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the map had not led to suspect. In that solemn contemplation you participate so to speak with eternity; it is like seeing a portion of the Earth evolving out of the primitive mass under the action of the shaping elements which are still at work.

And the wonderful effects obtained by such scales are still increased in larger-scaled reliefs, 1:50,000, 1:10,000, and so on. Of course the modest parish school could not attempt to possess all these treasures, if they were to be obtained, as to-day, by long and costly processes which at the most can give a few specimens for richly endowed museums. But here also industry comes to our help. In the same way as we can provide spherical discs in an unlimited number of copies, we are given the promise of thousandfold and millionfold exact reproductions of terrestrial reliefs. Not a single classroom will be then without truthful images of the most beautiful regions of the Earth, of those where the most remarkable features are to be seen and the most interesting phenomena to be studied.

Thanks to these lifelike reliefs, which will be found everywhere and which every child will see, we shall return to the direct study of nature; the teaching of Geography will revert to the method with which it started. The child will draw his own and immediate conclusions from the very source of our knowledge—the contemplation and study of our mother Earth.

THE FIRST TOPOGRAPHICAL SURVEY OF SCOTLAND.

By C. G. CASH, F.R.S.G.S.

THE recent publication in the *Scotsman* of two articles on the Ordnance Survey (September 18 and 25, 1900) has drawn attention to several matters of interest and importance in the history of Scottish Topography, and, among others, especially to the preparation and publication of the first topographical survey of Scotland. This great and notable work was executed during the last part of the sixteenth and the first half of the seventeenth centuries, and it seems strange that up to the present no adequate and accurate account of it has been published, nor indeed any account at all that is readily accessible to the general reader or to the student who cannot get to the limited publications of certain learned and exclusive societies. Possibly an adequate account cannot yet be written, for there is a lack of information in regard to several material points; but it should be possible to give an account that avoids any positive inaccuracy, and such an account I hope here to present.

The men to whose ability, energy, and devotion the survey was due have not received the recognition that is their right; and neither is there to their honour any memorial even in the hall of the Royal Scottish Geographical Society, nor are the manuscripts of their work treated with the care and respect that should be bestowed on such sacred relics. I propose in this article to collect what is known of this survey and of the men that made it, and so to point out the extent of the indebtedness of

the modern geographer to the six men who first produced a topographical survey of this country. These six men were TIMOTHY PONT, JOHN SCOT, ROBERT GORDON, JAMES GORDON, WILLIAM BLAEU, and JOHN BLAEU; of these, as the names indicate, the four first were Scotsmen, and the others Dutchmen.

There is a great contrast between the conditions under which this first survey was made and those under which its latest descendants and successors, the Ordnance and Geological Surveys, are being conducted. Nowadays the country is peaceful, the inhabitants are interested in the surveys and friendly to the surveyors, or at the worst look on them with unintelligent wonder; travelling is easy by road and rail; accommodation is in general readily obtained and comfortable—even “camping out” has its pleasant side, though some of the mountain work, especially in the preliminary stages, exposed parties of the surveyors to the severity of the elements. But the conditions of the first survey were far otherwise, and it may be well to get some idea of them. Scotland had then but recently passed through the troubles and disasters that marked the reign of Mary Stuart. The fierce turmoil and angry controversy of the Reformation movement were agitating men’s minds and absorbing nearly all the national attention. And before the work of the survey was completed, the political contest had resulted in the Civil War and the execution of Charles I. Such a period seems as unsuited as one could possibly be for such a work as a topographical survey, and yet it was in this period and amid all this disturbance that the work was done. The greater is the credit due to the Scotsmen who carried it out, and the more the honour that we should pay them. Again, locomotion was a matter of no small difficulty, especially in the Highlands, where practically no made road existed: “If you’d seen these roads before they were made, you’d lift up your hands and bless General Wade.” There should further be mentioned one other element of difficulty, and that is the sharp demarcation that then existed between Lowlanders and Highlanders. To-day the linguistic difference scarcely constitutes a difficulty, and is only a matter of interest and curiosity. But then Lowlanders and Highlanders had no friendly dealings together, and could not understand each other’s speech; and the “wild Scots” were seen outside their highland fastnesses only when a raid was to be made on the cattle and crops of the Lowlanders. The difficulty, then, of the surveying of the highland portion of Scotland by a Lowlander would appear to be insuperable, and, indeed, was nearly so.

The idea of making a topographical survey of this country originated with Timothy Pont, the son of a famous reforming clergyman, Robert Pont, of whom a little may well be said, inasmuch as he was resident in Edinburgh, and took a notable part in the establishment of the Presbyterian form of church government in Scotland. Robert Pont was born in 1524 and died in 1606. He was by training both a lawyer and a minister of religion, and was the last person to combine the functions of a preacher and of a Lord of Session. In 1574 he was appointed to the second charge of St. Cuthbert’s Church, and he spent practically the remainder of his life in the service of the Church in Edinburgh. In

1578 he was promoted to the first charge, and he was "relieved of the burden of ordinary teaching" in 1602. During the intervening twenty-four years he was five times Moderator of the General Assembly, and took a foremost place in the councils of the Reformed Church, his legal training making him specially useful. In 1584 he was one of the small band of ministers protesting against the Acts of Parliament regarding the jurisdiction of the Church, and had to take refuge a while in England. On his return he suffered a short imprisonment. He outlived his term of active service by four years, dying in 1606, and being buried in his own churchyard.

