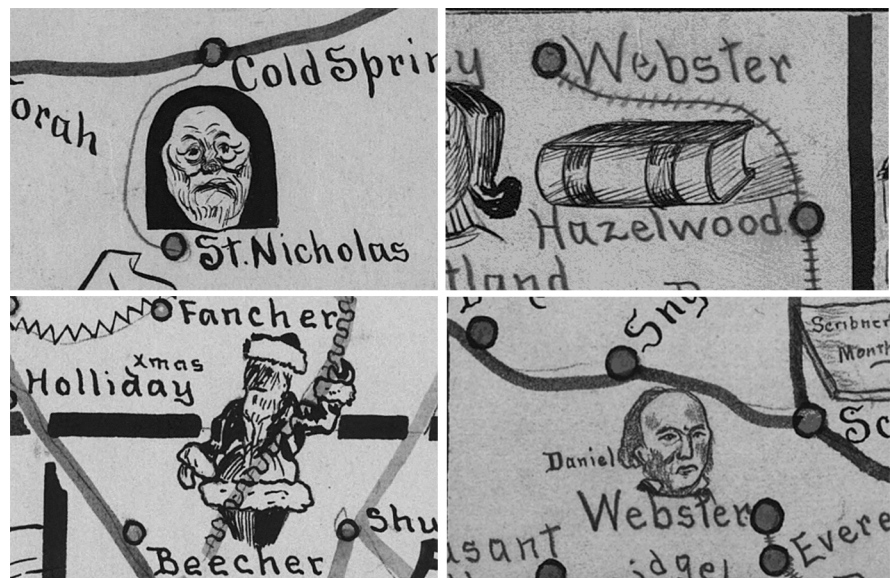


Figure 12

### Pictorial Themes in Galbraith's Maps

The temporal, regional, and political culture can be revealed by analyzing different categories of pictorial themes inherent in the maps. The most striking theme Galbraith uses is the skull and cross bones to represent places named after saints (Figure 13). Commonly regarded today as a symbol of danger, the skull and cross bones is used conventionally as a warning on poison bottles and mining sites. However Galbraith's use of the skull and cross bones is indicative of a different convention not as widely familiar in modern culture. His use of the skeletal symbols exemplifies the veneration of relics within several religious faiths, notably that of Roman Catholicism.

In the early history of Christianity, the dualism of the body and soul



Figure 13

is the belief in that humans have two forms of life, one being of flesh and one guided by spirit (Obayashi, 1992, 110). People began to venerate their dead bodies, and so churches were built over saints' graves or their bodies (or parts of them) were buried under the altars. These relics serve as a symbolic memorial of the departed saint in mortal form. Galbraith's use of the skull is a representation of the mortality of human life and uses the skull and cross bones not only in symbolic contexts, but also as an icon as representations of Hell and a skeleton (Figure 14).

Galbraith's maps indicate a nationalistic political climate, which is apparent through the common use of the American flag as both symbol and icon. In figures 15, 16, and 17, the level and involvement of interpretation increases as the contextual convention inherent in the picture-word association increases. The symbolic representation of the Union expresses the inherent nationalism and obvious cultural attitudes regarding the Confederacy. The picture of the Confederate soldier "Marching through Georgia" may be considered a symbol of Atlanta but also makes an indexical reference to the South in general by "pointing to" Atlanta as the focal center of the South. Galbraith's use of the American flag signifies nationalism on several levels, and the text accompanying the pictures determines the depth of semiotic interpretation required.

