CHEMISTRY IN 1800 AND 1900

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THE OREGONIAN'S HOME STUDY CIRCLE: DIRECTED BY PROF. SEYMOUR EATON

COMPARATIVE STUDIES OF TWO CENTURIES

BY PROFESSOR PAUL C. FREER.

VIII.

At the beginning of the 18th century chemistry had just been emancipated from the influence of medieval superstition and had established its right to be considered an independent science, with the consciousness of a basis for future individual development. Almost from the Christian era it was stunted by the ignis fatuus of alchemy and iatro chemistry, its sole reason for existence being the application of the few known facts to the conversion of the baser metals into gold, or to the exploitation of so-called medicinal remedies. The knowledge thus far collected was incidental to these purposes, and the prevalent theories were borrowed from the ancients or Arabians. All known substances were supposed to be formed by varying proportions of the essential principles—earth, water, fire, air, mercury, sulphur, and salt. Experimental science, having for its object the establishment of fundamental theories, derived by the correlation of observed facts, was unknown.

Chemistry as an independent science owes its origin to Robert Boyle, who in the middle of the 17th century was the first to courageously oppose the older doctrines advocated by the peripatetics and who by a series of masterly writings sought to replace the vague notion of principles by more definite chemical elements, defined by him as substances, which could not by ordinary means be disintegrated into two or more simpler bodies. It is true Boyle frequently erred in his conclusions, as for example, when he considered glass and water to be chemical elements, owing to his inability to decompose them. Although his methods were often weak, his conclusions were sound and his brilliant experimental genius finally succeeded in establishing the science on a firm basis, even rendering the "black art" fashionable at court; Kings and Princes neglected ordinary affairs of state in order to dabble with the "spring of the air" and kindred topics.

Although Boyle revolutionized methods, it was not until the beginning of the 18th century that the entire scientific world abandoned the older views and the way was opened for the establishment of the first chemical theory which undertook to connect a series of obviously related facts. Until this necessary advance was made no substantial progress could be noted, for all the efforts of investigation ended merely in aimless wanderings. The first scientific step opened the way for consistent and vigorous advance. The first theory was subsequently discarded because it was founded upon qualitative and not quantitative observation of chemical phenomena, nevertheless its benefit was incalculable, for it outlined a definite and precise course for future experimentation. The theory is known as that of phlogiston. Its object was to explain the changes taking place during combustion. All matter while burning was believed to separate a principle termed phlogiston, so that the remaining incinerated product was supposed to be of simpler composition than the initial substance. The fault of the theory was that in reality bodies during burning gain in weight, a separation seeming, therefore, less likely than a union. A further development of 50 years was required before workers in the science realized this fact. The phlogiston period was one of great activity in the chemical field, and many notable discoveries occurred under its auspices. Particularly was this true of the isolation of various gases such as carbon dioxide, nitrous oxide (laughing gas), nitric oxide, ammonia gas, muriatic acid gas, chlorine and lastly oxygen and hydrogen. Black, Priestly, Scheule, Watt Cavendish and many other men added luster to the science. Considerable progress was made in chemical industry; the manufacture of sulphuric acid developed and toward the end of the century when the phlogiston theory was already giving way to our modern views the dry distillation of bituminous coal and the manufacture of illuminating gas, coke and tar began.

The phlogiston period was brought to an end about 1780-1790 by the accurate researches of the Frenchman Lavoisier. This investigator demonstrated combustion to be a union with one of the constituents of the atmosphere, a gas which Priestly and Scheule had discovered and which Lavoisier named oxygen. Substances in burning were shown to have gained weight, and this gain in weight was demonstrated to be commensurate with a loss suffered by the air supporting the process of burning. Chemical elements, as they are today, were defined as forms of matter which, when alone, could not be changed into two or more simpler bodies, and the products of combustion were therefore shown to be compounds. Lavoisier's crowning work was the final proof that water is a compound of hydrogen and oxygen and the firm establishment of the law of constancy of matter. A new system of nomenclature, substantially the same as that of today, was introduced, and the way was opened for the marvelous advances made in the 19th century.