The children of such a man, born in such a time of national fervour, would not, one naturally expects, be lacking in energy and devotion; and Timothy Pont fulfils this expectation. It is to be regretted that only the most meagre information has reached us regarding this man's life and work, and even that little has been sadly distorted and mis-told by various writers. I shall endeavour here to state accurately what we know about him, and to distinguish between knowledge and surmise. The date of his birth is unknown, but it must have been soon after 1560, because in 1579 he became a student in St. Leonard's College, St. Andrews. His father was Provost of the Trinity College, Edinburgh, and used the influence of his position to secure for Timothy some of the income of the College lands. This was done in 1574, while Timothy was yet a schoolboy, and as an early instance of the endowment of research will meet with the approval of geographers. At St. Andrews, Timothy graduated in 1583, and in the same year received a confirmation of his grant of the Trinity College endowment. It has sometimes been stated that we have no knowledge of him for the next eighteen years. But there exists still a map of Clydesdale drawn by him and bearing the date 1596, and this suggests that this interval was given up to the topographical studies that have made his name famous. In 1601, one year before the retiral of his father, he was appointed to the ministry of the remote parish of DUNNET in the extreme north of Caithness. How long he stayed here is not known, but he was there in 1609, when he applied for a grant of 2000 acres of the confiscated lands in Ulster. And he was there in 1610, as is proved by his signature as witness to a document executed in that year. But he was not there in 1614, for another minister then held office in Dunnet. There is no record of his death, and but the one date to indicate when he was engaged on the noteworthy work of his life, the beginning of the first topographical survey of Scotland.

Of the actual making of this survey we have very little knowledge. The only original record of it is contained in a letter from Robert Gordon to Sir John Scot, dated 1648. This letter I shall present at length in a later part of this article. Here I shall content myself with saying that it attributes the undertaking solely to the self-devotion of Timothy Pont, specifically stating that he had no help from any patron; it notes the linguistic difficulty already referred to, and reports the other difficulties and dangers of the adventurous wayfarer among uncivilised people in a strange land. The survey having been more or less completed, Pont

could find no publisher, and died while awaiting better times. This last statement, I take it, refers to the period during which he was minister at Dunnet, my own view being that he made the survey before his appointment to the ministry, and that he drew his means of subsistence from the Trinity College lands.

Be this how it may, Pont died some time before 1625, as is proved by the next part of the story. This next part is by no means clear, for there is no record of how the next two actors in it, King James VI. and Sir John Scot, came to interest themselves in the matter. According to Gordon's letter, the manuscript maps left by Pont were not at all well cared for by those into whose hands they fell at his death. I shall be able a little later to report a case somewhat parallel to this. Presumably Pont's heirs did not understand that he had been engaged on a work of national importance, and the precious sheets were left to damp and vermin, and would soon have lost all their value, and even ceased to exist. But King James VI. learned of their existence, and, as became the "British Solomon," gave orders that they should be officially cared for. But the official caring for them only meant concealing them among the royal archives, and so preventing them from attaining their legitimate end, publication.

Then Sir John Scot appeared upon the scene. He was a landed proprietor, a Lord of Session, and a busy man in the affairs of the nation. He was born in 1585, and died in 1670. In 1606 he succeeded to the office of Director of the Chancelry, an office that had been held by his father and his grandfather before him. In 1611 he acquired the estate of TARVAT, to the south of Cupar-Fife, and called it SCOTSTARVET. When the trouble of the Civil War broke out, he was on the King's side, and as a result lost his judgeship when the Republican party triumphed. He was fined £1500 by Cromwell, but could not regain any of his offices. Apparently his fruitless negotiations gave offence to his own party, for even at the Restoration he was still kept out of office, and was further fined £500.

But our present interest in him is less as a statesman than as a patron of learning. His home at Scotstarvet seems to have been the resort of the literary men of his time, and he was in correspondence with the scholars of the Low Countries. How Scot became interested in the maps of Pont is not known, but Gordon tells us that Scot urged King James VI. to have them published, and undertook the superintendence of the work. There is no evidence to show when this occurred, but it cannot have been very long before the death of the king in 1625. Scot's duty became a twofold one: he had to find some one capable of revising, correcting, completing, and editing Pont's maps, and he had also to find a publisher able to bring them out in a fitting manner. The second of these he found in the firm of Blaeu in Amsterdam, and the first in Robert Gordon of Straloch, a member of the famous Aberdeenshire Gordon family.

Robert Gordon was born in 1580, and died in 1661. He was educated at Marischal College, Aberdeen, then newly founded, and is said to have been its first graduate. In 1608, at the time of his

