FIFTY YEARS' PROGRESS IN ABERDEEN

By

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THE general features of social and economic progress in Aberdeen during the last half-century bear of course a close resemblance in many respects to those of other progressive communities. The enormous new influence exerted in that period by the railway and the electric telegraph upon business of all kinds and upon our modes of life from day to day, or again, the influence of sanitary measures, legislative and administrative, upon the general health and wellbeing, is participated in by all towns and populous places. The participation is not uniform; it is affected by a variety of local circumstances. Our own city, which entered upon this half-century under a heavy load of adversity, has been a sharer to the full in the wondrous developments of the time, and even from this point of view its history would be worthy of study. But, from first to last, Aberdeen has had well-marked characteristics of its own. For several generations, at least, it has owed much to the public spirit, the enterprise, and the genius of individual citizens, to the action of its public authorities, and to the prevailing qualities of its people.

The middle of the 19th century coincides with the closing of an old and the beginning of a new chapter in the experience of this city. The year of the great Exhibition, with all its optimistic views and dreams, found Aberdeen in a state of exhaustion and prostration. Financial troubles had overtaken it; its great manufactures, with hardly an exception, had collapsed, or were on the point of collapsing; thousands of hands were thrown out of employment; and an exodus had set in which was almost to nullify the natural increase of population for the next ten years.

At a rather earlier period, about 1840, the changes that were taking place so greatly impressed one of the most enlightened citizens—whose work in Aberdeen was to make his name famous all over the country and to affect the course of legislation—the late Sheriff Watson, that he took the lead in forming a statistical

society to record these changes and the general progress of the community. It is just possible that the idea may have been in part derived from the founders of this Philosophical Society, which had come into existence a short time before. The Sheriff and the late Dr. Spence collected a full body of educational statistics, but beyond this it does not appear that much was done by the statisticians of that time. The Philosophical Society has had occasional papers bearing on the progress of the city. To one of the most important of them, presented about twenty years ago by Dr. Simpson, then Medical Officer of Health, I shall have occasion to refer again.

To appreciate the position of Aberdeen at the middle of the 19th century, it is necessary to have in view some of the salient features of its previous history. But the retrospect shall be as brief as possible. For two centuries or so the city had an extensive foreign trade, chiefly with the Baltic and Poland and with the Netherlands. At first the exports consisted of raw produce, such as skins, furs, and wool, salmon being a very important item, and the imports were nearly all the manufactured goods in use, except the ruder products of domestic industry. Then, instead of sending the wool to Flanders and bringing it back as cloth, the Aberdonians thought they would make the cloth at home. They induced experts and skilled workmen to come over from the Continent and settle among them, and after a time the woollen manufacture was so firmly established that Aberdeen became the centre of a large export of cloth and hosiery, and in the 17th century, according to the testimony of the highest official authority, as recorded by Baillie Skene, Aberdeen brought more money into Scotland than all its other towns. Political and other changes occurred, and a long lull ensued in the 18th century. But the latter part of that century, and the first 30 years or so of the 19th, saw the development of manufacturing works of great magnitude in the linen and cotton trades. Near each other, on opposite sides of the Don, stood the largest linen factory and perhaps the largest cotton factory in the United Kingdom. In 1820 the firm of Gordon, Barron, & Co., of the Woodside Cotton Works and of the Schoolhill Factory, employed 3,000 hands, and they are said to have been the only firm in Scotland that imported the raw cotton and carried it through the several processes of spinning, weaving, bleaching, printing, and finishing as cloth.

The position of this Woodside establishment and of that of Leys, Masson, & Co., of the Grandholm Linen Works, indicates that they had in view the use of water power, and both concerns were prompt to adopt the new machinery of Sir Richard Arkwright and the other inventors, and to supplement their water-power by steam when the age of steam began. And when still there were no ironworks in Aberdeen, they started foundries of their own, on a large scale, for the supply and renewal of their machinery. They also furnished castings on an extensive scale to country mill-wrights and others. The woollen trade had Messrs. Hadden as its chief representatives. Several other large establishments in the textile trades afforded employment to the population, and some of the more important firms had branches in different parts of Aberdeenshire and southward. A new departure took place in 1824, when John Maberly & Co. introduced powerloom weaving at Broadford, and Mr. Warden, the Dundee historian of the linen trade, speaks of the Broadford Works as the oldest power-loom linen factory in existence.

Much pioneering was done in Aberdeen, and many difficulties had to be solved by its leaders of industry. It was at a distance from other seats of manufacture, and skilled hands could not easily be obtained. A sample of the difficulties that had to be met is illustrated by a story told by Baillie Bothwell to the British Association in 1859, and after the lapse of more than forty years it will bear repetition. Gordon, Barron, & Co. found a deficiency in their spinning department which they could not overcome. At last a young member of the firm, Charles Bannerman, afterwards the 8th baronet, proceeded to Lancashire, and, dressed as a workman, obtained employment as such from a leading firm. Letters came to him which excited attention by their superior handwriting, his habits were seen to differ from those of other workmen, and at last a letter with a crest arrived. Asked point-blank who it came from, he said it was from his sister, and a further question elicited that she was Countess of Kintore. Something like a scene ensued, but Bannerman had kept a vigilant eye on all that went on, and knew everything, and matters were amicably arranged.

One of the pioneers of manufacture was Provost Livingston, whose time was the middle of the 18th century, and of whom a monument still exists in the shape of a large, uncouth-looking

building near the top of the Gallowgate, once the Porthill Factory. Besides being a pioneer of manufacture, Livingston, with three other prominent citizens as leading partners, established in Aberdeen in 1749 the first provincial bank in Scotland. So jealous were the Edinburgh banks of its success that after some years they sent down an agent to collect its notes and get them retired for specie or Edinburgh notes. This wrecking plot had the desired effect, and the bank had to close its doors; but no very long time elapsed when two others were established, and banking has ever since been successfully carried on in Aberdeen.