After the death of Lavoisier, in 1792, a host of earnest investigators carried on his work; new elements and compounds were discovered and by 1806 the way was clear for the establishment of the fundamental law governing the composition of chemical compounds known as the law of constant proportions (Proust). All true chemical compounds were recognized as having their constituent elements combined in constant and unvarying ratio by weight, and although a bitter opposition to this view was carried on by the eminent scientist, Berthollet, the facts revealed by careful analysis established the theory, and from that time all chemical science was based upon their understanding. Almost simultaneously with this advance, the present theory of atoms, which has been of immeasurable benefit in the progress of the science, was developed in England by John Dalton, and the laws governing the combining volumes of gases were discovered by Gay-Lussac in France, thus serving to firmly establish this theory in the chemical world.

Chemical industry received a great impetus from the intense activity in the theoretical field. The isolation of France during the Revolutionary period caused her to make an earnest effort to supply chemicals previously purchased abroad, and as a result the Le Blanc process for the manufacture of soda originated there. Until recently it was the sole means of producing this important chemical. Owing to the possibility of the commercial production of chlorine, bleaching powder came into use; ammonia was generated in quantity from the gas works, which were increasing in number, and the cultivation of the sugar beets and the means of marketing the product, a difficult chemical problem, began to gain ground.

The period in the history of chemistry immediately following the understanding of the law of definite proportions was until about 1832 mainly devoted to defining and enlarging the views already established, the principal object being to investigate the subject of atomic weights, which were chemical quantities defined by Dalton, and about the exact interpretation of which bitter controversy reigned. The conflict thus precipitated stimulated research and served to hasten the discovery of many new elements and compounds and to perfect the methods of analysis. The Swedish chemist Berzelius, a man of endurance, untiring energy and experimental skill far beyond that of any of his contemporaries, was the most notable figure in the chemical world of this period. In addition to his pre-eminent dexterity in the laboratory he was a voluminous writer. The results of his researches were compiled in a manual of chemistry, which first appeared in the Swedish language and which was subsequently translated into German by his friend Wohler. The general chemical field was reviewed in an annual compilation. By means of his activity and his exceptional facilities for bringing his views before his colleagues Berzelius succeeded during 30 years in completely dominating the science.

The period from 1806 to 1845 was fruitful in the discovery and isolation of new elements, over 25 being added to the known list. Mineral analysis almost reached the standard of the present day and the study of crystalline forms and crystallography began to establish itself as an independent science. Almost all of the experimental results obtained were discovered with reference to the possibility of determining the relative weights of the atoms of the elements. Two opposing schools arose, one maintaining that the accurate understanding of these small quantities would be forever an impossibility; the other that a judicious combination of laboratory results with theoretical reasoning ultimately would lead to definite conclusions. The latter view finally triumphed.

Until 1828 a sharp division existed between so-called inorganic chemistry and that portion of the science termed organic. The substances with which organic chemistry had to deal were supposed to be the product of life action only; it was believed that any attempts at laboratory formation of the products of living organisms would fail. In 1828 Wohler with one stroke broke down the barrier. He succeeded in synthesizing urea, which had been considered solely the result of physiological action. The result opened a new field for chemical activity, and in a few years many men were engaged in investigations which led to the production of a large number of new substances and their derivatives, all containing the elements carbon combined with hydrogen, many of them also with oxygen, nitrogen and phosphorus and sulphur. The possibilities of this new branch of the science, still termed from habit organic chemistry, were practically unlimited, but the old controversy in regard to atomic weights was not settled. Its development was retarded owing to the misunderstanding of chemical principles. In 1832 Liebig and Wohler published a long research of the oil of bitter almonds which did much to clear up existing misconceptions, and a few years later the French chemists, Dumas, Laurent and Gerhardt, made a further advance by the discovery of chlorinated acetic acid and allied bodies. The conception of the nature of organic substances and of the mission of this branch of chemistry became clearer. In the early '60s Kekule in Bonn and Frautland and Williamson in England finally brought order out of chaos and placed the science on a theoretical basis which has been followed to the present day.

