# THE ORIGIN, DEVELOPMENT AND AIMS OF OUR SCIENTIFIC SOCIETIES.

*Address at the Opening Meeting of the 147th Session of the Society of Arts, November 21, 1900.*

BY

SIR JOHN EVANS, K.C.B., F.R.S.
Vice-President and Chairman of the Council.



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In taking the chair at this the opening meeting of the Session of the Society of Arts, I have in the first place to express my thanks to the Council for the honour that they have bestowed upon me in electing me their Chairman. I must, however, confess that though in the course of my life I have had much to do with manufactures and commerce and some little to do with the arts, and that though I have been for forty years a member of this Society, my acquaintance with the working both of the Council and the Society is less intimate than I could wish it to be. I may, therefore, from time to time have to claim the indulgence of those with whom I am here associated. Of this indulgence, so far as the Council is concerned, my short experience as a member of their body assures me, and I trust that the Society at large will extend to me the same degree of leniency.

It is my duty on the present occasion, in accordance with the rules of the Society, to offer to you an address. Before, however, proceeding to do so, I must say a few words

with regard to some of the losses by death that the Society has sustained during the course of the last twelve months.

The sad and unexpected decease of H.R.H. Prince Alfred Ernest Albert, Reigning Duke of Saxe-Coburg and Gotha, but even better known in this country as Duke of Edinburgh, cast a gloom over the whole empire. The Council have tendered to the President, H.R.H. the Prince of Wales, and through him to Her Most Gracious Majesty the Queen, the assurance of their dutiful and loyal sympathy. The late Duke had since 1872 been one of the Vice-Presidents of this Society, and always took a warm interest in its welfare.

In Sir John Bennet Lawes we have lost not only a distinguished member, but one of the greatest benefactors to agriculture that this century has seen. The son of a country gentleman, he took possession of the family estate at Rothamsted, near St. Albans, in 1834, and from that time constantly inaugurated and carried on experiments in practical and scientific farming. In 1843, he called to his aid Dr. (now Sir) Joseph Henry Gilbert, who became his lifelong friend and coadjutor, and the Rothamsted experiments, carried on through their joint labours, have a world-wide reputation. With the view of continuing these experiments, and when thought desirable of extending their scope, Sir John Lawes, with almost unparalleled liberality, founded, in 1889, the Lawes Agricultural Trust, and while

placing the laboratory and the experimental land at Rothamsted under the control of the Trust for a period of 99 years, made over to the Trustees a capital sum of no less than £100,000 for the initiation, prosecution, development, and continuance of investigations in connection with the advancement of the science of agriculture.

His membership of this Society dated from 1854, and in 1877 he received the silver medal for a paper communicated to it; in 1893, however, the Albert medal was awarded to Sir John Bennet Lawes, Bart., F.R.S., and a like medal to Sir Joseph Henry Gilbert, Ph.D., F.R.S., "for their joint services to scientific agriculture, and notably for their researches which through a period of fifty years have been carried on by them at the Experimental Farm, Rothamsted." The jubilee of the experiments was celebrated on July 29th, 1893, by a distinguished and representative meeting at the laboratory, and a granite memorial then unveiled will preserve the date to posterity.

Sir John Lawes passed away after a short illness on August 31st last in his 86th year. He preserved his vigour and his keen intellect to the last, and his loss will be widely and deeply felt. To myself, as Chairman of the Lawes Agricultural Committee, as one of his trustees, and, as a neighbour, I can only describe it as irreparable.

Sir Saul Samuel, Bart., late Agent-General for the Colony of New South Wales, died on

August 29th in his eightieth year. He had been a member of this Society since 1884, and was a frequent attendant at our meetings. He moreover served several times on the Council, and had been a Vice-President from 1893 to 1898.

