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THE FOLLOWING INSTANCE is reported to have occurred in Glasgow, and shows how easily measles may be spread. During the month of January, forty-two persons belonging to the congregation of a Gaelic church were taken ill with measles. Taking twelve to fourteen days as the recognized period of incubation, Dr. Russell, the health-officer, connects two serious groups of cases with the attendance at the church of two girls on Dec. 30 and Jan. 13 respectively. One of these girls, it is ascertained, had come from an infected house, while the other had actually taken the disease two days before. Two other girls who usually worshipped elsewhere, but were in this particular church on the 13th, became ill on the 26th, and other circumstances pointing in the same direction are noted. Dr. Russell considers, that, unless something like perfect isolation and disinfection can be guaranteed to a person who is suffering from infectious disease in a house, all healthy members of the household should be debarred from attendance at school, church, or other place of concourse.

THE AMERICAN DIALECT SOCIETY.

IN substance, the plan of this society is to collect and publish dialect material through an executive committee, with assistants in various places. The district secretaries will doubtless, after some experience, become more and more acquainted with the conditions and needs of their respective districts, and will thus be able to advise the executive committee with more confidence. The members of the executive committee will naturally assist in the direction of active members in their own States. Further, Professor Gustaf Karsten, Bloomington, Ind., will act as secretary for Indiana; Professor E. L. Walter, Ann Arbor, Mich., for Michigan; Professor Alcée Fortier, Tulane University, New Orleans, for Louisiana; Dr. James W. Bright, Johns Hopkins University, Baltimore, for Maryland; Mr. W. D. Armes, University of Calfornia, Berkeley, Cal., for California.

The conditions of membership have been made very easy in order to attract many members, for it is believed that the number of those who can contribute material in large or small amounts is very great. All who feel an interest in the plan of the society are invited to join it, even if they do not feel sure of contributing any thing but a membership fee. Without a large membership, the expense of printing will render publication only possible in small quantities or at long intervals. With a large membership, it will be possible to publish oftener, and to send the publications to every member without additional charge.

At the annual meetings it is not intended to have papers read. They are to be strictly business meetings, the work of publication being done through the executive committee and the editing committee. No regular issues can yet be announced, but it is hoped that it will be possible later to publish at stated intervals.

Some of the dialect variations indicated below are doubtless survivals of dialects spoken in England; others may be due to the influence of other European languages spoken in the United States and Canada, as French, German, Dutch, Spanish; while still others are probably independent developments in America. All are worth noting, and will have an attraction for linguistic students, perhaps all the greater when they appear to show the beginnings of dialectal divergence. The materials thus collected are not only interesting in themselves: they may be utilized in many ways, as in the construction of dialect maps to show how far each peculiarity extends, in comparisons with dialects in England and on the continent of Europe, in the preparation of a complete list of Americanisms, in assisting the work of lexicographers, and otherwise contributing to the history of the English language in America.

In order to give somewhat more in detail the purposes of the society, and the method of work planned by it, the dialect variations considered may be divided into two classes: —

I. VOCABULARY. — Strange, uncommon, or antiquated words, or uses of words, really current in any community. Such are *deedies* ("young fowls"), *gall* ("assurance, effrontery"), *to play hookey* or *to hook off* ("to play truant"), *to stump* or *to banter* ("to challenge"), *let the old cat die* (used of letting a swing come to rest gradually instead of stopping it), *slew* ("a great quantity"), *fool* (as an adjective), *he up and did it, he took and hit him, he's been and gone and done it, clim* or *clum* (*clomb*), *housen* (as plural of *house*), *the nagent* (for "the agent"), *sandy Pete* (for "centipede"), *to cut* or *to cut and run, to leg it, to buzz* a person (to talk with him), *buckle* ("to bend," used of ice under one's weight); likewise local names of fishes and plants, exclamations, and words used in games; also lack of common words or phrases which one would expect to find everywhere. It is the natural unstudied speech of different localities that is of interest. Many school-teachers might contribute lists of words and phrases which they perhaps have to teach their pupils not to use. Any person of education, especially if living in a different place from that where his childhood was passed, may also be able to make contributions. Even one such peculiarity found in common use where it has not already been noted has a value for the purposes of the society. Many such words and phrases have already been published in the collections of Americanisms, but much yet remains to be done in noting unrecorded usages, and in defining limits of use geographically and otherwise.