marriage, he bought the estate of Straloch, a few miles east of Inverurie in Aberdeenshire, and here he continued to reside, even when, on the death of his elder brother in 1619, he succeeded to the family estate of Pitlurg. Robert Gordon was a man of some note in the political affairs of his time, and was concerned in the negotiations between Huntly and Montrose in 1639, when the latter was so strongly supporting the Covenanted cause against Charles I. It was some little time before this that he became actively engaged in the work of preparing Pont's maps for publication. We do not know how this was brought about, though it seems to have been in some way the result of Sir John Scot's action. Gordon was himself an enthusiastic geographer and an excellent cartographer, as is well shown by his manuscript work still extant, and he would probably need but little pressing to undertake the task. When he began the work is not known, but the earliest dated map by him, one of the Edrachilles district, is dated 1636. This makes Gordon fifty-six years of age, and his powers, especially those most needed in the close and fine work of cartography, were probably not at their best. Further, he had the full burden of a large family—he left seventeen children—and the cares of his estates, and was troubled by the politico-ecclesiastic strife that led to the Civil War. It appears that the national character of Gordon's undertaking was recognised by both sides in the struggle, for King, Parliament, and General Assembly encouraged and aided him. In October 1641 the king wrote him—here and in all transcriptions of such documents I modernise the spelling—“To our trusty and well-beloved, the Laird of Straloch. Charles R. Trusty and well-beloved, We greet you well. Having lately seen certain charts of divers shires of this our ancient kingdom, sent here from Amsterdam to be corrected and helped in the defects thereof; and being informed of your sufficiency in that art, and of your love both to learning and to the credit of your nation; We have therefore thought fit hereby earnestly to entreat you to take so much pains as to revise the said charts, and help them in such things as you find deficient therein. Which, as the same will be honourable for yourself, so shall it do us good and acceptable service. And if occasion present, we shall not be unmindful thereof. From our palace of Holyroodhouse, the eighth day of October 1641.” This was not, as we have already seen, the beginning of Gordon's labours, though some have so understood it. It may very well have referred to the first batch of proofs.

When the opposition to the king had taken definite shape in the National Covenant of 1638, Gordon's work was of course much disturbed, as Aberdeen was under Huntly's influence, and we have already seen that Gordon was concerned in the political troubles. But in order to give him as much freedom as possible to devote himself to his topographical work, he was, by special instruction of the Parliament, exempted from the burdens that he would otherwise have borne, and in January 1646 we find him petitioning for a renewal of his exemption. He writes: “My Lords of Parliament, unto your Lordships humbly mean and show I, your Lordships' servitor, Mr. Robert Gordon of Straloch, that where in consideration of my pains and travail in revising and correcting the

charts of this kingdom, it pleased your Lordships to exempt me from the ordinary burdens of the rest of the subjects in Scotland, to the end I might the better attend thereupon, and be encouraged thereby to lend my best assistance for the perfection of so honourable a work, which albeit I have carefully gone about hitherto, and am ready to give a proof thereof to those who have the doing of the work of this kingdom, yet my former warrant is disregarded by the present commander, and I daily taxed in a heavy manner, whereby I will be discouraged and disabled from prosecuting the intended work, except your Lordships provide remedy. Herefore I beseech your Lordships to take consideration of the premises, and to cause renew my said warrant and exemption in such a manner that it may be available for me, to free me from the warrants of commanders who have slighted your former commands, which will encourage me more and more to follow out the intended work, and to be ready at all occasions to obey your Lordships' commandment, and your Lordships' answer I humbly crave." This petition was answered thus: "St. Andrews, 28th January 1646. The Committee of Despatches having considered the supplication above written, do, upon the grounds therein mentioned, renew all former acts and warrants past in the supplicant's favour. And ordains all officers and soldiers punctually to observe the same as they will be answerable upon their highest perils. (Signed) JA. PRYMEROSE," and was duly acknowledged by the local authorities, "At Aberdeen, the second day of March 1646. The which day the several acts and warrants respective above written were produced before the Committee of War for the shire of Aberdeen, and being seen and considered by them, they acknowledge the same, and do recommend the aforesaid warrant to Col. Robt. Montgomerie, commander-in-chief. (Signed) Mr. THO. MERSER." But a little later in the same year the exemption had to be repeated in stronger terms. "To the Right Hon. the Committee of Aberdeen, or, in their absence, to the chief commander of any forces within that shire, These. Right Honourable, Since it hath pleased the Estates by two several acts to exempt Mr. R. Gordon of Straloch from all quartering or other public burden whatsoever, to the end he may more freely attend to perfect that work (recommended to him by the said Estates) of helping and correcting the several charts of this kingdom; it is most necessary that their intention in the premises be followed, tending so much to the weal of the public. And being informed that, notwithstanding of all the former warrants given him for his exemption, he is still vexed by some unruly people, contrary to the mind of the Estates, therefore we have thought fit seriously to recommend the said Mr. Robert Gordon to you, to the effect he may be sheltered by your authority from all public burden or injury whatsoever, conform to the aforesaid acts given to him by the said Estates, that thereby he may be encouraged to go on to the perfecting of that work so happily begun; which, as it will be acceptable, and tend to the honour of this nation, so shall it oblige us to remain your assured good friend. (Signed) CRAFURD and LINDESAY. Edinburgh, 2nd May 1646." The recognition of this document at Aberdeen is somewhat curt: "13th June 1646. The above-written letter produced by the

Laird of Straloch. (Signed) ERSKYNE, S.P.C." The General Assembly tried to help Gordon by ordering all parish ministers to supply him with accounts of their parishes, paying most particular attention to geographical matters—a "Statistical Account" in short. But four ministers only are noted as obeying this instruction, because the instruction carried with it neither rewards for obedience nor punishments for neglect.