The making of the modern city which we know may be said to have begun with the 19th century. Marischal Street and a few other modern streets were made a little earlier, and were a great improvement on such leading thoroughfares of older date as the Gallowgate, the Shiprow, and the Guestrow. But a new era was introduced by the making of Union Street and the building of Union Bridge at the very beginning of last century. Many other new streets were laid out from that time onward, and a new town west of the Denburn began to spring up. A comprehensive scheme of harbour works, designed by Telford, was proceeded with in 1810, but before the works were nearly completed their prosecution was stayed by financial limitations. Too much money for the resources of the town at the time had been spent in the purchase of properties for the new streets; and building sites along their course were not taken up with sufficient rapidity to keep the city treasury solvent. But this episode did not interfere with the prosperity of the community as a whole. Manufactures flourished, and attracted large numbers of people from a distance to the employment which they afforded, and revenue rapidly increasing, the difficulties of the Corporation were soon at an end. The crisis occurred in 1817, and after a pause of about a dozen years, public works on a large scale were resumed—to bring in a much-needed supply of water from the Dee and to continue the harbour improvements designed by Telford. It was at this time that the river was diverted from its former course, now covered by the railway, and made to flow along the south side of the Inches instead of through the harbour. It was not till 1850, however, when the further scheme of harbour improvements promoted by Provost Thomas Blaikie was completed, that dockgates were provided, and ships were kept afloat in all states of the tide.

Much had been done in the way of public works by the municipal rulers, particularly under the leadership for many years of Provost James Hadden. Much, it is not to be forgotten, was also done by private enterprise. To mention only one great illustration: it is to private enterprise and to the initiative of Sir Alexander Anderson that we owe the existence of the main access from the centre of the city to the docks and the goods stations of the railways. The Town Council had been approached on the subject, but it thought the steep gradient of Marischal Street afforded a sufficient thoroughfare, or, at all events, it declined to undertake the formation of another. Thereupon Messrs. Adam and Anderson issued the prospectus of the Aberdeen Market Company, the objects of which were set forth as "the formation of a convenient and easy approach from Union Street to the Harbour of Aberdeen and the erection of central and handsome covered markets." The result was the making of Market Street, a very considerable constructive undertaking, for, as is not perhaps generally known nowadays, it is carried on a long series of arches. The spacious New Market was built. These operations involved the clearing away of a great deal of slum property, and out of them came also the modern Hadden Street and Exchange Street. Such was the transformation of a considerable district of the city and the accomplishment of improvements of the greatest public utility.

Much advantage had accrued to the trade of the city from the opening up of the country by turnpike and other roads for wheeled vehicles in the early years of the 19th century, from the impetus given to agricultural improvement during the reign of high prices caused by the French War, from the advent of steam navigation, and, in a less degree, from the construction of the Inverurie Canal.

The middle of the century coincides with the coming of the railway, but years were to elapse before the benefits attributable to that highly potent agency were fully felt. The coming of the railway was a sore subject in Aberdeen for many a day. Before it came a canker had been eating into the local manufactures. Their prosperity had received a check, due mainly, it would seem, if not entirely, to general trade depression in the early years of the second quarter of the century. They had a dull time on the whole between 1830 and 1840, and some im-

portant stoppages occurred. Some of these factories were carried on to far too large an extent with borrowed money, and were ill-prepared to meet trade depression and financial stringency. And not only had there been over-trading by the manufacturers and merchants, but about 1840, or a little earlier, much money from Aberdeen had been unwisely invested in real property in the Western States of America. Cities had been growing up like mushrooms, and "fortunes" had been suddenly made by land speculators on the spot, some of them Aberdonians. Then came an outburst of Aberdeen companies for the investment of money in Illinois, Michigan, and similar parts—money of shareholders and money borrowed. Dividends were wanted, and interest on borrowed money had to be regularly paid. But the United States, with all their progress and prosperity, were subject to crises and periods of stagnation, when town sites could not be disposed of, and money locked up in them yielded little or no return. Then lenders began to demand back their money, shares were pressed on the market, and as there were no buyers, the prices went down to zero. Windings-up with heavy loss were the sequel.

Far more potent, however, as a cause of the exhaustion that overtook the city was the railway fever. It was an epidemic that broke out in the populous and moneyed South, but it travelled fast and far—even, like Peter Bell, "far as Aberdeen." All communities were eager to receive the benfits of the new and miraculous method of transport, and dreams of avarice to be gratified by its means took possession of all classes. Parliament was inundated with railway Bills. For Scotland alone it passed 73 of these Bills in 1845 and 1846, authorising the construction of 836 miles of railway, at an estimated cost of £24,000,000. One of the Acts of 1845 authorised the making of the Aberdeen railway, from Aberdeen to Friockheim and Guthrie in Forfarshire, where it was to join the Arbroath and Forfar line, with branches to Montrose and Brechin—58 miles of line, and a share and loan capital of £1,100,000. It was purely an Aberdeen undertaking, organised by Adam & Anderson, engineered by Alexander Gibb, and governed by an Aberdeen board of directors, of which Provost Thomas Blaikie was the chairman. The citizens took it up with enthusiasm. In a contemporary print—the *Aberdeen Herald* of March 22, 1845—after the prospectus had been issued but before the Bill was passed, we read:—

"The scheme has the support of the Bannermans, the Lumsdens, the Haddens, the Blaikies, the Burnetts, the Forbeses, the Piries, the Hogarths, the Kilgours, the Jopps, the McCombies, the Davidsons, and, in short, of every name of note in the city."

The shares were immediately subscribed for in full and commanded a premium, and the passing of the Act was hailed as a local event of the greatest importance. The original prospectus of the Great North of Scotland Railway also appeared in 1845. It contemplated a line from Aberdeen to Inverness, and there were collateral schemes for Deeside, Alford, Buchan, and Turriff and Banff lines, all pretty much as they exist to-day. All these schemes were projected by the promoters of the Aberdeen Railway, and they were to form a complete and comprehensive system of railway communication under single management from the centre of Scotland to the far North. Opposition arose, and rival schemes were propounded, but Messrs. Adam & Anderson prevailed in the Parliamentary campaign. Such was the demand for Great North shares in the spring of 1845 that not more than one seventh of the applications could be granted; and the original Deeside shares were selling in the autumn of the same year—before the railway had been sanctioned by Parliament, and eight years before the line to Banchory was constructed—at a premium of 100 per cent. on the sum paid up.