Meanwhile, although much time had been spent in theoretical discussion, experimental work had grown rapidly, and the result became apparent in a practical way. In 1825 Faraday discovered benzene in the oil obtained from the distillation of coal for gas works. In itself the discovery was apparently of no practical importance, but yet this same substance was 20 years later to become the oil from which was derived aniline and many of the modern coal-tar products. The waste tar of the gas works, formerly a nuisance, is now redistilled and refined. It produces all the innumerable dyes which are in use today, as well as antipyrine, antifebrin, phenacetin and a host of other modern medicinal remedies. No branch of chemical industry has shown greater advances than that of coal tar and its derivatives, and none can rival it in the multiplicity and the varied application of its products. Aniline was first systematically investigated by Hoffman in 1843. The first aniline dye was placed on the market in 1856 by Perkin in England. In 1868 Graebe and Libermann produced artificial madder which later entirely replaced the natural product and caused the entire revolution of agricultural methods in France. Subsequently Baeyer succeeded in accomplishing the difficult task of preparing artificial indigo. Of recent years one of the greatest advances in organic chemistry has been accomplished by Emil Fischer in his exhaustive work on the group of substances known as sugars. He has at last succeeded in preparing synthetic glucose from materials obtainable in the laboratory.

The last 15 years has brought forward the development of a practically new field of chemical work, which is at present termed physical chemistry. This portion of the science concerns itself chiefly with the intermediary ground lying between physics and chemistry, and, although the history of its later development has been brief, it already has many notable achievements to its credit. Its future work concerning electrical problems closely allied to chemistry and the elucidation of questions appertaining to solution will inevitably have a wide practical bearing. The influence of physical chemistry already is being felt in many branches of technical industry.

The strides taken by the chemical industries, based upon the exhaustive theoretical knowledge obtained by years of laboratory development, have been marvelous. Within the limits of this brief article it is not possible to enumerate the smallest proportion of their progress. Apart from the subjects mentioned above, modern chemistry has revolutionized the manufacture of explosives, glass, soap, paper, alloys and cement. Metallurgy is on an entirely different footing, and the process of electrometallurgy has become one of the most important industries in existence. Beet-sugar production has been developed almost into an exact science, and the various processes of fermentation and alcohol preparation have kept pace with the rest.

Physiological chemistry recently has advanced to a point where accurate results and close reasoning are possible, and the benefits derived from such substances as antitoxin cannot be overestimated.

The entire army of chemical investigators is moving forward today as it has been in the past. The future for the chemical industries is perhaps beyond our present comprehension, but in order for this result to be accomplished the foundation of technical advance must be laid broad and deep in the firm ground of scientific research.

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Display of Cowboy Hoodlumism.

Pendleton East Oregonian.

At Lehman Springs a few days ago, a company of young men from Heppner made the camp rather lively for a time, and sort of performed the bad-man-with-a-gun act, by shooting at the stovepipes and otherwise manifesting a playfulness not compatible with the best breeding. In some manner, a number of young men from Pendleton and some from Heppner got into bad relations with each other, and the spirit of antagonism thus engendered caused them to form what looked like battle array, and threaten to leave on the field of action both dead and wounded. No one was hurt, and the affair ended without any serious results.

Broke a Thigh Stump.

FOREST GROVE, Or., Aug. 9.—Peter Harper, of Dilley, an elderly man, who had the lower third of his thigh amputated several years ago, fell this morning, and broke the bone of the stump.

Collier Ashore.

CAPE HENRY, Va., Aug. 9.—The British steamer Palestro, from Pensacola, Fla., for Liverpool and Newport N w, for coal, stranded this morning on Diamond Shoals, and cannot be saved. The crew are safe.

THE AMATEUR REFORMER.

Meeting That Resulted in Embarrassment for One Participant.

"Glad to meet you, Mr. Berkenhead," he said, acknowledging the introduction, "but we have met before."

"Indeed, Mr. —"

"Gwilliams."

"Mr. Gwilliams, just at the moment I —where did I have the pleasure—"

"O, the pleasure was entirely on my side. I was in the audience. You were the speaker. I attended the political meeting you addressed at Grassyhurst the other day."

"I see. Well, I had the first word, anyhow. I hope the speech was to your liking."