Robert Gordon felt himself unequal to the whole task of editing the maps of Scotland, and associated with himself his son James, the minister of Rothiemay, a parish in Banffshire, just where the Deveron enters that county. James Gordon was born probably about 1615, and died in 1686. When Robert Gordon was making the earliest dated maps that we have of his, in 1636, James Gordon was graduating at King's College, Aberdeen. We thus have the pleasing spectacle of the father, just passing from middle age and feeling the burden of his years, assisted by his young, vigorous son, just entering upon manhood, and with a full share of ability and goodwill. James Gordon was the equal, or perhaps the superior, of his father in cartographical work, and the one finished specimen of his work still extant is remarkable for beauty and neatness of execution. This is his map of Fife, dated 1642, and is a duplicate of one drawn while he was visiting Sir John Scot. Of this map, or rather of the first copy of it, a curious story is told. The map was on its way across to Holland to be engraved and printed, when it was seized, along with the rest of the contents of the vessel, the *James Gibson* of Leith, by the men of Dunkirk, who carried on in general a privateer warfare or piracy. Sir John Scot brought all his influence to bear to secure its recovery, and apparently succeeded. But it happened that Robert Gordon had counselled James to keep a copy of it, and it is presumably this duplicate that we still possess. Sir John's letter about the matter says, "To the right hon. my much respected friend the Lord of Straloch, These. Right honourable, being resolved to see my friends in the Low Countries in this idle time for learning, the first rencounter I had at Campheir was that I heard that a Dunkirker ship had taken your son's chart of Fife from one of our ships of Leith called *James Gibson*, and then instantly I moved one of our countrymen, Mr. Trotter, to write to some of his friends at Ostend, where the captain-then was, to persuade him to send it back to me; but it is feared we shall come to no speed, this people is so malicious against our country. You did wisely that caused your son keep a double of it, or otherwise all had been gone. . . . If ye think meet ye may desire your son to draw it over again, that it may be joined with the rest; and if ye will give me any business here, I shall strive to obey them, and testify ever that I am and shall remain your humble servitor. (Signed) SCOTTISTARVEIT. Campheir, 2nd September 1645." Besides assisting his father in the work of editing Pont's maps, James Gordon made several admirable and valuable drawings of great interest to antiquarians. Of these may here be mentioned his large view of the City of Edinburgh, views of Edinburgh Castle, Holyrood Palace, the Parliament House, and Heriot's Hospital, and a plan of the City of Aberdeen. In all these he displays a certainty and accuracy of draughtsmanship that gives quite exceptional value to his work.

Sir John Scot, as I have said, was in constant communication with the scholars of Holland. Here he made the acquaintance of one of the most famous of Atlas makers, William Blaeu of Amsterdam. Blaeu carried on one of the largest printing establishments in Amsterdam, and Scot had intrusted to him the printing of two volumes of poetry by Scottish writers, to which he had himself contributed pieces that received the compliments of the printer. Before this time the most famous Atlases were those of the pioneers ABRAHAM ORTELIUS (1570), and GERARD MERCATOR (1595). Each of these had issued a solid folio of maps of the world, but in each case the Atlas was contained in a single volume. William Blaeu, geographer, mathematician, and pupil of TYCHO BRAHE, undertook a similar work, but on a larger scale; and, laying under contribution all the best-known geographers of his day, began the compilation of that noble work that remains to us, monumental in conception, and for its day supreme in execution. In its earliest form this Atlas was probably contained in three stately folio volumes; the text was printed in bold, clear lettering, and the maps were admirable specimens of clean and elegant engraving, in most issues, though not in all, coloured, gilded, and decorated with illuminated coats-of-arms, to a degree of glory that would now be thought too ornate for a book so eminently prosaic and utilitarian as an Atlas. As William Blaeu and his son John acquired more maps, the Atlas was issued in a larger number of volumes, until in 1662 it reached what seems to be practically its final form, and was thereafter issued in eleven or twelve volumes. To these were sometimes added other volumes, bound in the same style, and containing plans and views of famous cities and scenes. This final issue, with or without the volumes of views, is the most familiar form of the Atlas; and in Edinburgh copies of it are to be seen in the Public Reference Library, the Library of the Royal Scottish Geographical Society, the University Library, and the Advocates' Library. The text was printed in several languages, for circulation in different countries, but no copy was printed in English; most copies are probably in Latin, then the common language of students.

Throughout the progress of the compilation of this Atlas, Blaeu was constantly on the outlook for suitable contributors, and it so happened that he was considering the possibility of getting maps of Scotland just about the time that Scot was under the necessity of finding an engraver and publisher for the maps prepared by Pont and the Gordons. The conjuncture was a fortunate one, and the outcome of it most satisfactory. After a somewhat extensive correspondence in regard to the matter, Scot himself went across to Amsterdam, and, the elder Blaeu having died in 1638, assisted John Blaeu in the literary part of the work of the Scottish volume, writing or dictating most of the descriptions that accompany the maps. Blaeu is emphatic in his praises of the ample and exact knowledge, the literary ability, and the unstinted devotion shown by Scot in this part of the work. "Tarvet," he writes, "crossed over lately from Scotland into Holland, and staying in this city of ours for a considerable time, . . . spent whole days in my house in writing and dictating things that might tend to illustrate the maps of his fatherland, with

such happy memory that, though without papers and books, he described the shape of districts, their position, their boundaries, their present and former owners, the produce of their soil, their cities, their rivers, and many things of this kind. That man seemed to me to be a very Scotland to himself, and to have grasped in his mind the form of its districts. How happy do I think that land in which those who are free from the cares of state thus devote themselves to philosophy."