Early caricatures in the United States stem from their use as political weapons and were widely disseminated as lithographic sheets and then in political newspapers and magazines (Bishop, 1892). Galbraith chose pictures of individuals who were highly recognizable either visually or conceptually. Galbraith's caricatures seldom reference local personas;

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*"Galbraith's caricatures seldom reference local personas; typically these caricatures are of a nationalistic, or political nature, or are persons that are recognizable with the Railway Mail Service organization."*



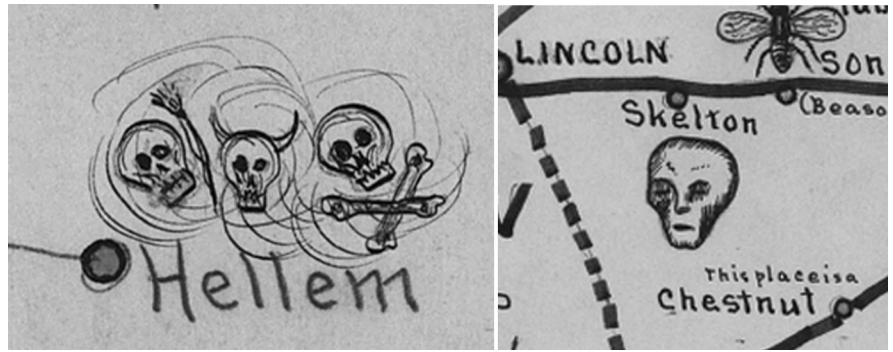


Figure 14

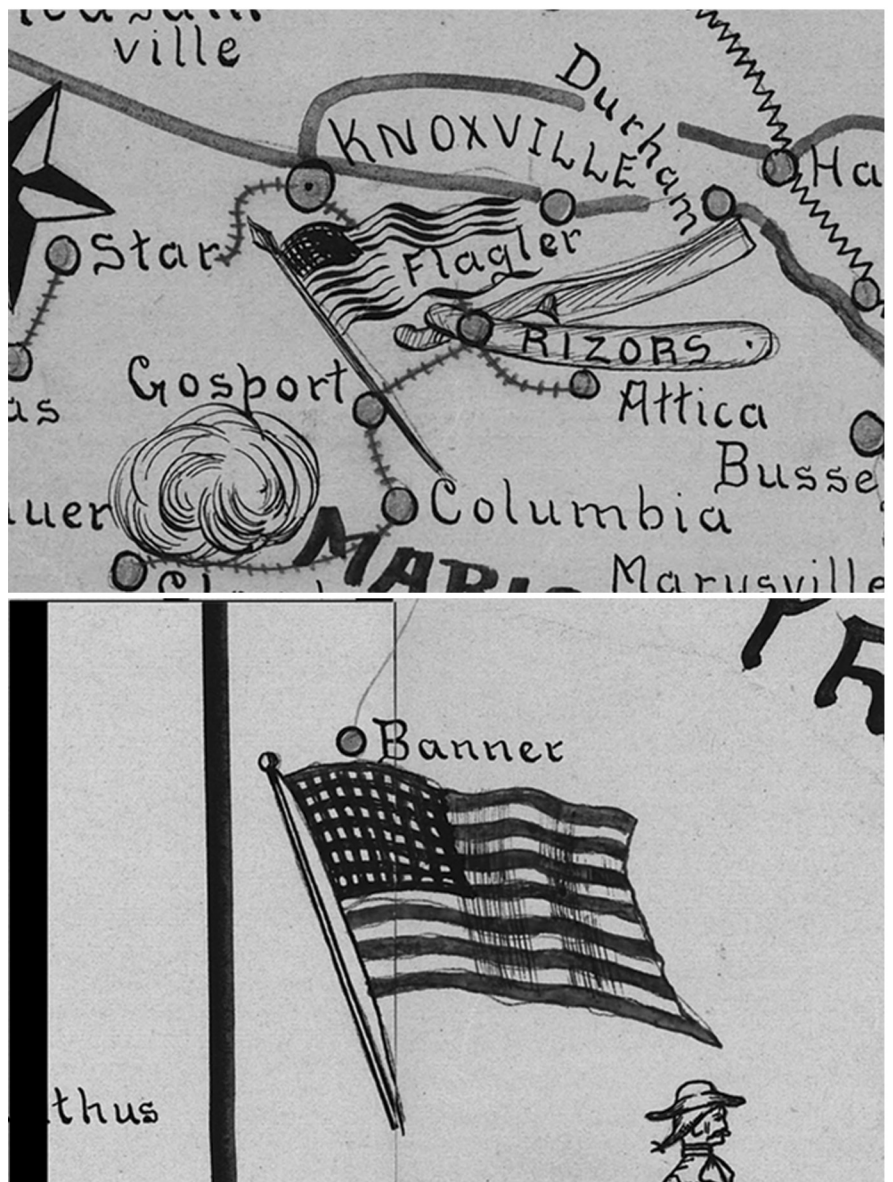


Figure 15

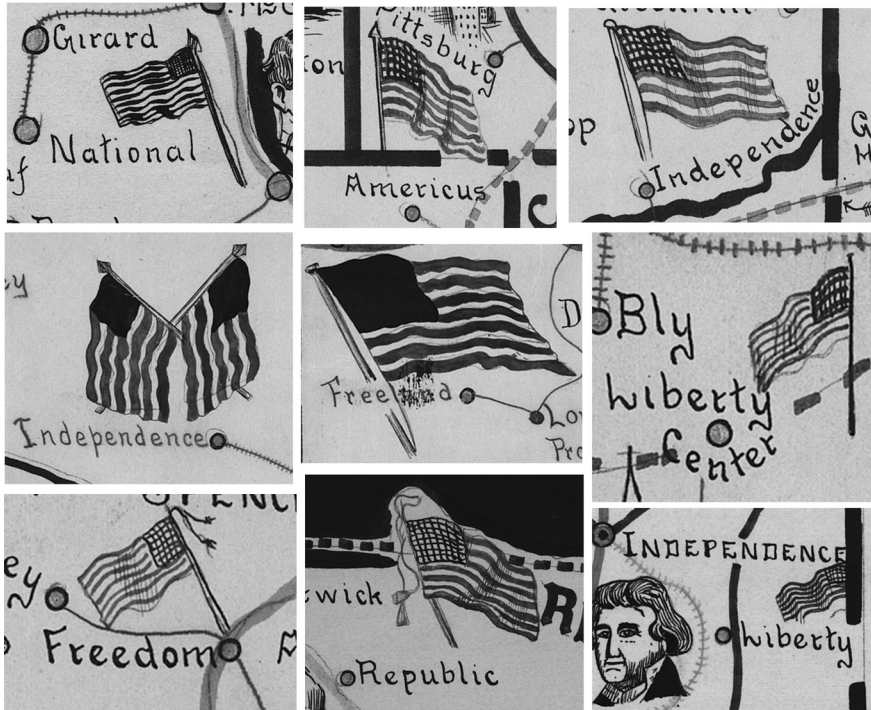


Figure 16

typically these caricatures are of a nationalistic, or political nature, or are persons that are recognizable within the Railway Mail Service organization. The caricature's qualities are based on exaggeration, so it seems quite appropriate that Galbraith would utilize these qualities to make an impression on the mind. For example, for the placename "Burr" Galbraith uses a picture of Aaron Burr and incorporates actual 'burrs' around his face (Figure 18).

Because many placenames originate from the names of national and political figureheads, Galbraith's drawings often represent the individuals in the context of their career, political contribution, or other association. One such example is that of British General Charles George Gordon, nicknamed 'Chinese Gordon,' for his invincible lead in suppressing the Taiping Rebellion in 1864, one of the worst civil wars in history. He was killed in a battle in Khartoum, Sudan in 1884 at which point his name was brought to the forefront of American and British foreign affairs, thus making him a hero, martyr, and global symbol of the Chinese (Figure 19).

That Galbraith uses images that are most familiar heightens the process of retaining the placename in memory and is a reflection of cultural values and racial attitudes in the maps. Racial and ethnic stereotypes, particularly of African-Americans, are disturbingly evident by the exaggeration of facial features, blackface portrayal, an association of African-Americans with 'porter,' 'Dixie,' Deep South, and African contexts (Figure 20). The selection of such images alone, over other possible associations, is an indication of the underlying notions of racial superiority among Whites, as these images were intended to be symbols of the place-names depicted.