More recently we have sustained a severe loss through the death of Mr. William Luson Thomas, who took a hearty interest in the prosperity of the Society, and who for the last three years has served upon our Council. A born artist, he studied both in Paris and in Rome, and after being articled to the well-known wood engraver, Mr. W. J. Linton, he embarked in business on his own account. He was an active member of the Royal Institute of Painters in Water Colours, and occasionally exhibited his works. Mr. Thomas, however, had more than one side to his character, he was not merely an artist, but a man of business, with enlarged and far-seeing intelligence. As an engraver he was long associated with the first English illustrated weekly paper—*The Illustrated London News*; but as a young man he had assisted in launching two newspapers—one of them the "Picture Gallery" in New York. In 1869 he became convinced that there was room for more than one illustrated paper in this country, and boldly started the *Graphic*, to be followed twenty-one years later by the *Daily Graphic*. Of the manner in which these papers have been conducted, both from the artistic and literary point of view, it is difficult to speak too highly, but both the

art and the moral tone have been in the main due to the personal influence of Mr. Thomas. A fuller sketch of his career has already appeared in the *Journal*.

So lately as the 25th of October we have lost by death one of those most intimately connected with the daily work of the Society, Mr. Howard Henry Room. For thirty-nine years he had served the Society in an official capacity, and for the last twenty-five years had been our Accountant. In addition to holding this office he performed a great amount of the detail work involved in the Society's Examinations. In all that he did he was most accurate and attentive; he exhibited a warm zeal for the interests of the Society, and at the same time he won the kindly appreciation of all those with whom he was associated, by whom his loss is sincerely deplored.

Of late years it has been not infrequently the custom for those who have occupied the position which I this day hold to address the Society on some practical subject, and all here present will gratefully remember the extremely valuable and suggestive addresses of Sir John Wolfe Barry, on the means of intercommunication in London, a matter which we all agree with him in regarding as highly important and urgent.

On the present occasion I propose to say a few words on a subject of less practical importance, so far as the needs of every-day life are concerned, but still not without some general

interest, and not without a direct bearing on the history of the advancement of human knowledge—the "Origin, Development, and Aims of our Scientific Societies." The subject is a large one, and it will be impossible to enter into details with regard to its almost innumerable ramifications. In justification of a considerable degree of limitation, I may incidentally mention that the "Official Year-book of the Scientific and Learned Societies of Great Britain and Ireland," for the year 1900, extends over upwards of 290 octavo pages.

The principle of collective action was at an early date recognised among the Greeks and Romans, and associations for the purposes of finance, trade, religion, and politics, known as *collegia*, were of great importance in Roman civil life. In those days three persons sufficed to form a "college," whereas now seven are required to constitute a "Limited Liability Company." I will not enter into the relations between the *collegia* and the *Universitas* of classical times, but may call attention to the fact that the modern university with its colleges derives its name from the ancient institution, though its scope has been most materially modified.

The Academia at Athens and the Museum, founded in B.C. 280 by Ptolemy Philadelphus at Alexandria, with botanical and zoological gardens as well as a lecture-room attached, were much of the nature of modern scientific

societies, though more of an exclusively educational character.

The principle of collective action was maintained by the guilds of Saxon times, and the livery companies of London and other great cities, some of which date back to the 12th and 13th centuries. These associations for the purposes of trade and commerce, the members of which met at stated intervals for the discussion of matters of common interest, offered an example which those engaged in the advancement of different branches of knowledge could readily follow, and academies are said to have been founded in some continental cities in the 13th, 14th, and 15th centuries, while many more can authentically be dated back to the 16th and the beginning of the 17th century.

In England no learned society received a Royal Charter before 1662, when the Royal Society was incorporated by Charles II. It had, however, been instituted in 1660. So early, moreover, as 1645 the lovers of experimental philosophy formed a society which met weekly in London on a certain day to treat and discourse of philosophical affairs, and many of its members became subsequently the first Fellows of the Royal Society. About the year 1648-1649, this little band of students was divided into two — one part remaining in London and the other migrating to Oxford, where a Philosophical Society of Oxford was established, that subsequently for some time

worked in concert with the Royal Society, and did not finally cease to exist until 1690.