The Gordons appear to have finished their share of the work, the preparation of the manuscript maps for the engraver, by the beginning of 1648, for that is the date of Robert Gordon's dedicatory epistle to Sir John Scot. The processes of engraving and printing took some time longer, and the Scottish volume, including some maps of Ireland, was not issued until 1654. It formed the fifth and latest volume of the form the Atlas had then attained. In the final form, first issued in 1662, the number of maps was much greater, and Scotland then formed the sixth volume of the set of eleven or twelve. The maps of the Scottish volume in the later issues are the same as those of the first one, except that a new map of Modern (seventeenth century) Scotland is substituted for the one originally issued, and that in several maps "wind-roses" and ships are inserted as decorations. The text also is nearly the same, a few paragraphs having been inserted in some places, and an entirely new description of Aberdeen and Banff, by Robert Gordon, added to the one previously given.

These volumes are large folios, bound in cream vellum enriched with designs stamped in gold. They present a dignified and handsome appearance, and are indeed a pleasure to the bibliophile. The Scottish volume contains fifty-five maps and descriptive text to accompany them. Of these maps, six are of Ireland, one is of the whole British Isles, in the style of "Ptolemy" maps, one is of Ancient Scotland, and one of Modern (seventeenth century) Scotland. The remaining forty-six are detailed topographical maps of districts of Scotland, frequently a river valley being taken as the topographical unit, and the islands being treated in much detail on eleven of the maps. The amount of information on these maps is not a little surprising—hills, streams, roads, towns, villages, and notable houses being inserted in large numbers, and with remarkable, though by no means absolute, accuracy. As a curious instance of inaccuracy, I notice that the positions assigned to Scotstarvet on the maps of Fife and of East Fife do not agree by about a mile. To illustrate the amount of detail given it may be stated that near Edinburgh, north of the Queensferry Road and between the rivers Almond and Leith, are shown LYTH, NEWHAUEN, WEIRDY, GRANTOUN, NETHER KRAMONT, OBER KRAMONT, NETHER BARTOUN, OVER BARTOUN, LAURENCETOUN, PILMUSE, MOORHOUSE, W. DRYLEY, E. DRYLEY, BONITON, WARESTO, CANONMILLS, INNER LYTH, and KRAIG. And this is but a fair sample of the detail that appears generally on these sheets. In places we find curious records of conditions now passed away; thus east and west of "KORSTORPHIN" Castle are plotted the two lochs, Gogar and Corstorphine, now no longer existing, but still quite obvious to the eye of the geologist, and still simulated by the low-lying mists of autumn. On the

other hand, though we can recognise Scotland's highest mountain in "BIN NOVESH," the three next in height, BEN MUIC DUI, BRAERIACH, and CAIRN TOUL, are omitted, and this although it is reasonably certain that Pont passed among the Cairngorms, and although the Gordons were Aberdonians.

Of the forty-six sectional maps, thirty-six are definitely stated to be the result of the labours of Timothy Pont; three, that of Scotland north of Glenmore, that of Aberdeen and Banff, and that of Braid Alban, are attributed to Robert Gordon; and one, that of Fife, is named as the work of James Gordon. It is probable that the maps of East Fife and of West Fife are by him also. That leaves four maps with no assigned authorship, that of Lothian and Linlithgow, that of Sutherland, that of Harris and Lewis, and that of the Orkneys and Shetlands. Eleven of the sectional maps are specifically dedicated each to some Scottish gentleman or nobleman of the time, and the later form of the map of Modern Scotland is similarly dedicated. Sir John Scot is honoured with the dedication of the last map, that of the Orkneys and Shetlands.

But Scot is honoured much earlier in the volume, for among the preliminary chapters prefixed to the actual geographical matter appears the letter, previously referred to, from Robert Gordon, dedicating the whole work to Sir John Scot. As no good translation of this letter is available, and as the letter itself contains the original record of the compiling of the Atlas, I present here a somewhat close rendering of it. As the Latin and French versions differ slightly, I have enclosed in square brackets passages in the Latin but not in the French, and in round brackets passages in the French but not in the Latin. "To that distinguished and eminent gentleman, John Scot, of Scot Tarvat, Director of the Chancery of the Kingdom of Scotland, and Assessor in the Supreme Court. Now at length, after many labours, after the loss of much time, and after such troubles as the mind shudders to remember, our Scotland worthily shows herself, and, among the other countries of the world, assumes her place in the great and famous Atlas of John Blaeu, [who is so renowned and so far before all others in this department of knowledge], (for which all lovers of geography will be under eternal obligation to him). Nor is she, as so often before, drawn by her writers from mere hearsay, deformed by wretched fables, contracted on scanty sheets, and quite unlike her real self; but as that talented [young] man Timothy Pont, the originator of this work, left her in his papers, [the memory of which man, without the crime of the greatest ingratitude, neither can nor may be neglected]. For, with small means and no favouring patron, he undertook the whole of this task forty years ago; he travelled on foot right through the whole of this kingdom, as no one before him had done; he visited all the islands, occupied for the most part by inhabitants hostile and uncivilised, [and with a language different from our own], (whose language he did not understand at all); being often stripped, as he told me, by the fierce robbers, and suffering not seldom all the hardships of the dangerous journey, nevertheless at no time was he overcome by the difficulties, nor was he disheartened. But when, having returned, he prepared to publish the results of his labours,