"Very much. I was particularly impressed with that portion of it in which you said that the President, while he might be above the reach of the people, certainly could not be beyond their censures. I admired this because Sir Francis Bacon made a bungling atempt to say the same thing in his letter to the Duke of Buckingham in 1616, only instead of President he said King James, you remember—"

"Ah, yes, that was a—er—sort of coincidence—"

"I was impressed, too, with the forcible manner in which you spoke of the negotiation for the annexation of Hawaii as having 'begun with a political jockey named Sanford B. Dole,' for Charles Sumner tried to use the same expression when he said in the Senate, some time in 1870, I think, that the negotiation for the annexation of San Domingo, proposed by President Grant, began with a political jockey named Buenaventura Something-or-Other. I have always been fond of that phrase, 'political jockey,' and—"

"You seem to have been on the watch, Mr. Gwilliams, for plagiarisms, but those are such trifling examples—"

"Bless you, Mr. Berkenhead, I don't speak of them as plagiarisms at all. You improved everything you touched. For example, your remark to the effect that 'it is the balance of our trade with foreign nations, not altering the standard of our coin, which increases or lessens our bullion at home,' was a decided improvement on the clumsy utterance of John Locke, author of the 'Essay Concerning the Human Understanding,' who used the word 'countries.' I think 'nations' much better."

"It pleases you to be sarcastic, Mr. Gwilliams."

"Not at all, Mr. Berkenhead. I was never more sincere. For example, again, when you said of Roosevelt, 'His hour had come; he promptly grasped the leadership thus left open. Starting out deliberately for the Presidential nomination, his plan embraced three leading features. His stepping stone was the Governorship, his shibboleth administrative reform, his method a pretended opposition to Boss Platt.' It sounded familiar. I hunted it up and found it—all except the Boss Platt part—on page 574 of 'Blaine's Twenty Years of Congress,' second volume. The deft manner in which you made a masterly arraignment of Samuel J. Tilden do service in a diatribe against Teddy Roosevelt challenged my highest admiration. So, too, when you observed that 'it would be difficult in the whole compass of history to find another instance in which such various and such powerful agencies concurred to degrade the character and to blast the prosperity of a nation,' and that 'the greater part of them sprang directly from the corrupt and selfish party now in power and from the greed of organized monopoly,' and so forth, you made a little the cleverest use of a quotation from 'Lecky's History of England in the Eighteenth Century' for a political purpose that ever came under my notice. Such a thing is enough to make the author clap his skeleton hands together and applaud you in his grave—if he happens to be dead. Web. Davis himself couldn't have done it better."

"If I had thought there was a man in that audience looking out for a chance to pick little flaws in my speech I would have saved him the trouble of hunting up the references by giving chapter and verse for every quotation—"

"Pardon me, adaptation."

"Excuse me, sir—"

"No excuses necessary, Mr. Berkenhead. We all do it. I was a candidate for office once myself, and made several speeches. Judgeship, or Congress, or the Legislature, or something of the kind. I am not entirely certain now what it was, but I remember I didn't get it. Didn't even get the nomination, though the Stock-Yard Sun published my biography in full, with portrait."

Mr. Berkenhead stiffened perceptibly.

"I am not a candidate for office," he said.

"Then you make political speeches for—"

"That, sir, is a matter which concerns—"

"Nobody but yourself, you were about to observe. Quite right. I wasn't going to ask you how much you got for them, anyway. I was about to suggest the possibility that you made political speeches from motives of patriotism."

"Pardon me if I say that is equally none of your—"

"Business. I know it. I run plump against that proposition every time I try to establish a friendly understanding with anybody. I presume I am the most peaceably disposed man in the world, next to Samuel Gompers, but I am always impinging awkwardly against something that hits back. Ever in the leather business, Mr. Berkenhead?"

"Sir?"

"Reason I ask is that I once knew a man of your name who was. I am not sure, however, but he was a cooper. Ever in the coopering business, Mr. Berkenhead?"

"Sir, this is—"

"Smoke, Mr. Berkenhead?"

"No, sir, I do not smoke."

"Ever drink anything, Mr. Berkenhead?"

"No, sir!"

"Neither do I. Glad to have met you. Mr. Berkenhead. Good day."

The Size of China.

New York Press.

China proper is about half the size of the United States, leaving out Alaska and the Indian Territory, and has about 5½ times the inhabitants. The Chinese Empire is about as big as the United States including Alaska and adding Mexico. It contains close to six times as many inhabitants as the United States. It is nearly 1,000,000 square miles larger than all Europe, and contains about the same population.

Canal Company Unsuccessful.