We shall have to return in the course of my remarks to the early days of the Royal Society; but it will be well to dwell now for a short time on the origin of the Society of Antiquaries, which, in its unchartered form, can claim a considerably higher degree of antiquity. About the year 1572, "divers gentlemen of London, studious in antiquities, formed themselves into a College or Society of Antiquaries." The honour of this foundation is "entirely due to that munificent patron of letters and learned man, Archbishop Parker. The members met near 20 years at the house of Sir Robert Cotton, and, in 1589, resolved to apply to the Queen for a charter of incorporation, and for some public building, where they might assemble and have a library." A petition was prepared for presentation to Her Majesty Queen Elizabeth praying for the incorporation of "An Academy for the Studye of Antiquity and History," the meetings of which were to be held in the Savoy, or the dissolved Priory of St. John of Jerusalem, or elsewhere. It is uncertain whether this petition was ever presented, but the Queen seems to have given the society her countenance, and under the presidency of Archbishops Parker and Whitgift successively it flourished, and a list of thirty-eight of its members, comprising such well-known names as Camden, Cotton, Erdeswicke, Lambarde,

and Stow, is still extant. For some cause or other Elizabeth's successor, James I., thought fit to dissolve the society in 1604, and though attempts were made to revive it in 1617, and though there was an Antiquaries' feast on July 2nd, 1659, the society remained in a dormant condition until 1707. It then held weekly meetings at the "Bear Tavern" in the Strand, and afterwards at the "Young Devil Tavern" in Fleet-street, subsequently moving to the "Fountain Tavern." In 1718 the society was reconstituted, and in 1751 a Charter of Incorporation was granted to it by George II., who declared himself the founder and patron of the Society of Antiquaries of London.

In the meantime, the Societies for Promoting Christian Knowledge and for the Propagation of the Gospel had been founded, the one in 1698 and the other in 1701. These societies, however, being of a religious and not a scientific character, lie outside my province.

Having traced the inception of the two oldest of our learned societies, which in their early stages partook more of the nature of clubs than of what are now known as societies, I propose, before considering their further developments to say something as to the proper aims and objects of a learned society, and the means usually adopted for carrying them into effect. Such a society is an association of persons united together by

common tastes and anxious to improve or extend some particular branch of knowledge, or even the whole range of scientific inquiry. With this object in view it becomes necessary to hold periodical meetings for the discussion of subjects in which the society is interested, and for taking such action in respect of them as may seem desirable. The holding of such meetings involves an organisation and the appointment of presidents to take the chair at meetings, of secretaries to summon them, and of a treasurer to receive those subscriptions without which an association of the kind cannot exist. Moreover, for the determination of questions of policy and finance, especially when the society issues publications, a council of some kind becomes a necessity. It is on this organisation that the success or failure of a society mainly depends, and the questions as to the length of period that presidents and others should remain in office, what proportion of new blood should be infused into the council each year, and how far those in power are carrying out the views of the bulk of the members of the Society, have frequently been discussed with more or less warmth. In some instances the too conservative apathy of the council has led to disruption and the foundation of new societies, or to the society under their charge being reduced to a state of inanimate slumber, while on the other hand too rapid revolutionary measures

have led to diminutions in numbers, if not to absolute rebellion. Much, of course, of the welfare of a society depends upon the character of its publications being kept at a high level, and on their being brought out with scrupulous regularity.

There is one condition in the life of a scientific society which is entirely beyond its control or that of its council, and this condition may be superinduced by the activity of the society itself. As researches proceed and knowledge extends, new branches of inquiry are opened, which can only be investigated by those who apply themselves specially to the subject. New publications are required, particular days have to be set apart for the discussion of the new subject, and eventually it is found desirable either to establish a separate branch of the old society, or to constitute a new one. The latter course is the one that has been most often adopted, especially in the case of biological science; and not infrequently the new society finds a home in the apartments of the parent society, and under its fostering care.

This is of course a reason and a legitimate reason for the multiplication of societies having closely cognate but not identical objects in view; but the fact that in all the centres of population and intelligence throughout the United Kingdom, there are devotees of science no less able and energetic than those who reside in and around the metropolis will account

for the reduplication of societies on precisely the same lines as the parent societies in London throughout the whole kingdom. Were new soeieties not to come into existence, and were the older societies to attempt to adjust themselves to all the requirements of modern science, they would soon collapse under the burden thrown upon them.