he was defeated by the greed of printers and booksellers (who refused to supply the necessary funds), and so could not reach his goal. While awaiting better times, untimely death took him away (in the flower of his age). His heirs, to whom he left his maps at his death, being men without knowledge of such things, neglected the whole matter, and the maps, being kept badly and carelessly, worm- and moth- eaten, already were falling to pieces, and, fading away, were becoming illegible even to careful eyes. Then that most munificent Prince, James, King of Britain, being informed of these matters, gave orders that they should be purchased from the heirs, and published. But, alas! they went from bad to worse, for they fell into the hands of those whose purpose was to conceal them as though they were religious mysteries; and so again they lay hidden, though the keepers were changed. Then you, O famous man, born for the good of literature, regretting so great a loss, urged that they should be published; you took charge of the matter with especial care, and you inquired anxiously who could be got to assist in the production of this work, as yet incomplete. Wherefore not unsuitably may it be said of you what Ulysses said of himself in the strife about the arms of Achilles, 'His deeds are mine.' Indeed I may say, without fear of contradiction and without flattery, that without thee, thee only, the world would yet have seen nothing of these maps, and, though produced with such great labour by their first author, they would evilly have perished (without benefit to any one). I wish he had been fated to outlive his own works, and from them to draw the hoped-for honours and the due rewards, and not that I, as a substitute for him, should have laboured in this duty with abilities less than his. Conscious of my own weakness, I have greatly shrunk from this project. Truly, I had spent my life from my earliest years in these studies, yet I had no thought beyond my own personal pleasure, and did not intend to prepare anything for publication. There were not wanting hindrances: my numerous family, the cares of household, the diversion of my interests into other channels, my increasing years, my desire to live privately and free from public care, and the civil wars that now for so many years have troubled us, working mischief to all and sundry. I myself, living in the district where is the centre of all disorders, and suffering often to my own damage, though surrounded at your advice and request by all the safeguards that could be asked from the illustrious Senators of the Kingdom, have not felt safe, and do not yet feel safe, while still this disturbance continues. So, if anything at all faulty should appear in this edition, let it be held as due to the evil of the times, and not to my want of care. For it must be acknowledged that these labours, which demand leisure and equanimity, have fallen on most unfavourable times. Yet I wish it had been allowed me to unfold all the writings of our Timothy, [to drink them in with the eye] before they had known the hand of the engraver. There were many things to change, to add, to remove, which now await a second edition. Now whatever work is here, it is necessary that we should all say that it is yours, that you are the real parent and the true nurse; you brought these maps out of darkness; they were restored on your authority; you, as my fugleman,

dispelled from me the slothfulness of declining years, (and encouraged me to take in hand what I should not have ventured upon without your help). When I lay hidden in distant lands and far from home, you procured me the favour of great and renowned friends, who helped me, and by exhortation urged me to this work, [without whose assistance my mind would have despaired, nay, even now would be despairing]. Thus came to me certain times of peace, but if they had favoured me at my desire I intended to add many things which now I must leave to more fortunate minds. I do not fear that the keen intellect of my very vigorous friend, the renowned David Buchanan, will be lacking to the honour of his distressed country; and what studies he works out will in due time see the light; or if there are others, unknown to me, suitable for the work, there is hope that they will bring hither their contribution [with the honour of their names]. And if anything is lacking in the chorographical descriptions, while excuse should be made for my weakness, I have a son trained in these matters, who has now given a public specimen of his powers, with applause. Him I accept as my substitute, that I may receive my discharge. Nevertheless, I shall not desert my post while I have life. For the rest, having experienced now for so many years your friendship, useful and honourable to me, I shall (live and) die your [great lover], (obedient and very loving servant), ROBERT GORDON. Aberdeen, January 24th, 1648." The earliest issue of this letter was unsigned, and to the French issue by some mistake the initials I. G. were appended.

The set of maps is incomplete, inasmuch as it does not include a map of Perthshire or one of Angus. The district of Perthshire is, however, covered by other maps, Upper Perthshire notably by the map of "Braid Allaban." But of Angus no map was issued till some time later. In a letter to Robert Gordon, dated February 2nd, 1648, Sir John Scot thanks Gordon for the honour of the dedicatory epistle, and then continues, "The Earl of Southesk hath intention to send for Mr. James in the spring to draw the shire of Angus, and ought in reason to do so, seeing he lost Mr. Timothy's map, and I hope you will be counsellor of him to come, that the work may be the sooner perfected and brought to a wished end, and not be left defective in the want of so good a shire." This letter leaves it somewhat doubtful who lost Mr. Timothy's map, whether James Gordon or the Earl of Southesk. It may also be noted that among the manuscript maps that still survive there are sixteen dealing more or less with Angus. It seems that the proposed arrangement for the preparation of a new map of Angus was not carried out, for Blaeu did not issue such a map, and the Atlas is normally without one. After the destruction of Blaeu's place of business by fire in 1672, a map of Angus, with descriptive text, was prepared by Robert Edwards, minister of "Murrose," and published by Valk and Schenk in a style that matches the maps in the Atlas. Copies of this map are not common, but I find that the map without the text has been added to the copy of the Atlas in the Advocates' Library, and a somewhat small-type copy of the text without the map has been added to the copy in the Edinburgh University Library.