MANAGUA, Nicaragua, via Galveston, Aug. 9.—The representatives of the Inter-Oceanic Canal Company have been unsuccessful in their effort to get an extension of the time for depositing with the Government of Nicaragua $400,000 gold and beginning the construction of a railroad and canal across the country.

Daily Treasury Statement.

WASHINGTON, Aug. 9.—Today's statement of the balances in the general fund, exclusive of the $150,000,000 gold reserve in the division of redemption, shows:

Available cash balance	$147,123,496
Gold	72,451,403

Troops Returned From Cuba.

NEW YORK, Aug. 9.—The United States transport McPherson, from Santiago, August 2, with nine officers and 412 men of the Fifth Infantry on board, has arrived here.

Fire in a Lumber Yard.

MARINETTE, Wis., Aug. 9.—Fire in the lumber yard of the Polska Industrial Company at Crivitz today caused a loss of $150,000.

BUT FEW NEW CHARTERS

WHEAT EXPORTERS AND SHIPOWNER AT A DEADLOCK.

Nitrate Freight Near the Highest Point on Record—The Jetty Improvement.

Nearly a month has elapsed since a grain ship has been reported under engagement for Portland loading, but in spite of this apparent dullness, rates seem to hold as firm as ever, owners refusing to accept less than 45 shillings. The shortage in the California crop caused a slight weakening in San Francisco about a month ago, and one or two ships were taken at 37s 6d. They were on spot, however, and to take in ballast, pay towage and pilotage expenses to go to another port would have probably cost them enough additional to make the rate received equal to nearly, if not fully, 45 shilling. Two other ships which were in the Bay City at the same time refused 37s 6d, and were chartered a few days ago at 38s 9d. While considerable will depend on the course of the market during the next six months, the statistical position of freights has seldom been stronger than it is at the present time. Never before in the history of the shipping business in this port has 40 shillings and upward failed to start a considerable amount of tonnage in this direction "seeking."

Rates have been above 40 shillings for over four months, and during that period not to exceed three or four disengaged ships have been headed in this direction, and even these were taken up long before they reached here. The big demand for steam tonnage for transport service has, of course, been a great factor in booming freights, but there are other reasons for the advance. The demand for sail tonnage for nitrate loading has never been so great as at the present time, and the highest rates on record are being paid. The British bark Principality, which has carried at least half a dozen cargoes of Oregon wheat to Europe, has been chartered to load nitrate at a west coast port for the United Kingdom, at 37s 6d. As the nitrate ports are 6000 miles nearer the European markets than Oregon and Washington ports, and the port expenses are lighter than they are anywhere else, owners have always been willing to take 10 shillings less than was demanded from north coast ports.

Based on nitrate freights, as they are quoted at present, 45-shilling ships are apparently very reasonable, but at the same time, the uncertainties regarding the farmers' disposition to hold are such that exporters will not take hold of ships until they are forced to.

SHIPBUILDING IN UNITED KINGDOM.

Slight Reduction Compared With Same Period in 1898.

From the returns compiled by Lloyd's Register of Shipping, it appears that, excluding warships, there were 49 vessels of 1,255,313 tons gross under construction in the United Kingdom at the close of the quarter ended June 30, 1900. Of these, there were 436 steel steamers of 1,243,307 tons, 35 iron steamers of 6061 tons, and two wood and composite steamers of 870 tons, making a total of steamships 473, having a gross tonnage of 1,250,838 tons. Of sailing vessels there were 26, viz., eight steel ships of 1230 tons, and 18 wood and composite craft of 2105 tons. Compared with the corresponding period of 1899 these figures show a decrease of 69 in the number of vessels under constructions and 121,054 tons in the gross tonnage. The return, however, shows an increase in the tonnage under construction of about 5000 tons, as compared with the figures for last quarter, but a reduction of about 135,000 tons as compared with the unprecedentedly high total which was reached in December, 1898. Of the total ships building on June 30, 360 of 949,817 tons gross were built for United Kingdom owners. In looking at the size of the vessels now being built, we find that the most popular ship is that between 3000 and 4000 tons, of which there are no fewer than 91 steamers and two sailing vessels. There are, besides, 50 vessels between 4000 and 5000 tons; 19 between 5000 and 6000 tons; 18 between 6000 and 7000 tons; 7 between 7000 and 8000 tons; 2 between 8000 and 9000 tons; 5 between 9000 and 10,000 tons, and 15 of 10,000 tons and above.