Let us now go back to the period immediately succeeding the Restoration, or to the year 1663, in which Charles II. granted his second Charter to the Royal Society of London for improving natural knowledge. At that time, as has already been observed, the Society of Antiquaries was in abeyance, so that the Royal Society was practically the only institution of the kind in Britain, and its aims were naturally wide. On the 20th November, 1663, the Society* "consisted of 131 Fellows, of whom 18 were noblemen, 22 baronets and knights, 47 esquires, 32 doctors, 2 bachelors of divinity, 2 masters of arts, and 8 strangers or foreign members." With the exception of the large proportion of physicians or doctors, it will be observed that the Society in the main was composed of noblemen and gentlemen of independent position, and that the professional element was to a very great extent wanting. Great attention was paid to experimental methods; but "what the learned and inquisitive are doing, or have

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* Weld's Hist. of the Royal Society, I., p. 145.

done in physick, mathematicks, mechanicks, opticks, astronomy, medicine, chymistry, anatomy, both abroad and at home" were subjects on which they were solicitous. Many of the branches of science diligently pursued at the present day were either unknown or in their infancy. The variation of the compass had been observed, but magnetism and electricity presented almost untrodden fields; the steam engine was in an embryonic stage; visions of space with four or more dimensions had not visited the poetical mathematical brain; microscopes and telescopes were in their infancy; the family of the planets was no more numerous than of old; the circulation of the blood had not met with universal acceptance, and the existence of *bacilli* was but dimly conceived; chemistry was of the crudest, and the elements were earth, air, fire and water; anatomy had already made notable advances, but Dermatological, Laryngological, and Odontological societies were not even dreamt of; Geology was unborn, and Palæontology did not exist, except in connection with Noah's Deluge.

One of the results of this very wide scope of the Royal Society was, that at its meetings the variety of subjects brought forward for discussion was great; and the early volumes of the Philosophical Transactions contain a large amount of miscellaneous reading. I am not sure that, as a means of whiling away a spare half-hour, one of the

first twenty volumes of the Transactions would not by most persons be found more attractive and amusing than the volume say of Series A for the year 1900.

To turn to the other societies which were in existence early in the 18th century. At the beginning of that period life again returned to the Society of Antiquaries, which resumed its regular meetings in 1707, and by 1717 was in active existence, though its numbers were limited to one hundred. As before stated it received its charter of incorporation in 1751 and in 1780, through the the liberality of George III. it had apartments granted to it in Somerset House.

The Society for the Encouragement of Arts, Manufactures, and Commerce was founded in 1754, but not incorporated until 1847, and this Society together with the two already mentioned form the trio from which nearly all the numerous learned societies of the present day have sprung by what may be regarded as a natural process of evolution.

Let us now consider the order of development in which some of the principal scientific and learned societies of the present day have been derived either directly or indirectly from the three parent societies which we have had under consideration. The dates assigned are those of the foundation of the societies, and not of their charters. Indeed, some scientific societies still remain unchartered.

As might have been expected, Scotland was

not long in following the example set by England, and the Medical Society of Edinburgh was instituted in 1734, to be followed by the somewhat kindred Harveian Society in 1752. In the meantime, the Royal Society of Edinburgh, or as it was originally called, the Philosophical Society, was established in 1739. The "Royal Physical Society of Edinburgh," exclusively devoted to "Natural History and the Physical Sciences," was founded in 1771, and by 1813 had absorbed no less than six other societies, which became incorporated in it.

In Ireland, the Royal Irish Academy for "the study of Science, Polite Literature, and Antiquities," was founded in 1785, and may be regarded as combining the attributes of the three parent societies in London.

Among the off-shoots of the Royal Society of London, the first perhaps is the Medical Society, founded in 1773, which, even at the present day, comprises a large number of Fellows. The Linnean Society, for the cultivation of natural history in all its branches, was founded in 1788, and has from 700 to 800 Fellows. These are the only two London societies coming under this category that date from the last century.

During the century now drawing to its close the vast advances in science, and the innumerable aspects that it assumes, has led to the foundation of numerous scientific societies, each with a more or less limited scope. In

natural history we have the Horticultural (1804), the Zoological (1826), the Entomological (1833), the Ornithological (1837), the Royal Botanic (1839), the Ray Society (1844), the Palæontographical (1847), and others that it would be tedious to mention.