The prospect, as everybody regarded it, was delightful. Aberdeen participated in the spirit of the time; it became affected by the mania that overspread the land. Some wise people at Westminster thought it desirable to have a return of the names of all persons subscribing £2,000 and upwards to railway schemes, and such a return was ordered by the House of Commons (Paper No. 317 of the Session of 1845). In that tell-tale return there are a number of Aberdeen names. Nine advocates in Aberdeen subscribe among them £92,500, or more than £10,000 each on an average; a clerk and a "writer" have their £10,000 each; two accountants, £15,000 each; two sharebrokers, £25,000 between them—sharebroking was at this time a new occupation in the city; the spirited editor of a weekly newspaper had his £10,000; shipowners, merchants, manufacturers, and private persons appear on the list. Forty-four individuals belonging to Aberdeen are responsible for £350,000 of railway stock, or an average of £8,000

each. Subscribers of not more than £2,000 were probably the large majority, but there is no public record of them. All the shares were to be fully paid up. But are we to imagine that all these people had their thousands and ten-thousands of disposable capital waiting for investment? Not at all. Many, perhaps most of them, expected to sell their shares at the magnificent premiums that were current, or at still higher premiums; they counted also upon borrowing money upon them to pay the "calls." Credit was stretched to its utmost for this purpose, and in Aberdeen, as well as in Edinburgh and Glasgow, a number of "exchange companies" or "banks" were formed for the purpose of receiving deposits and advancing funds to speculators in railway stock. In their caution, these companies made themselves absolute owners of the stocks pawned with them by their customers. Consequently, when the day of calamity came, they found themselves responsible for the "calls" upon shareholders. Before the end of 1850 every one of these concerns had also stopped at a loss.

It was the "calls" upon the railway shareholders that brought matters to a head—not in Aberdeen only but throughout the country. In point of fact, there did not exist sufficient floating capital to meet the gigantic outlays and commitments of the investors in railway stocks. The Aberdeen Railway Company was in difficulties in 1846—before the construction of its line was well begun—and many others were in the same condition. Then came the crash of 1847, the George Hudson revelations, and the end of delusion. The best securities fell seriously in value, and many persons of the middle class passed through years of dire distress.

It was with difficulty that the construction of the Aberdeen Railway was proceeded with. Money had to be raised for it on onerous terms in the South. The original directors and promoters were, for the most part, dismissed, some of them having already succumbed to the pressure of the times. The completion of the line passed into new hands, and expenditure was severely cut down, to the no small detriment of the works. The whole of the projected lines north of the Dee had to be deferred, and the dream of a single, homogeneous system, with unity of management, from the centre of Scotland to Aberdeen and the far North could no longer be realised.

Apart from the known difficulties of the Aberdeen Railway, the first dark omen was the enforced retirement, in 1847, of the

popular representative of the city in Parliament, Alexander Bannerman. Then came the astounding announcement on the 2nd of May, 1848, of the stoppage of the great linen firm of Leys, Masson, & Co., of 99 years' standing, and with it the allied firm of Alexander Hadden & Sons, largely concerned in the woollen trade. Both undertakings were exclusively in the hands of the Hadden family. The latter stoppage was of very brief duration, but though one or two spasmodic attempts to resume work at Grandholm were made they had soon to be abandoned. Next came the closing, in 1850, of the cotton factory of Gordon, Barron, & Co., in which year also the Bannermill of the Bannermans passed into new hands. The Poynernook firm of Forbes, Low, & Co., also in the cotton trade, had stopped years before, and though the works had been taken over by others, they were now finally closed. The linen works of Milne, Cruden, and Co., at Spring Garden, and Gordon's Mills were likewise finally discontinued in 1854. Several minor establishments were also closed in the course of these years of dark adversity.

The railway bubble and its collapse had general as well as particular relations to the crisis in the local manufactures; and the twofold slump was intimately connected, as cause and partly as effect, with a banking crisis behind the scenes—the disappearance of the Aberdeen Bank, or Banking Company in Aberdeen, which had been established in 1767, and the curtailment otherwise of banking capital and resources.

Heavily as the events of this disastrous time bore upon the fortunes of the city, it has to be remembered that these breakdowns were but the local manifestation of a general phenomenon. The effects of the over-speculation and over-trading were aggravated by a serious trade depression due to other causes, among them bad harvests, the famine in Ireland, and the European convulsions of 1848.

By the stoppage of the mills in Aberdeen, several thousands of workpeople were thrown out of employment, much distress was created, and many left the town. For quite a dozen years the district of Woodside was to remain a melancholy scene of desolation and dilapidation. There is evidence indeed, on which however it is needless to enter, that equal, or probably greater or more widespread, distress existed in the manufacturing districts of England. But in Aberdeen it was not a case of temporary de-

pression, however severe—it was partial destruction of the industries themselves.

The Aberdeen textile factories appear to have fallen out of date in respect of machinery and methods. Baillie Bothwell, in a paper which he read to the British Association in 1859, reported that the Bannermill during the eight or nine years it had been in the hands of its new proprietors had increased its output by a half, and that this had been done by means of improved machinery, with practically no addition to the wages bill. These years also witnessed the development to large proportions of the manufacture of "Aberdeen winceys," a combination of flax and wool which once had much vogue. But on the whole this was a very backward period in the history of the community. The acquisition of the Grandholm works by Messrs. Crombie, some ten years after their final stoppage as a linen factory, marks the beginning of a new era at Woodside and of the Aberdeen woollen manufacture. The large linen factory at Broadford and the cotton factory of Bannermill have been in operation all through the half-century; and a new textile branch was introduced, in the Aberdeen Jute Works, some thirty years ago. Ups and downs have been witnessed, but, on the whole, the textile trades, so badly stricken at the middle of the 19th century, have held their ground, and if they cannot be said to have contributed much additional momentum to the progress of the city, they at least continue to play an important part in its industrial economy. In proportion to its size, however, and in relation to its industrial interests as a whole, Aberdeen is far less distinctively a textile manufacturing town than it was sixty or a hundred years ago. During the last fifty years it has developed a variety of industries and occupations, the two most prominent, as everyone here is aware, being the granite industry and the fish trade. Neither of these is so recent in its origin as to be only half a century old, but both have passed, within that time, into an entirely new phase.