With regard to the warships under construction in the United Kingdom, we find that there are for the British Admiralty 54 fighting craft of 368,550 tons, for the British Navy. There are in addition under construction for foreign powers, or not stated, six armored vessels of 57,540 tons displacement, one protected cruiser of 4165 tons.

WORK ON THE JETTY.

Repairs Now Going Forward Rapidly at Fort Stevens.

Repair work on the jetty at Fort Stevens, under the direction of Superintendent Hegardt, is progressing at a rapid rate. Orders have been placed for over 1,000,000 feet of lumber, to be used in reconstructing the trestle, and several carloads of rails have been ordered for use in relaying the track. The work is giving employment to a large number of laborers, and the new town of Hammond, which is close by the fort, is receiving daily additions to its population. By the time a further appropriation is available, the plant and approaches to the jetty will again be in good order, and ready to handle the work of making permanent improvements.

ORIENTAL FLOUR TRADE.

Withdrawal of the Argyll Will Not Affect Matters at Present.

The war in the far East has had a serious effect on the flour trade, and for this reason the withdrawal of the Argyll from the regular service is felt less than it would be at any other time. Advices from Hong Kong state that there are 1,000,000 quarter sacks of Oregon and Washington flour on the dock at Hong Kong, and 300,000 quarter sacks of California flour at the same port. Shipments to the interior have almost ceased, and there will be but little improvement so long as the present conflict is raging. For the same reason there is a smaller amount of other freight offering.

CEASES TO BE FREE PORT.

After the Year 1900 Dues Will Be Levied on Ships at Manchester.

MANCHESTER, Eng., Aug. 9.—Chairman Bythell, of the Manchester Ship Canal Company, at a meeting today, informed the shareholders that Manchester, after the year 1900, would cease to be a free port; that ships' dues would be levied on a moderate scale, and that shipowners would be obliged to pay for berths for their ships.

Glenogle Clears for Japan.

TACOMA, Aug. 9.—The big liner Glenogle cleared this morning for Japan. There were only a few cabin passengers and about 20 Chinese in the steerage, but she carried 99,460 sacks of flour, mostly the product of Washington mills, destined for Japan and coast cities in China. In addition to the flour she has a great quantity of general store supplies. About 2500 steel rail were taken to Japan to build driveway tracks in the mines.

Domestic and Foreign Ports.

ASTORIA, Or., Aug. 9.—Sailed at 10:40 A. M., British ship Harlech Castle, for Queenstown. Condition of the bar at 4 P. M., smooth, wind, north; weather, cloudy.

Hoquiam, Wash., Aug. 7. — Sailed—Schooner Lizzie Vance, from Aberdeen, for San Francisco; schooner Occidental, from Aberdeen, for San Francisco. Arrived—Schooner C. R. Wilson, from San Francisco for Aberdeen; schooner La Gironde, from San Pedro, for Hoquiam.

San Francisco, Aug. 9.—Sailed—Schooners Chas. E. Falk and Jennie Thelin, for Coos Bay.

Hong Kong, Aug. 9.—Arrived previously—Nippon Maru, from San Francisco, via Honolulu and Yokohama.

Cherbourg, Aug. 9.—Arrived—Kaiser Friederich, from New York, via Plymouth, for Hamburg.

Genoa—Sailed August 4—Iris, for San Francisco (not previously); Oak Branch, for Tacoma.

New York, Aug. 9.—Anchoria, from Glasgow.

Boston, Aug. 9.—Arrived—Saxony, from Liverpool.

Queenstown—Sailed August 8—Germanic (from Liverpool), for New York; Pennland (from Liverpool), for Philadelphia.

New York, Aug. 9.—Sailed—Columbia, for Hamburg, via Plymouth and Cherbourg; La Touraine, for Havre.

New York, Aug. 9.—Arrived—Lahn, from Bremen.

Hamburg, Aug. 9.—Arrived—Palatia, from New York, via Cherbourg.

Plymouth, Aug. 9.—Arrived—Kaiser Friedeerich, from New York, for Hamburg, via Cherbourg.

Liverpool, Aug. 9.—Arrived—Majestic, from New York; Rhineland, from Philadelphia.