Of such a work as this Atlas some copies may be more interesting than others. I have in my possession a copy that is of very special interest in connection with the history of the preparation of the Scottish volume; it is the copy presented by John Blaeu to Robert Gordon of Straloch. This is an issue in five volumes, dated I. 1644, II. III. and IV. 1645, and v. 1654, and bears manuscript on the title-pages in Blaeu's handwriting, which with some variation follows this form:—"CLARISSIMO VIRO ROBERTO GORDONIO A STRATHLOCH, IN PERPETUAE SIGNUM AMICITIAE ATLANTEM HUNC D. D. J. BLAEU." By a refinement of courtesy the Scottish volume did not receive any such inscription, Blaeu's preface showing that in regard to it he considered Scot and Gordon the givers and not the receivers of favour. Robert Gordon has inserted at the beginning of this volume, in his own handwriting, his dedication to Charles, Prince of Wales, afterwards Charles II. Presumably he intended that this should be printed in the future new edition that he looked forward to, but apparently no printed copy exists. The dedication is of course in Latin, and I here offer a translation:—"To Charles, Prince of Wales, Duke of Rothesay, Earl of Ormond, etc., the eldest son of Charles, by the grace of God King of Great Britain, France, and Ireland, Defender of the Faith, and heir apparent of all his Kingdoms,—a prince powerful, of highest rank, of the greatest hope, and of noble disposition—Robert Gordon, in his own name and in that of those who in addition have brought their own contributions, humbly presents and dedicates these attempts to illustrate Scotland and all the islands that lie round about it and look to the authority of its crown; attempts undertaken long ago and with great spirit by Timothy Pont, before untimely death carried him away, and now rightfully wrought over again, with many interpolations, completions, enlargements, additions, and corrections, and with the descriptions added that were obviously desirable;—this posthumous offspring, and his own care in bringing it forward." In the University Library copy of this volume, again, I find this same dedication, also in Robert Gordon's manuscript. This I take to be the first draft, as there are changes made in the course of its composition, whereas mine is a clean copy without changes. To the University Library copy there is added this note by David Gregory, who was Mathematical Professor at the University from 1683 to 1691: "HANC ESSE NUNCUPATIONEM IPSAM QUAM HUIC OPERI A SE EXARATAM ET AD JOANNEM BLAEU TRANSMISSAM ROBERTUS ILLE GORDONIUS A STRALOCH MIHIQUE TRADIDIT ROBERTI FILIUS JACOBUS GORDONIUS ECCLESIASTES ROTHEMAYUS UT IN BIBLIOTHECA ACADEMIAE EDINBURGENSIS ASSERVARETUR NOMINE MEO ADSRIPTO TESTOR. D. GREGORIE. MATH. P." Unfortunately this note is either incomplete or faulty in construction, and its exact meaning is not clear. It confirms, however, the genuineness of the document, which is also amply proved in each copy by the handwriting.

My own copy of Blaeu's Atlas ran a risk somewhat comparable to that of Pont's maps, for it passed into the hands of people who did not understand its value, and it probably escaped the fate of waste-paper by a mere chance. A friend of mine was present at the dispenishing sale of an Aberdeenshire farmhouse some years ago. In the advertisement

of the sale there was no mention of any books, and so, when the sale reached the stage of "Kitchen Stuff," my friend was somewhat surprised to see handed out a pile of large folio volumes in soiled white vellum covers, and a roll of engravings. Though he knew nothing of old Atlases, my friend at once saw that the books and engravings were not "Kitchen Stuff," and he bought them for a trifle, and passed the Atlases on to me. In view of such an adventure, one would like to know whether Sir John Scot and James Gordon had similar copies, and, if so, where they now are. Also it may be worth while suggesting that there should be some record of the ownership and place of deposit of books, etc., of special interest. Is there no bibliographical society that could collect and make available such information?

Having now given this account of the history of the Scottish volume of Blaeu's Atlas, I may briefly comment on some bibliographical and historical errors that have been made in regard to it by previous writers. The chief authorities are: (1) Archdeacon Nicolson's *Historical Collection*, 1702; (2) James Man's *Introduction* to his projected *Memoirs of Scottish Affairs*, 1741, in which Nicolson's statement is copied almost verbatim; (3) Gough's *British Topography*, 1780; (4) The Spalding Club's *Miscellany*, 1841-42, and *Topography of Cunningham*, 1858. Unfortunately each of these contains material errors, and these errors are copied from book to book, and tend to become accepted as statements of fact. Thus too often the date of publication of the Scottish volume is given as 1662 instead of 1654. Nicolson says that Pont was employed by Scot to make the survey, and this statement is repeated by Man, by Gough, and in the *Miscellany*. But there does not appear to be any foundation for it, and it is directly opposed to Gordon's statement. Indeed, there is no evidence at all that Scot was acquainted with Pont, and it is not even known how the existence of Pont's maps came to the knowledge of King James or of Scot. Again, Nicolson makes the strange statement that "Gordon was much abused in the edition of 1655 by the publisher," and this has been repeated in the article on Gordon in the *Dictionary of National Biography*. But there was no edition of 1655, and certainly no terms used by Blaeu in reference to Gordon can by any possibility be supposed to be abusive; they are, indeed, very much the contrary. In the *Introduction* to the *Topography of Cunningham* there appears the curious statement that "the map of Mid-Lothian being dedicated to King James plainly shows it must have been engraved before that king's death." This reasoning sounds all right, but the facts are not as stated. The Atlas contains no map of "Mid-Lothian"; but it does contain one of Lothian and Linlithgow, and this map is not dedicated to King James, but to William, Earl Lothian. It is certainly difficult to see how the editor could have made the double mistake. Besides the errors already noted, the *Dictionary of National Biography* makes others. In the article on Pont it gives the date of the publication of the Atlas as 1668. In the same article it is said that Pont died between 1625 and 1630, and in the article on Scot the date is given definitely as 1630. I have already noted that after his death Pont's maps, by King James's orders, passed into official custody; and as King James died in 1625 it is evident that Pont must

have died at some earlier date, not improbably about 1614. In the article on Scot the same *Dictionary* says that Scot purchased Pont's maps after his death. This also is obviously contrary to ascertained fact.