In considering the position of the community at the beginning of the second half of the 19th century, some importance must be attributed to the fact that a pause in the construction of public works was taking place. The harbour improvements initiated by Sir Thomas Blaikie had just been completed, and the recent rejection of his comprehensive scheme of city improvements had stayed the forward policy in this respect that had prevailed—

either in the hands of the public authorities or of private enterprise—during the greater part of the preceding fifty years. The "spirit for building" that prevailed in Walter Thom's time had in the next forty years raised up the new city west of the Bridge, and provided the old city with most of its prominent buildings—its Marischal College, Town's Schools, Mechanics' Institution, its Infirmary, most of its churches, its banks, and insurance offices, the new Bridge of Don, the Wellington Suspension Bridge, the widened Bridge of Dee, and all the harbour works to which reference has been made. On every hand were to be seen the outward signs of a public-spirited and prosperous community—the fruits of the initiative chiefly of the Haddens and Blaikies, and not least of Sir Alexander Anderson, though he had not yet entered into public life; of the architectural genius of Archibald Simpson and John Smith, and of the executive force of the Gibbs and others. The execution of these works had afforded much employment to labour, and contributed to the prosperity of the general population. But a time of suspense and inactivity had now arrived, and if we except the railway-making and two considerable buildings—the Music Hall and the Roman Catholic Cathedral—no constructive work of importance was proceeded with for the next dozen years.

It was on the 16th of March, 1850, that the first railway train crossed the Dee. For some little time trains had been coming as far as Craiginches, and the famous "Defiance" coach had made its last journey at the beginning of the preceding November. The terminus was at Ferryhill, for it was not till 1854 that "the arches" were completed and the Guild Street Station opened. The Acts of 1846 authorising the construction of the Aberdeenshire lines were still in abeyance, and it was not till the latter part of 1852 that the first turfs were cut of the Deeside Railway, from Ferryhill to Banchory, and of the Great North main line, from Kittybrewster to Huntly—the one line to be completed and opened for traffic in the autumn of 1853, and the other twelve months later. The next dozen years or so saw the completion of all the Aberdeenshire lines except the Cruden branch, and, indeed, of the entire Great North system with that exception and the Banffshire coast line to Elgin. "All roads lead to Rome," it was said. All these railways, north and south, radiate from one centre, and have that centre as their common objective. *All minister to the commerce of Aberdeen.*

But no enormous benefit appears to have accrued to the city from the process of railway construction. Most of the materials and rolling stock merely passed through from other centres of origin. Some contracts for cast-iron "chairs" and bridge-work were placed with the Aberdeen foundries; bricks to a large extent were also locally furnished, and no doubt many minor things, including supplies for the workmen, went from the city. Within the city bounds there were some works of importance, including the Ferryhill viaduct, and, at a later date, the Denburn junction line with its tunnels; also the stations. The locomotive works at Kittybrewster gradually expanded to large dimensions, until at last they have had to be removed to a larger site. As regards the population-gauge, however, more than half the period of most active railway-making is comprised within the ten years 1851-61, when almost no increase in the number of inhabitants took place.

One local industry was indeed in a highly prosperous condition during this era of depression—that of shipbuilding. The celebrity of the Aberdeen "clipper" ships in the China tea trade and in the Australian passenger trade dates from about 1850. The first Aberdeen vessel on the "clipper" model of American privateers was built by Messrs. Alexander Hall and Sons in 1839 for the Aberdeen and London passage, and ships of similar design were soon turned out by the other local shipbuilders. In the hands of the eminent firm of George Thompson and Co. they gained an immediate reputation in the rapidly developing Australian trade, and for a number of years the Aberdeen shipyards had full employment on these swift-sailing ships for the longest voyages known to commerce. They held their place until the improvements in the marine engine brought in the competition and superior economy of steamers even in these long voyages. Latterly, indeed, when iron ships had come into fashion, the proximity of the Clyde to the centres of the iron trade introduced an increasing competition in that quarter with the Aberdeen industry.

But another aspect of the city's progress now demands our attention. During the period of commercial depression a movement in the direction of social reform had such notable success that the lead given by Aberdeen was followed by most of the great towns of the United Kingdom. The initiator of this move-

ment was Sheriff Watson, and it had its practical outcome in the Aberdeen Industrial Schools. Conditions are now changed in many respects, and other agencies have come into play, including compulsory education and the better looking after of children by public authorities, but in their early days at any rate a highly beneficent work was done through this instrumentality. Mr. Thomson of Banchory, a leader in cognate works of philanthropy and an influential coadjutor in this, writes of Sheriff Watson, in his book on "Prevention and Punishment" (p. 184), as having made the name of Aberdeen celebrated throughout the country, while by general assent he was acclaimed, in the words of a "North British" reviewer, as one whose name would be "handed down to posterity as one of the most practical benefactors of his country."[1] Sheriff Watson himself has recorded that he got the leading idea of the industrial school in an Aberdeen institution of slightly earlier origin—the House of Refuge; and this makes reference again inevitable to one of the most potent personalities in the history of improvement in Aberdeen — Sir Alexander Anderson. The House of Refuge—it was not quite the first of its kind—took its rise from a public meeting at which Anderson, then a young man (it was in 1835), but already favourably known as having set the Dispensary on its feet, announced that his relative, Dr. Watt, of Old Deer, by whom he had been consulted, had left a large sum of money for starting such an institution. From the same donor, through the same medium, came the gift, four years later, of the property of Oldmill for a Reformatory and School of Industry.

Sheriff Watson saw at the House of Refuge, in the Guestrow, boys of eight or ten years of age earning nearly a penny an hour at teasing hair or oakum, while the cost of their food was about 2½d. a day. From the police he learned that they knew of 280 children under 14 years of age who maintained themselves, ostensibly by begging, but chiefly by petty thefts; and from the governor of the prison, that 77 had been in his custody during the preceding twelvemonths, very few of whom could either read or write. From these facts the Sheriff deduced the practical conclusion that vagrant children should be put to work for their subsistence, and should at the same time be taught to read and write. Such children were taken by the police to the school provided for

[1] "N.B. Review," May, 1849, p. 73.

them. It was not a palatial structure such as we are accustomed to see nowadays. They were told that they could return or not as they pleased; that if they did they would be taught to work and to read and write, and would receive their food, and that begging would not be tolerated. The suppression of mendicancy was not enforced, however, until after the experiment had been tried for some years, but the magistrates, through the police, gave effect to it in 1845, "and in a few hours," as Sheriff Watson wrote long afterwards, "juvenile vagrancy was finally extinguished in Aberdeen, and has never raised its head again." The general arrangement was four hours of lessons, five hours of work, and three substantial meals, while private charity provided clothes for the most destitute.[1]