Another theme present in the maps is Galbraith's frequent use of a beer stein. The beer stein is not only used as an icon (Figure 21) but it is also stereotypically used as a symbol of German heritage (Figure 22). Drinking beer, in particular, German beer, may have been a common practice indicative of the social culture among the railway mail clerks and is evidence of the presence of the German population so predominant in the Midwest at the end of the 19<sup>th</sup> century.

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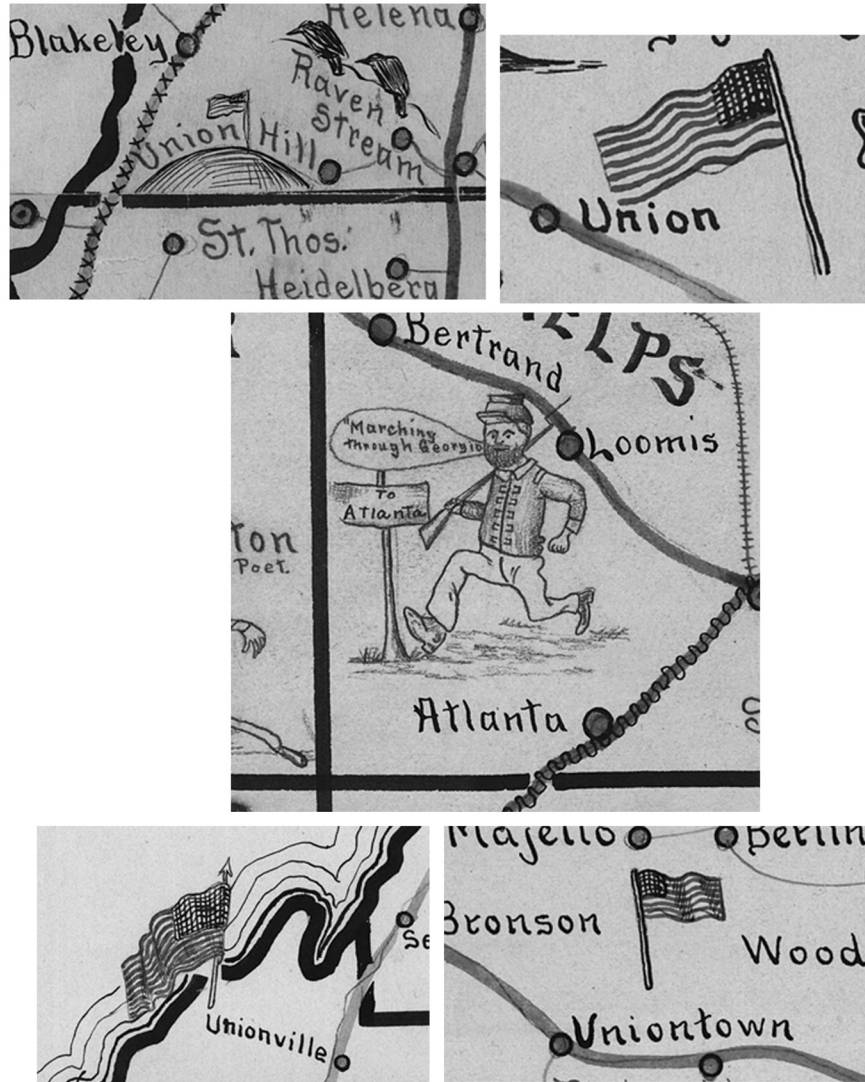