The manuscript maps prepared for the engraver by the Gordons were sent to Amsterdam, and presumably perished in the fire at Blau's place of business. But the original sketch-maps of Pont and some duplicates of the maps of the Gordons remained in Scotland in the possession of James Gordon. According to Gough, when Sir Robert Sibbald, geographer to Charles II., projected a new geographical account and Atlas of Scotland, he received from James Gordon all the suitable material, cartographical and other, that remained in his hands. But Sibbald's proposal was not carried out, and on his death his collection passed by purchase to the Advocates' Library. Gough quotes a list of the maps, as supplied to him by his "ingenious and communicative friend, Mr. George Paton of the Custom House, Edinburgh." From this list it appears that the maps have since been rebound into the large folio volume in which they are now kept in the Library. It is much to be regretted that they did not receive a more intelligent and considerate treatment, for the mounting of them is by no means satisfactory or conducive to their good preservation. Many of them are mounted with folds, and every fold is, of course, a means of damage; and in some cases the maps are mounted back to back on a common sheet. The volume contains one hundred and seventeen maps, the work of Pont, the two Gordons, and a later cartographer, John Adair. Twelve of the maps are by Adair, and are quite easily recognisable by their style of workmanship, which is entirely different from that of the others. Five maps bear the name of Timothy Pont, two that of James Gordon, and five that of Robert Gordon, three of them, however, being statedly based on maps by Pont. Of the remaining ninety-three the authorship is not indicated, and is not in every case easy to determine. Many of them are obviously the work of Pont, but some may quite possibly be the work of the Gordons. In a large number of cases the maps are the surveyor's rough sketches, made and corrected on the ground, and sometimes apparently under difficulties from lack of materials. In looking at them I have been forcibly reminded of the straits Dr. Livingstone was reduced to during one of his later journeys in the lake district of the Upper Congo, when he wrote his diary on pieces of newspaper, using the brown juice of berries as ink. For Pont's ink often has the same brown, faded look, making it occasionally extremely difficult to decipher; and in several cases the amended map has been drawn over the lines of the first draft, so that at a first glance the map is a confusion of lines, requiring some care to disentangle. Other maps, again, have been worked over with a better ink, so that the corrected lines or names stand out legibly above the faded original draft. In yet other maps the workmanship is neat and clean, and speaks of more favourable conditions. Gordon says distinctly that Pont visited all the islands of Scotland; but among these manuscript maps there is not any of the Shetlands, nor of the Hebrides, though these appear in the Atlas, where of the eleven maps dealing with the islands nine are attributed to Pont.

It is greatly to be desired that these manuscript maps, unique and invaluable as they are, should receive the attention and careful treatment that is their due. At present, owing to the form in which they are kept, and the somewhat frequent handling that they receive, they are undergoing a process of slow but sure destruction. They ought to be arranged and mounted in some manner that would tend to their preservation; a detailed study of them should be made by some expert with a view to assigning each to its author; and, lastly, they should be facsimiled, so that the information on them, not all of which appears on Blaeu's maps, should be at the service of students of the history of Scottish topography, without the need for so frequent handling of the originals, and with the possibility of easy comparison with other sources of information. One looks to such a learned society as the Royal Scottish Geographical Society for a lead in such a matter, and possibly under its auspices and those of the Society of Advocates, some one may recognise that here is a piece of work worth doing, and, by doing it, at once confer a boon on students, and raise a memorial to the men to whose ability and energy we owe the First Topographical Survey of Scotland.

FRANCE AND THE PENETRATION OF THE CENTRAL SUDAN.

INTRODUCTORY.

FRANCE has devoted much energy and enterprise within the last decade to the penetration of the Central Sudan. In the preceding decade there had been several important missions and campaigns, the aims and success of which received their meed of British recognition in the Anglo-French Convention, signed at London, 5th August 1890, by which was recognised the spheres of influence of France to the south of her Mediterranean possessions, up to a line from Say (or Saye), on the Niger, to Barruwa, on Lake Chad, drawn in such a manner as to comprise in the sphere of action of the Niger Company all that fairly belonged to the kingdom of Sokoto. French activity in the Western Sudan, begun by Faidherbe in 1854, was resumed in 1880 by Galliéni, who surveyed the route for a railway to connect the navigable Senegal with the Upper Niger. Several campaigns were conducted, by which France secured her position on the Upper Niger, and finally opened the way to Tombouctou. In 1883 the fortified post at Bammako or Bamakou was founded, and in 1888 a fort was built at Siguiri, at the junction of the Tankisso and the Niger. In 1888-90 Binger, starting from Bamakou, secured for France by treaty the territories between the Niger and the Ivory Coast. And in 1890-2 Monteil made a reconnaissance of the Say-Barruwa line. Starting from the St. Louis on 9th October 1890, he arrived at Tripoli on the 10th of December 1892, having passed through Kano and Zinder to Kuka, on Lake Chad, and thence through Bilma or Kawar and Murzuk to Tripoli.

The penetration of the Sudan from Algeria is associated with Trans-Saharan schemes. The definite proposal for a Trans-Saharan railway