Ragged Schools had long existed, but the Industrial School was absolutely new. In order to give full effect to this preventive and educational system, legislation was required. Mr. Thomson was Convener of the County, and he and Sheriff Watson brought the subject before the Commissioners of Supply, or County Meeting. A bill drafted by the Sheriff was submitted to the Commissioners in 1850, proposing that vagrants and children so often absent from the industrial school that there was no prospect of their being educated and reformed should be sent to the colonies —not as convicts, but as "expatriated children." This bill was not accepted by the Commissioners, and one of milder character was prepared in 1851, by which it was proposed to give magistrates a permissive power to send juvenile offenders to school instead of dealing with them as criminals. The subject was much debated here and elsewhere, but at last the principles of the Aberdeen experiment received the sanction of Parliament in 1854 in two Acts, the one promoted by Mr. Murray Dunlop, the member for Greenock, and the other by Lord Palmerston, the Home Secretary in the Ministry of Lord Aberdeen. Compulsory detention was first authorised by this legislation. Thus the industrial school assumed an important place in the administrative system.

But other things than railways, industrial schools, and industry and commerce are required for the well-being of a community. Much depends on healthy dwellings and environment, and nothing is more essential to health than pure water and plenty of it. The water question had been recurrent in Aberdeen

[1] Thomson, p. 190.

for ages. There were various wells. A better supply was brought about a century ago in pipes from about the region of Whitehall to a cistern in front of Marischal College. A still greater improvement was effected when in 1830 a new supply began to be pumped up from the old Bridge of Dee at Ruthrieston to a large cistern at the west end of Union Street, capable of holding 88,000 gallons, and through which a million gallons a day might pass. Even this supply was soon found to be deficient in quantity; and, as can be supposed, it was also far from pure. During Sir Thomas Blaikie's second provostship (1853-56), expert reports on various possible sources and means of supply were obtained, but nothing was done until 1859, when Sir Alexander Anderson, within a month of his taking office as head of the municipality, propounded his scheme for bringing 5,000,000 gallons a day from the Dee above Banchory. When the resulting waterworks were opened in 1866, the consumpt rose at once to 2,000,000 gallons a day, and in 1885 power was obtained to take 8,000,000 gallons from the river, such provision having been rendered necessary by the growth of the city and its requirements; while in place of the old cistern in the Union Street Water House, several large reservoirs in the vicinity of the city provide an aggregate storage capacity of some 30 million gallons.

The construction of the waterworks, which from first to last have cost £313,000, was the first great step in town improvement after the long period of inactivity. Hardly less urgent had become the question of sewerage, and as soon as the waterworks were completed, the Police Commissioners proceeded to provide the city with a complete system of sewers. It was not a perfect system, and has had to be added to and mended, but it was a great change for the better.

As was to be expected, the new water supply and the improved sanitary conditions in respect of drainage and cleansing were immediately followed by a very marked improvement in the public health. This subject was exhaustively treated, with full statistical demonstration, in a paper read before this Society twenty-one years ago by Dr. Simpson, then Medical Officer of Health for the city. At a somewhat earlier date, another sanitarian, the late Dr. Robert Beveridge, had dealt with the health history of Aberdeen in a paper which he read before the Social Science Association, one of the facts to which he drew attention being that the

thinning-out of the working population by the commercial crisis of 1848 had been followed by an immunity for nearly fifteen years from typhus, which had previously been appearing in sharp epidemics following each other after short intervals. Exact statistics of the causes of mortality begin with the Registrar-General's published reports, which date from 1855. From 1858 to 1869 the death-rate of Aberdeen was relatively high—" remarkably high " is Dr. Simpson's phrase. It was 24.5 per 1,000 living. In the next dozen years it was reduced to 21.5 per 1,000. That is to say, one out of every eight deaths was averted; or to put it another way, the number of deaths was reduced by 12½ per cent. The last yearly report by the present Medical Officer of Health (Professor Hay) states the death-rate for 1901 at 18.2 per 1,000, and that this exactly corresponds with the average of the preceding five years. From these facts it may be deduced that,

POPULATION OF ABERDEEN.

CENSUS.	INCREASE PER CENT.	POPULATION.
1801		26,992
1811	28 per cent.	34,640
1821	26·5	43,821
1831	29:5	56,681
1841	11·6	63,262
1851	13·7	71,973
1861	2·6	73,850
1871	19·4	88,125
1881	19·36	105,189
1891	18·8	124,943
1901	22·8	153,503

10 20 30

is still a good deal of vacant space—vacant, that is to say, of streets and houses. Though this unoccupied ground is rapidly becoming less and less, it is not likely to be anything like completely built upon in our time. Beyond the city boundary, but directly related to the city, there have sprung up considerable populations on the industrial Don and the residential Dee; and in these days of rapid communication by suburban trains and electric tramways, the course of development will be guided to a certain extent by the railway and tramway lines.

The third quarter of the century witnessed, then, as years passed on, a gradual revival of industry and a healthy development of the city. And even as regards the first ten years of that period, when the population increase was only 2½ per cent., the census of 1861 revealed a surprisingly meagre addition of only 6 per cent. for the whole of Scotland—a "startling fact," the Registrar-General's report called it, which could only be accounted for by "a very large emigration," including, apparently, an unrecorded movement into England or into seafaring life or the Army. Still, Aberdeen showed much worse than the other large towns. But in 1871 a very different comparison is presented. The increase for Aberdeen is now 19½ per cent., or exactly double the rate for Scotland, and this rate, as we have seen, continues with little variation till 1901, when the increase advances to 23 per cent. The outgo of youth, and hope, and energy to the wide world continues, but it is much more than compensated numerically by the attraction of recruits to the city to aid in its work and participate in its lot.