Glasgow, Aug. 9.—Arrived—Norwegian, from Boston.

Boston, Aug. 9.—Arrived—Menominee, from New York.

Rotterdam, Aug. 9.—Sailed—Spaarndam, for New York.

Liverpool, Aug. 9.—Sailed—Dominion, for Montreal.

San Francisco, Aug. 9.—Arrived—Steamer Robert Adamson, from Nanaimo; steamer Portland, from St. Michael; schooner Mayflower, from Coquille River. Sailed—Schooner Charles E. Falk, for Coos Bay; steamer Umatilla, for Victoria; schooner Jennie Thelin, for Coos Bay; ship Occidental, for Seattle.

Seattle, Aug. 8.—Sailed—Steamer Queen, for Sitka; steamer Humboldt, for Skagway.

Cape Nome.—In port July 31—Steamer Aloha, brigantine Geneva and barkentine Ruth.

Port Townsend.—Passed August 8—German ship Athene, from Port Los Angeles. Arrived August 9—German bark Admiral Legetezhoff, from Mollendo; Norwegian bark Passepartout, from Hong Kong; barkentine J. L. Eviston, from Cape Nome.

Waterford.—Arrived August 6—British bark Berehdale, from Portland.

Hong Kong.—Sailed August 8—British steamer Empress of China, for Vancouver.

New York, Aug. 9.—Arrived—Leon XIII, from Genoa, Barcelona and Cadiz.

STAGING OF SHAKESPEARE.

Mr. Beerbohm Tree's Defense of the Public Taste.

Fortnightly Review.

"Sir," said Dr. Johnson, "I have not even mentioned 'Little Davy' in the preface to my Shakespeare."

"Why?" ventured Boswell. "Do you not admire that great actor?"

"Yes," replied the doctor, "as a poor player who frets and struts his hour upon the stage—as a shadow."

"But," persisted Boswell, "has he not brought Shakespeare into notice?"

At this the immortal lexicographer fired up. "Sir, to allow that would be to lampoon the age. Many of Shakespeare's plays are the worse for being acted."

Then Boswell, Scotchman that he was, once more replied with a question. "What! Is nothing gained by acting and decoration?"

"Sir!" replied Dr. Johnson, breathing hard; "Sir!" he thundered, as he brought down his fist with all the energy of his rotund and volcanic personality; "Sir!"—and for once there was a silence—the only silence that is recorded in the life of that masterful personality.

In this brief conversation is raised the chief question which has divided lovers of Shakespeare for three centuries past. Ought his works to be presented upon the stage at all? Strange as it may seem in an actor, I am bound to say that I can understand this attitude of mind, which was shared by many thinkers of past ages. I am not astonished even that such acute and genial critics as Charles Lamb and Wordsworth—that such serious lovers of Shakespeare as Hazlitt and Emerson—held the opinion that the works of our greatest dramatist should not be seen upon the stage. . . .

We are told that under the present system it is no longer possible for Shakespeare's plays to be acted constantly and in their variety, owing to the large sums of money which have to be expended, thus necessitating long runs. Of course, if a large number of Shakespeare's plays could follow each other without intermission, a very desirable state of things would be attained; but my contention is that no company of ordinary dimensions could possibly achieve this, either worthily or even satisfactorily. Leaving out of consideration for the moment all such questions as rehearsals of scenery and effects, it is impossible for one set of actors properly to prepare one play in the space of a few days, while they are playing another at night. Those who have had any experience of rehearsing Shakespearean drama in a serious way will bear me out that a week or a fortnight, or even a month, is insufficient to do the text anything like full justice. And even when attempts of this kind have been made, can it honestly be said that they have left any lasting impression upon the mind or the fancy? I contend that greater service for the true knowing of Shakespeare's works is rendered by the careful production of one of these plays than by the indifferent—or, as I believe it is now fashionably called, the "adequate"—representation of half a dozen of them. By deeply impressing an audience and making their hearts throb to the beat of the poet's wand, by enthralling an audience by the magic of the actor who has the compelling power, we are enabled to give Shakespeare a wider appeal and a larger franchise—surely no mean achievement. Thousands witness him instead of hundreds; for his works are not only, or primarily, for the literary student; they are for the world at large. Indeed, there should be more joy over ninety-nine Philistines that are gained than over one elect that is preserved. I contend that not only is no service rendered to Shakespeare by an "adequate" representation, but that such performances are a disservice, in so far that a large proportion of the audience will receive from them an impression of dullness. And in all modesty it may be claimed that it is better to draw multitudes by doing Shakespeare in the way the public prefers than to keep the theater empty by only presenting him "adequately," as these counsels of imperfection would have us do.