Figure 17



Figure 18

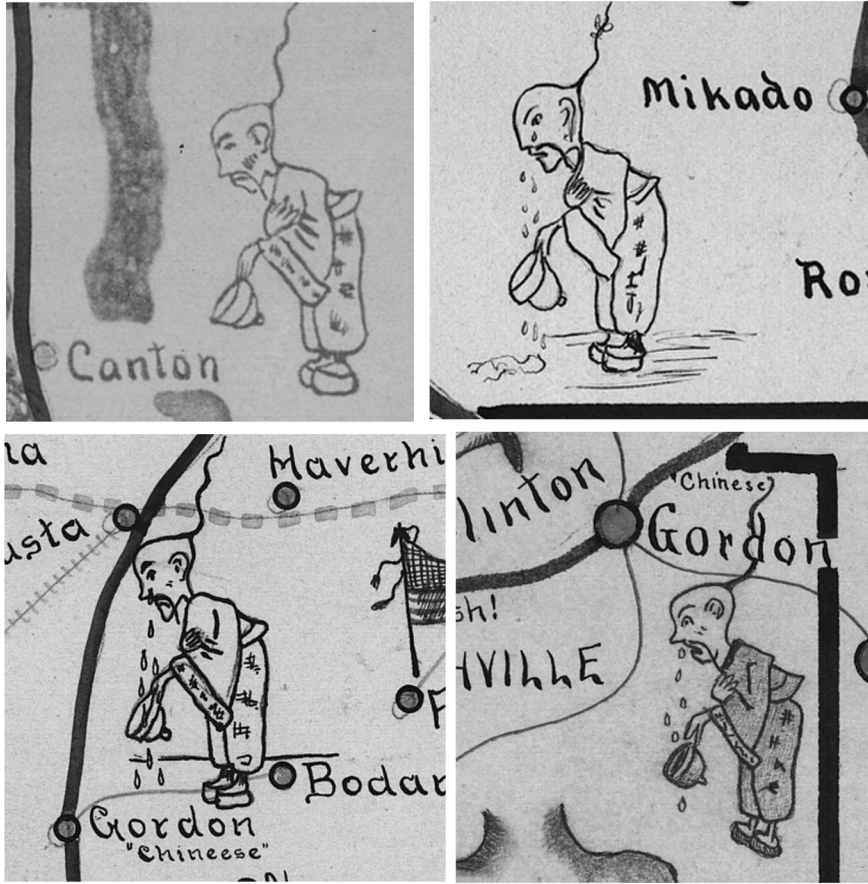


Figure 19

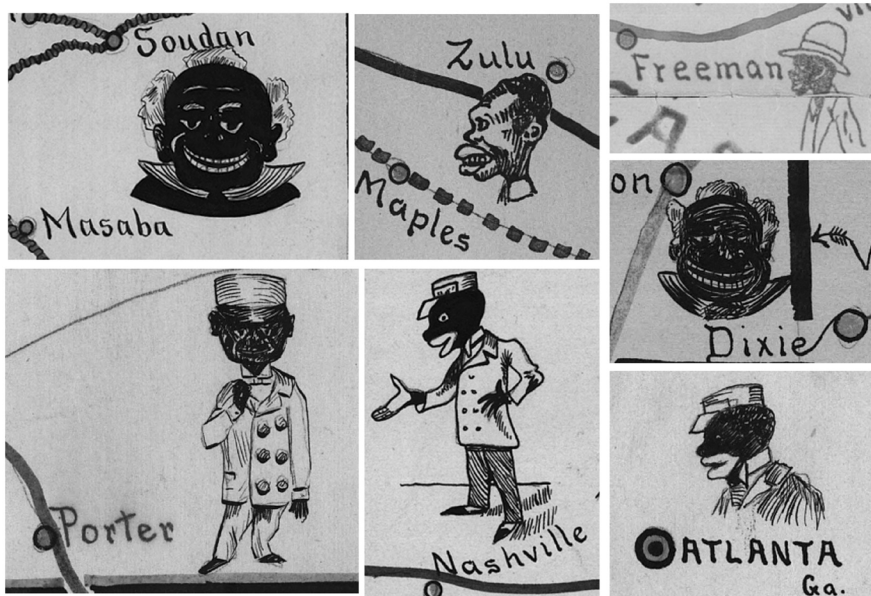


Figure 20





Figure 21

*“Developed locally, the maps are somewhat detached from the federal organizational culture in that their design is not confined to cartographic design standards set forth by the Post Office Department.”*

### Map as Sign

The ordinary map confuses and distracts the learner while “Gal’s” map interests and guides the memory. It calls into play faculties of the mind which other maps do not. It creates interest in dry names to be memorized. The mind is disciplined and strengthened and the habit of connecting and developing new ideas from stale names is formed.