We come now to the question—To what is all this expansion due? The extra inhabitants would not have come or would not have remained had they not found profitable employment. The importance of the railway becomes apparent. First, it gave direct employment to a large number of men—engine-drivers and stokers, skilled workmen, porters, clerks, officials of all grades, carters, and the like, many of them householders and heads of families. The housing and other requirements of all these had their influence on the building and retail trades, and, in a receding degree, on the trades and industries to which these are related. Then, Aberdeen is the entrepôt towards which the Great North drains the country of its surplus corn and cattle and whatever else it produces, and from which it carries back all the supplies which

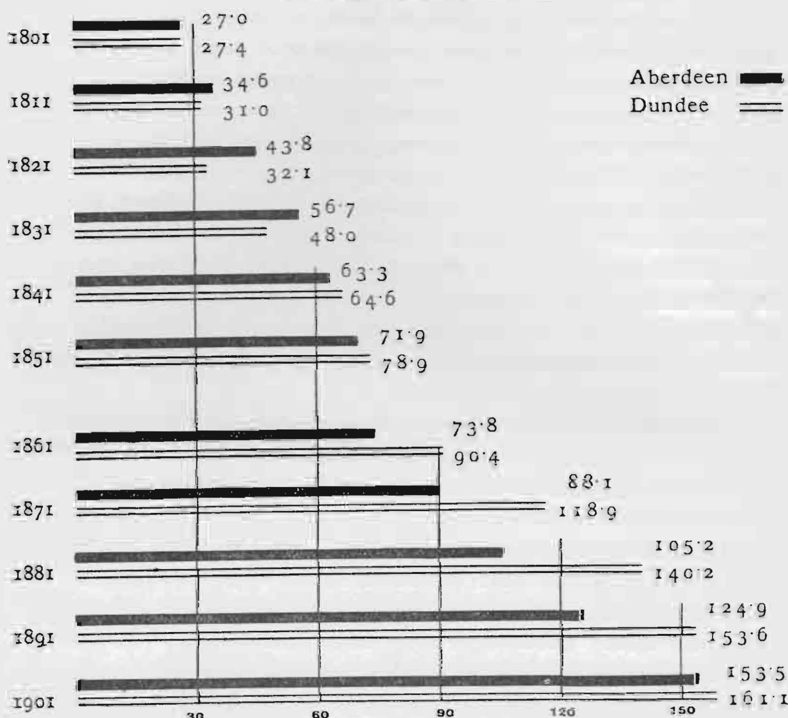
the farmer requires for his household, his land, or his herd, and all the commodities not of local origin consumed or utilised in the country town or residence. It transports the multitudinous summer or autumn visitor, and is an element in all his dealings, direct or indirect, with caterers or tradesmen in Aberdeen. Through the harbour all kinds of heavy commodities arrive, and are distributed by Aberdeen merchants over town and country. The coal arriving by sea is four times as great in quantity as it was in 1850, and that is in addition to all that comes by railway. Some articles now imported in large quantity are new to commerce within the half-century, as esparto grass, wood-pulp, and the raw materials of paper. Without going into details, however, it may be affirmed that the volume of trade in which Aberdeen is concerned has increased in a ratio vastly higher than the increase in the numbers of its people. The railway has had its part in this development. It has also been the means of focussing the cattle trade of Aberdeenshire in the city and a few subsidiary centres.

I had hoped that the census volume containing the analyses of employments would have been published in time to yield some data for this paper, but it has not yet made its appearance. Its main use, however, would only have been to give greater definiteness to information which, in a general way, we already possess.

A feature of the later industrial history of Aberdeen is the wide variety of industries and occupations in which its people are engaged. Many advantages arise from this variety. It serves, for one thing, to mitigate the risk of general depression and lack of employment. It tends also to improve the average quality of the population. Particular industries may rise or may fall. For communities as for individuals, there is wisdom in the familiar saying about not having too many of the eggs in one basket. This point may be illustrated by a diagrammatic comparison of the census history of Aberdeen and Dundee. At the beginning of the 19th century the populations of the two towns were almost exactly equal; then Aberdeen, in those its active textile days, shot ahead, and was considerably the larger town. In 1841 Dundee has the first place, and in 1861, '71, and '81, we see the effects of the jute trade in a rapid expansion of that town; but during the last twenty years, Indian and foreign competition has borne heavily on Dundee; and, Aberdeen having had a good

ABERDEEN AND DUNDEE.

POPULATION 1801-1901 [IN THOUSANDS].



time, the century ended with a rapid approximation towards that parity of the populations with which it began.

The most characteristic industry of Aberdeen is the granite trade. There are very important quarries within the city boundary, but it is with the manufacturing department that the urban community is principally concerned. Some thousands of skilled workmen are employed in it, and these count for much more, economically, in a community than a corresponding number of factory operatives earning perhaps less than a third of the wages. Then there are the engineering trades in their different branches, with ironfounding and shipbuilding, and the building trades, and there are the large manufactures of paper, soap, chemicals, pre-

served provisions and cured fish, with numerous others on a smaller scale. The later acceleration of the rate of progress as measured by population must be attributed to the fish trade. As Amsterdam is reputedly founded on herring bones, so the new suburb of Torry, with its 10,000 inhabitants, is a creation of the trawling industry. The herring fishing began to be of importance in Aberdeen about thirty years ago—after the diversion of the course of the Dee and the provision of quayage and accommodation for the curing trade at Point Law. The trawling industry, which now bulks so largely, had no existence in Aberdeen so recently as the date of the census of 1881. Last year the "harvest of the sea," *as landed from the fishing vessels*, realised £805,000, and when allowance is made for the additional value imparted by curing and for the profits of merchants, we shall see how vastly important this comparatively new industry is in the business economy of the community.

The question how Aberdeen earns its living might be made the subject of a close statistical investigation, the results of which, if in any degree trustworthy, could not fail to be of the greatest social and economic interest. To a certain extent there are obvious and easily accessible data. We have, for one thing, the amount of joint-stock capital quoted on the local Stock Exchange, and controlled by companies having their headquarters here. Our present point of view has to do only with the question of progress, and not with this larger and more complex subject of inquiry. Half a century ago the first of the Limited Liability Acts had not been passed. There were a few joint-stock companies in Aberdeen—banks, insurance companies, trading companies, shipping companies in the coasting trade, and railway companies—these last, however, being largely in a condition of suspended animation. There was also the Inverurie Canal, but apart from the Aberdeen Railway it would be difficult to make up a million sterling of joint-stock capital controlled here at the time of the great Exhibition. At present, the capital administered by Aberdeen boards of directors and recognised by the Stock Exchange amounts to about eleven millions. If to this we add the eight millions entrusted to the two local banks by the public, and the capital of some well-known concerns registered under the Companies Acts but not quoted on the Stock Exchange, a total of twenty millions will be brought out. And if it be said

that there is some "water" among this capital — that of the seven millions of Great North stock of various kinds nearly two millions is nominal, resulting from the conversion and splitting operations that have been in fashion—the twenty millions will still be much more than made good if we take into account the accumulated funds of Aberdeen insurance enterprise.