II. PRONUNCIATION. — For example, the different pronunciations of *r* in words like *hard, turn, cord, mother;* of *a* in *park, calm, past;* of *oo* and *u* in *room, rude, put;* of *o* in *stone, hot;* such forms as *git, ketch, shet* for *shut, sech* or *sich,* he *ken* or *kin* for *can, deestrict, holt* for *hold* (noun), *sneck* for *snake, hahmer* for *hammer,* etc. It is often possible to tell by a person's pronuncia-

tion from what part of the country he comes. For the study of pronunciation the received spelling is very ill adapted, and a phonetic system is needed if this part of the work is to be conducted in an intelligible manner. In the cases mentioned under I., where the pronunciation is of only secondary importance, such a system is not needed. It is necessary only where the pronunciation is the main thing to be noted, though it will be welcome whenever the pronunciation might be doubtful. A practical, though necessarily imperfect, system of phonetic spelling will be sent to any person who communicates with the secretary.

The officers of the society are, president, Francis J. Child, Cambridge, Mass.; vice-president, James M. Hart, Cincinnati, O.; secretary, Edward S. Sheldon, 27 Hurlbut Street, Cambridge, Mass.; treasurer, Charles H. Grandgent, Cambridge, Mass.; editing committee, the secretary *ex officio*, George L. Kittredge (Cambridge, Mass.), Sylvester Primer (Charleston, S.C.); executive committee, the officers named above, and Benjamin I. Wheeler (Ithaca, N.Y.), Charles F. Smith (Nashville, Tenn.), Frederic D. Allen (Cambridge, Mass.).

THE BOWER-BARFF RUSTLESS IRON PROCESSES.

THESE processes have for their object the protection of iron and steel from rusting. This result is obtained by the conversion of the surface of the metal into magnetic oxide of iron. The oxide is well known in its natural state as magnetic iron ore, which has withstood without deterioration or change centuries of exposure to the atmosphere and to fresh and salt water.

The Barff process consists essentially in subjecting to the action of superheated steam the articles which are to be rendered rust-proof. The treatment is carried out in a specially constructed furnace, and is more particularly applicable to wrought iron and highly finished and polished work.

The Bower process accomplishes the formation of magnetic oxide upon iron articles by subjecting them successively to the actions of highly heated air and carbonic-oxide gas derived from coal fires. The hot air converts the metallic surface into red oxide of iron, which is reduced to the black or magnetic oxide by the gas.

No foreign material, such as paint, alloy, or chemical of any kind, is applied to the metal; so that the coating is perfectly innocuous, and, owing to the simplicity of the process, its cost is less than that of galvanizing.

Surfaces of iron and steel treated by the Bower-Barff processes present a pleasing blue-gray or blue-black color, and preserve the sharp outline of artistic designs, while, if the articles are polished before treatment, the result of the oxidation is a lustrous, ebony-black finish.

The Bower-Barff processes have now a record of over four years in the United States, so that it is no longer necessary to refer to European practice for evidences of their value. In furnace construction, and other particulars, marked improvements have been made. Furnaces have already been established in the States of Pennsylvania, New Jersey, New York, Connecticut, Massachusetts, and Illinois, and others will shortly be erected.

The oxide process is applicable to all forms of cast, malleable, and wrought iron and steel, where the surfaces are not subjected to very severe friction, nor injured by subsequent manipulation. It is gradually supplanting the expensive and usually unsatisfactory galvanizing, and for ordinary culinary utensils is taking the place of tinning and enamelling. Where, for the sake of appearance, enamel is preferred, English manufacturers have adopted the process, because it is found that by first oxidizing the articles the enamel is rendered far more durable.