I take it that the proper object of putting Shakespeare upon the stage is not only to provide an evening's amusement at the theater, but also to give a stimulus to the further study of our great poet's works. If performances, therefore, make but a fleeting impression during the moments that they are in action, and are forgotten as soon as the playhouse is quitted, the stimulus for diving deeper into other plays than those that we have witnessed must inevitably be wanting. For my own part, I admit that the long run has its disadvantages—that it tends (unless fought against) to automatic acting and a lessening of enthusiasm, passion and imagination on the part of the actor; but what system is perfect? It is a regrettable fact that in all the affairs of life, whenever we strive for an abstract condition of things, we are apt to come into collision with the concrete wall which is built of human limitations—as many an idealist's battered head will testify. In making a choice one can only elect that system which has the smallest number of drawbacks to its account. The argument that the liabilities involved nowadays in producing a Shakespearean play on the modern system are so heavy that few managers care to face them, and that therefore, unless a change in such system takes place, Shakespeare will be banished from the London stage altogether—is in my opinion a fallacious one. Again I apologize for intruding the results of my own experience, but I feel bound to state—if only for the purpose of encouraging others to put Shakespeare on the stage as magnificently as they can afford—that no single one of my Shakespearean productions has been unattended by a substantial pecuniary reward.

DHULEEP SINGH'S DAUGHTER

Princesses of India Have Been Making a Tour of the World.

New York World.

The Princess Sophia and Bamba Dhuleep Singh, daughters of the Maharajah Dhuleep Singh, the wearer of the greatest name in the nobility of England's Indian empire, arrived at the Waldorf-Astoria on Friday night.

The Princesses came from Chicago on their way to their home in England, after making a tour of the world. They were accompanied by a single attendant, a tall English woman, who acts in the capacity of companion.

The arrival of the princesses attracted so little attention at the hotel that their presence was hardly noticed. They arrived late, and went directly to a splendid suite of apartments that had been reserved for them on the second floor fronting Fifth avenue. They did not appear in public until late in the afternoon, when they went out for a drive, and returned at 6 o'clock for dinner, which was served in their apartments.

When a World reporter sent up his card to the Princesses last evening a note was returned politely regretting that they were on the point of departure and could receive no visitors.

A written request for information regarding the object of their visit was responded to by a card on which was written in a fashionable English hand, 'Just came here to see New York and on the way back to England."

A few minutes later the Princesses, accompanied by their English attendant descended from their apartments and entered a coach, in which they were driven to the Baltimore & Ohio depot to take a train for Washington.

The Princesses are little, slender women, with dark, aquiline feature and lustrous black eyes. Both were simply but tastefully clad in dark striped silk traveling costumes, with straw sailor hats simply trimmed with flowers.

It was originally their intention to spend some days in New York, but last night they changed their minds and determined to pay a visit to the National capital.

They expect to return to New York in time to sail for England Wednesday.

In the veins of the Princess Sophia Dhuleep Singh and the Princess Bamba Dhuleep Singh runs the blood of one of the proudest potentates of the earth. They have been born to the most exalted position in all India, and to limitless wealth. They are making the tour of the world chiefly that they may return as thorough women of the world, and also that Princess Sophia may be benefited in health.

The Princesses are each less than 25 years old. Dhuleep Singh is the representative of one of the oldest families in India, which, previous to the English occupation, was reckoned richest among all the Oriental potentates.

The family waged relentless warfare against the British newcomers. Prince Dhuleep Singh took up the fight and fought on for years. But England at last whiped Dhuleep Singh's armies and captured him. He was taken to England.

The British Government looks after his estates and mines, turning over the earnings to him every year.

The two Princesses have been educated in England, and are graduates of the leading schools. Princess Sophia was born in India. Princess Bamba was born in England.

Famine Relief Fund.

NEW YORK, Aug. 9.—The India famine relief fund has reached the $200,000 mark.