Still, however, the view is partial and incomplete. In the share capital included in this large sum, about one million is embarked in shipping- and fishing-vessels, and another million in industrial concerns. But as regards the shipping, hardly a third of the tonnage on the Aberdeen register is represented by capital dealt in on the Stock Exchange. In particular, the costly fleets of the well-known Aberdeen lines in the Australian and South African trades are beyond the purview of this institution. Still larger is the proportion of industrial capital owned and directed by private enterprise, including all that in the granite trade, with the exception of one important concern, all in the building trades, by far the greater part of that in the cattle trade as concentrated in the city, and all, or nearly all, that is in the hundred-and-one minor industries. Distribution, too, notwithstanding one enormous concern, is mainly in the hands of private enterprise.

Of the vast aggregate of joint-stock capital controlled in Aberdeen, much, no doubt, belongs to shareholders residing elsewhere; much is employed elsewhere, especially as regards the transport trades, banking, and insurance; and much that is locally employed looks to people at a distance for its recompense. And, of course, Aberdeen investors are interested in undertakings all over the country—indeed, all over the world.

The tonnage of ships on the Aberdeen register in 1851 was 50,000 tons and now it is 135,000, but as there were then only 16 steamers and now there are 83, comprising nearly three-fourths of the tonnage on the register, and as each steamer has in a year several times the carrying efficiency of a sailing vessel of the same tonnage, the increase of transport capacity of the shipping of to-day is immensely greater than the increase of tonnage.

There are many evidences that the increase of wealth has outstripped the increase of numbers. The valuation or rental of the city—£178,000 in 1855 and £783,000 in 1902—apart from railways and tramways, strongly suggests, after every allowance is

made for business premises, that the inhabitants live in better houses than they did fifty years ago; and the recent census discloses the significant facts that while 62 per cent. of the population of Glasgow and 63 per cent. of that of Dundee are housed in tenements of *one* or *two* rooms, only 39 per cent. of the inhabitants of Aberdeen are so poorly housed; and again 41 per cent. of the people of Aberdeen have the superior comfort of three or four rooms, whereas only 26 per cent. of those of Glasgow and 27 per cent. of those of Dundee are similarly provided for. These comparisons alone are indicative of a standard of well-being which certainly did not exist here fifty years ago. The deposits in the Savings Bank in 1851 were £115,000, and in 1902, in the Bank and its new investment department, they were £1,212,000—more than a tenfold increase, though the competition of the Post Office Savings Banks has come into play. Pauperism has declined very materially in proportion to population. There were 2,440 recipients of Poor Law relief in 1851 and 3,048 in 1901, when the number of the population was more than double, and when, owing to more stringent administration and perhaps other causes, there was a marked increase in pauper lunacy. Voluntary help to the afflicted has at the same time become much more generous. The expenditure of the Royal Infirmary was £2,500 in 1851 and £11,000 in 1902, and in the latter year there was the Royal Sick Children's Hospital besides, carried on at a cost of about £3,200. Within the last fifteen or sixteen years there has been an extra expenditure of £100,000 on the Infirmary—£75,000 in providing it with buildings in accordance with the requirements of contemporary practice, and £25,000 through the munificence of Lord Mount Stephen, in freeing it from debt. Then there are the Convalescent Hospital and the District Nursing Association, which are new, and the Dispensary, which is not new, but has now a maternity hospital added to it. Then there are the Morningfield Hospital for permanent sufferers, the Ophthalmic Institution, the Asylum for the Blind, and the Deaf and Dumb Institution, with some minor charities. The medical charities of Aberdeen are maintained at a yearly cost of £20,000, derived to some extent from endowments, but mainly from voluntary contributions. And this is apart from the Poor Law medical relief under the Parish Council and from the City Hospital for epidemic diseases. The fathers of the present generation did their part in respect

of medical charity according to their means and the views and agencies of their day; but the sons are not unworthily following in their footsteps—with a more adequate sense of what is required.

Another sphere in which voluntary agency as distinguished from compulsion or investment with a view to profit has had notable exercise during the half-century is that of church building. There were 49 places of worship in 1851, including 15 Free Churches, all of course new, or with one or two special exceptions. Of the 49, 28 have been replaced by new buildings on the same or other sites, some have ceased to be used as places of worship or have changed hands, and 39 new congregations appear to have been formed. There are now 85 places of worship in the city, a net increase of 36, but no fewer than 67 of them have been erected since 1851, leaving only 18 in use now that were in use then, which appears also to be the number either removed to new sites or that have disappeared from the list. The cost of these churches has differed very widely. Some have involved heavy outlays, and some of the smaller ones have been very moderate. Then there have been "restorations," as at the Cathedral and the University Chapel, improvements or additions at many of the churches, mission, or other halls in connection with many of them, and during the half-century the organ has all but universally come in. I have not attempted a close reckoning of the bill of costs, but probably it would not be an over-estimate to put the average cost of the 67 churches, with their sites, where these were new, at £6,000 each, or £400,000 in all, and perhaps the accessories, improvements, and additions might raise the total to something like half a million.

PLACES OF WORSHIP.

	In 1851.	Rebuilt.	New Congs.	In 1903.
Established Church	11	2	11	22
Free Church	15	12	11	33
U.P. Church	5	4	2	
Episcopalian	4	2	4	8
Roman Catholic	1	—	2	3
Congregational and E.U.	5	3	4	8
Baptist	3	3	2	4
Others	5	3	3	7
	49	28	39	85

Number in 1851 - - - -		49
Built or Rebuilt since - -	67	
Removed or Disused - -	18	
Net Increase - - - -		36
Number in 1903 - - - -		85