The demand by users of cast and wrought iron pipe for plumbing, drainage, gas, salt-works, steam-heating, and wherever it is desirable to protect pipes from rusting, is one of the most significant indications of the recognition of the value of the process.

The following brief review of the processes, in their leading features and recent developments, may serve to show how readily they can be adapted through a very extended range of iron manufactures.

The conversion of the surface of metallic iron into magnetic oxide of iron is carried out in a furnace. The articles to be treated, whether large or small, are loaded upon an iron drag, and shoved into a fire-brick chamber, known as the oxidizing-chamber of the furnace. Gas-producers, which constitute a part of the furnace structure, generate carbonic-oxide gas from a thick bed of coal upon the producer-grates. This gas is burned by an admixture of air in a combustion-flue beneath the oxidizing-chamber; and either the burning gases, or the hot products of combustion, according as the gas and air valves are regulated, enter through ports into the chamber, heating the charge, and then passing through exit ports to the chimney. After the goods have been raised by this means to the desired temperature, which may vary from an incipient red to a cherry heat, depending on the nature of the work, the treatment of the charge is begun. If the goods consist of castings, the Bower process of alternating oxidizing and reducing operations is generally employed. During the period of oxidation, the connection with the gas-producers is almost entirely cut off by a damper; and air, raised to a high temperature by passing through the hot combustion-flue above mentioned, enters the chamber and oxidizes the iron, converting its surface into the red oxide of iron (Fe_2O_3). After about forty minutes of this treatment, the admission of air to the furnace is stopped, and the producer-gases are allowed to pass for twenty minutes through the chamber without any admixture whatever. The chemical action of these gases upon the ironware results in a change or reduction of the superficial coating of red oxide of iron into the black or magnetic oxide ($Fe\ O_4$). The operations are repeated a number of times, so that the whole treatment lasts from ten to twenty hours, according to the thickness of the coating to be produced. At the end of the treatment the charge is withdrawn, and the furnace is then ready for treating another lot of ware.

The Barff process for wrought iron is carried out in the same furnace designed for the Bower treatment. The articles are charged and heated in the same manner as above; and, when the proper temperature is reached, highly superheated steam is introduced into the oxidizing-chamber, where a slight plenum, not exceeding one to two inches of water-pressure, is maintained for a period of ten to twenty hours. The steam from a half-inch pipe more than suffices for all the requirements. The superheating is easily effected by a continuous coil-pipe superheater, or by a couple of small intermittent superheating chambers, each filled with a loose checker-work of fire-brick, and forming part of the furnace structure.

The Bower or air process is the more economical one for the treatment of ordinary cast iron; whereas, for wrought and malleable iron, the Barff or steam process has been found more advantageous. Where wrought and cast iron work are combined, the Barff process is applicable. The steam treatment of the cast iron in such a case merely necessitates a longer period of exposure in the furnace than would suffice for producing the desired coating by the air process.

The mechanical finish of the iron, be this either wrought or cast, determines to a large extent the mode of treatment. Rough articles, from which the skin has not been removed, require for the formation of a proper coating in a given time higher heat and more energetic oxidation than goods whose surfaces are more or less finished. A high heat on a finished surface tends to blister and detach the magnetic oxide as it is formed. When articles, therefore, present some finished surfaces, and others which are rough, a comparatively low heat is used in the oxidizing-chamber, thereby precluding the possibility of injuring the surface; while the treatment is continued for a sufficient length of time to insure a thorough oxidation of the rough parts, even at the reduced temperature.

For the steam treatment of highly polished articles, a small muffle furnace is employed. The charge is heated by a flame which plays externally around the muffle. The increased expenditure of fuel thus incurred in heating the articles is more than compensated, in a furnace of small size, by the ease with which even a slight overheating of any portion of the polished goods is prevented.

The magnetic oxide coating is very hard, but comparatively inelastic. It withstands the wear due to friction, but is injured by blows of the hammer and rough usage. Wherever from this cause