– McEwen Map Company, Chicago, 1897

In the above statement, the McEwen Map Company says the maps assist in “connecting and developing new ideas.” Their main emphasis may have been not on the *new* ideas, but on the relationships of *existing* ideas. This existing knowledge is the main premise of Galbraith’s creative maps. He carefully chose pictures that were most common and mainstream within the local culture at that time. Galbraith’s maps are a sign because they represent a linking of individual interpretations and understanding and combine them into one contextually derived culture.

This derived culture is defined and mapped, however, at local rather than national scales. Developed locally, the maps are somewhat detached



Figure 22

from the federal organizational culture in that their design is not confined to cartographic design standards set forth by the Post Office Department. The maps were made by a railway mail clerk for a railway mail clerk, which separates the institutional nature of federally standardized maps from the artistic yet creatively functional purposes that make Galbraith's maps so culturally enriching.

Oftentimes maps may be developed to lay claim of authority by mapping the extent of one's power. This is not the motivation behind the development of Galbraith's maps. The motivation behind the maps' development is reactive to political influences but is not an indicator of active political motives. The political influences are revealed within cultural contexts of the pictures, not through the overriding motivations driving the creation of the maps. Had they been developed with such purposes in mind, the pictures represented would be stripped of the regional culture represented in the maps in order to appease a wider audience and their effectiveness would be compromised. While the maps may represent the extent of the area that the Railway Mail Service serves, its main purpose

*"The motivation behind the maps' development is reactive to political influences but is not an indicator of active political motives."*

“. . . it is the relationship among the organization, mapmaker and map user that determines the most effective level at which these associations may be

“[The maps] are symbolic in that they reflect and stand for an organizational need and symbolize the creative freedom needed for their creation.”

is not to promote the extent as whole, rather, it is to focus on larger scale associations within local contexts. The purpose of the maps as a learning tool is defined more clearly as a representation of culture, rather than through political motivation.

While the depth of the relationship between picture and placename helps us understand how the maps can be made most useful, it is the relationship among the organization, mapmaker and map user that determines the most effective level at which these associations may be made. At the lowest level of involvement, Galbraith's maps represent an iconic view of a map no different than that of a conventional text based map. The maps simply spell out spatial relationships among mapped elements and are merely graphic representations of mapped features. They contain elements that are conventional in most route maps; they contain routes, place-names, legend, and cartouche.

At the next level, the maps are symbolic of the cultural and political actions and events from which, we can begin to tell the story behind the maps' creation. They are symbolic in that they reflect and stand for an organizational need and symbolize the creative freedom needed for their creation. These actions and events lead to a higher level of involvement where a map is transformed from events and actions toward meaning and ideas through cartographic process. They are indirect and direct representations of culture, intellectual process, and bring about new ideas and relationships between existing knowledge and mapped features.

How do Galbraith's maps assist the railway mail clerk in understanding the world spatially? The association of a picture with one's personal ideas appears to be rather one-dimensional. One place equals one picture. Although Galbraith's maps sometimes combine several place-names into one picture through text or exaggeration, his methods do not spell out spatial relationships any more differently than they would on a conventional text-based map. Through selection, simplification, and exaggeration of certain features the railway mail clerk can focus on the spatial relationships. Additionally, the nature of the railway mail clerk's job is spatially based. The two dimensional nature of a map develops when the clerk's concepts are linked with the visual associations laid out on the maps. The clerk sorts mail in-transit between two distribution points, so already he has an inherent propensity for understanding the spatial relationships between places which are external to the map itself.

An element of mapping that is inherent in these maps is the understanding of the physical world as it is mapped onto a more abstract ideology. The pictures are "mapped" or linked with an association or purpose having to do with the context of the picture. It is the linking of the two ideas that creates the map, just like two points on a conventional map create a link. Therefore, we might say that Galbraith's maps not only facilitate the spatial understanding along two dimensions but also combine temporal, cultural, and political linkages across a myriad of spectra.

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