It is unnecessary to dwell on the increased importance of Aberdeen as an educational centre. Fifty years ago it had its two Universities, its Grammar School, still under the rectorship of the famous Dr. Melvin, and housed in the quaint one-storey building in the Schoolhill—the provision of the present buildings and grounds is one of Sir Alexander Anderson's achievements. It had its Town's Schools in Little Belmont Street, erected under the authority of an Act of Parliament; its Gordon's Hospital, Boys' and Girls' Hospitals, Trades School, endowed schools, private schools, and denominational schools, recently augmented by those of the Free Church. There was also the Mechanics' Institution, doing much good work, and there were the industrial schools. The list is a fairly long one, and nobody thought that the town was starving educationally, though the compulsory officer had not come in, and the defaulting parent was a law to himself. Thirty years ago the School Board came upon the scene. It has built some thirty schools at a cost of £375,000, of which £281,000 remains as debt. Apart from the cost of buildings, it spends on education £100,000 a year, of which £88,000 is derived from Government grants and the rates in nearly equal proportions, the other £12,000 coming from fees, endowments, and rents. Gordon's College disposes of about £12,000 a year, apart from foundations and bursaries, and perhaps as much goes to the other schools not under the Board. Education at the University cost about £18,000 a year before the Carnegie money came in. The training colleges and private teaching and special schools and classes must bring up the total yearly expenditure on education to a sum considerably beyond £150,000, by far the greater part of it provided by rates, taxes, and endowments. The endowments of the University, Robert Gordon's College, and the Educational Trust amount to a capital sum of £680,000.

Much has been done to improve the external aspects of the city and its general amenity as a place of residence. Fifty years ago it had no public park except the Links: now it has half a

dozen—the Victoria Park and the Union Terrace Gardens provided from property belonging to the town; the Duthie Park, gifted to the community by private munificence; and the Westburn, Stewart, and Torry Parks, acquired by purchase. Though not a public possession in exactly the same sense, there is also the Botanic Gardens in Old Aberdeen, which is likely to have great and increasing interest for members of this Society, and which, as regards both its acquisition and its endowment, is also due to the wisdom and liberality of private donors. Not only have the new streets that are so numerous been judiciously laid out on the whole—though there are exceptions, and regrettable overcrowding of tenement houses has taken place in some new localities—but a very large sum has been expended from the Corporation funds and under statutory powers on street improvements in the older parts of the town. The construction of the Rosemount Viaduct, under Mr. Esslemont's bill, effected an organic improvement second only to the making of Union Street. The widening and levelling of Union Terrace, the improvement of the Schoolhill, and the widening of Justice Street are examples of works of this kind that have added much to the attractiveness of the town. Its central parts have been embellished by the erection of several statues, and trees have been planted along the sides of many of the suburban streets. An increasingly valuable asset of the community from an æsthetic point of view is the Art Gallery, a comparatively recent institution, lately enriched by the Macdonald and Primrose-Leslie collections. In respect of architectural adornment, the city has undergone a wonderful transformation, as we see not only in Union Terrace, the Viaduct, the Schoolhill, and Marischal College, but in the residential districts and in the great central and business thoroughfare.

The electric tramways, which are now so important an element in our daily arrangements, were hardly dreamt of in the philosophy of the last generation, and it is only thirty years since the tramways with horse-traction were introduced in Aberdeen.

A great process of "municipalisation" has been going on. Fifty years ago the public lighting was provided by the Gas Company and paid for by the town, and the removal of refuse was done by contract. The amalgamation of the Police Commission with the Town Council in 1871 was accompanied by the buying-out of the Gas Company by the town. We have now a

library on the rates, and in recent years, besides the tramways and electricity supply, our enterprising municipality has provided municipal baths, and entered into such questionable speculations as a municipal lodging-house and municipal dwelling-houses.

The capital expenditure by public boards in Aberdeen since 1862 exceeds three millions. It is a large sum, but much of the expenditure is what is called "reproductive," and the charge upon it falls not upon the ratepayers as such but upon the consumers of the commodities produced, namely, gas and electricity, and the users of the services provided by the tramways and the harbour.

CAPITAL EXPENDITURE.

1862-1902.

TOWN COUNCIL:		
Waterworks, - - - -	£313,366	
Sewerage, - - - - -	206,635	
Improvements and Parks, - -	258,269	
Corporation Buildings, - -	86,495	
Lodging-House and Dwellings, -	36,106	
Public Library, - - - -	14,273	
Fish Market, - - - -	20,000	
Gas Works, - - - -	311,100	
Electricity Works, - - -	173,572	
Tramways, - - - - -	246,726	
		£1,666,542
HARBOUR BOARD:		
New Works, - - - -	£635,231	
Lands and Fishings, - - -	133,722	
		768,953
SCHOOL BOARD:		
Schools and Sites, - - - - - -		374,900
PARISH COUNCIL:		
Lands and Buildings (say) - - - - -		220,000
Total, - - - -		£3,030,395

The amount raised by rates in Aberdeen is now close on £200,000 a year—£125,000 by the Town Council, £43,000 by the School Board, and £28,000 by the Parish Council. The rates

of the Police Commissioners and the parochial boards of fifty years ago were a trifle compared with that. Government grants, or sums from the general taxes to the further extent of £64,000, pass through the hands of the School Board, the Town Council, and the Parish Council. So the cost of local administration comes altogether to £260,000—a burden upon the rates and taxes of £700 a day. For commodities and services sold—gas, electricity, and tramway transport—the Town Council received last year £174,000, and when the Harbour revenue is added to this sum we get another total of a quarter of a million.

Of these three millions of capital outlay, more than two millions remain as debt. Including the debt of the Municipal Department—which, however, is covered by the Corporation Stock, with a margin beyond of £145,000—the debt of the city is a large sum, namely, £2,366,000. It would be easy to find towns with a larger proportionate indebtedness, but it is quite enough.

DEBT OF ABERDEEN.

1901-1902.

TOWN COUNCIL:	
Municipal Department,	£203,000
Police ,,	560,000
Gas ,,	248,000
Electricity ,,	158,000
Tramways ,,	230,000
Total,	£1,399,000
HARBOUR BOARD,	486,000
SCHOOL BOARD,	281,000
PARISH COUNCIL (Estimate),	220,000
	£2,366,000

These matters call for discussion, but the object of the present paper has been to survey the city's progress during this eventful half-century, and to indicate, however briefly, some of the conditions and agencies to which it has been due. Much that was available in the way of statistical comparison has had to be

omitted, and lines of inquiry have been suggested which it has been impossible to pursue within the limits of time. But it is impossible to enter, however cursorily, upon such a survey without being impressed with the fact that the average conditions of life in Aberdeen are far better than they were half a century ago, and that as a community we are healthier and wealthier—in a wider sense than that of money—it is to be hoped we are also wiser than our predecessors.