Geology as a new science had a society founded for its study in 1807, the Geologists' Association followed in 1858, and at a later date the Mineralogical Society (1876). The Royal Astronomical Society (1820) has been supplemented by the British Astronomical Association. Mathematics and Physics have also their own societies, as have also Statistics, a subject which has a mathematical side as well as one in the direction of commerce and the affairs of ordinary life. Engineering is represented not only by the Institution of Civil Engineers (1818), but by the Institution of Mechanical Engineers (1847), of Mining Engineers (1851), the Iron and Steel Institute (1869) and that of Electrical Engineers (1871). Geography has had its own Royal Society since 1830, Microscopy its society since 1839, and Meteorology since 1850. For medicine, pharmaceutics, pathology, neurology, anatomy, and some other branches of medical inquiry, special societies have been founded in London. The Victoria Institute or Philosophical Society of Great Britain was founded in 1865, its primary object being the attempt to reconcile apparent discrepancies between Christianity and science.

In Edinburgh and Dublin scientific societies have multiplied, though not to a similar extent; and throughout the United Kingdom there are numerous literary and philosophical societies, that of Manchester dating back to 1781. There are also several provincial geological societies, and almost every county has its natural history society or club.

Moreover, the British Association for the Advancement of Science, founded in 1831, continues to hold its annual meetings at different centres in the empire, and helps to maintain the general interest in the advancement of knowledge and to kindle or keep alive local zeal.

The offshoots from the Society of Antiquaries have not been so numerous or important as those from the Royal Society, the field of archæology being much more restricted than the wide domain of more purely "natural knowledge." The Society of Antiquaries of Scotland dates, however, from 1780, and that of Newcastle-on-Tyne from 1813, while the Literary and Antiquarian Society of Perth goes back to 1784. Several branches of antiquarian study have now their own societies. The Numismatic Society was founded in 1836, the Royal Historical Society in 1868, the Society of Biblical Archæology in 1871, the Palæographical in 1873, and that for Hellenic studies in 1879. There are also special societies for the exploration of Palestine and Egypt as well as the important Royal

Asiatic Society with its different branches. The peripatetic habits of the Royal Archæological Institute and of the British Archæological Association (both 1843) help to maintain the warmth of local interests and to disseminate a certain amount of archæological information.

Anthropology and Ethnology have made great advances since the foundation of the Ethnological Society in 1843, and of the Anthropological in 1863. The two merged in 1871 to form the Anthropological Institute, which has rendered signal services to science. A minor branch of anthropology—Folk Lore—has had its own society at work since 1878.

The Society of Arts—to make use of its shortened title—can claim nearly as numerous an offspring as its elder sisters the Royal Society and the Society of Antiquaries. Her descendants, moreover, are fairly entitled to as high, if not indeed a higher rank and importance. It is not merely the Royal Scottish Society of Arts (1821) that she can claim as an offshoot, but it was the Society of Arts that first in England devoted attention to the all-important objects of forestry and agriculture. The Royal Agricultural Society originated not earlier than 1838, though in Scotland a Society of Improvers of Agriculture was instituted in 1723, a Dublin Agricultural Society in 1731, the Bath and West of England Society in 1777, and the Highland Society in 1784.

It would, moreover, be unfair not to credit

the Society of Arts as well as the Royal Society with having laid the foundations on which the Institution of Civil Engineers and the cognate bodies have been erected. The Chemical Society was established at a meeting held at the rooms of the Society of Arts in 1841. From this arose the Institute of Chemistry in 1877. The Society of Chemical Industry (1881) to a large extent grew out of the Chemical Section of the Society of Arts, which dealt for some years with the chemical industries, and was dropped on the foundation of the Society. The Sanitary Institute and the other sanitary societies certainly owe their origin to the Conferences on the Health and Sewage of Towns held by the Society of Arts in 1877, 1879, and 1880. The City and Guilds' Institute also originated in consequence of the action of the Society in the matter of technical education. They took up and carried on the technological examinations founded by the Society of Arts.

The Science and Art Department may be said to have grown out of the 1851 exhibition, which was organised by the Society of Arts. Its examinations were based on the model of the Society of Arts examinations, and, indeed, it was to a very large extent a development of the Society's work by those who were already connected with the Society of Arts.

It must never be forgotten that in its earlier days inventions of all useful kinds, and all that was new in machinery and manufactures, came within the scope of the Society,

which in thirty years spent nearly as many thousands of pounds in rewards and premiums for useful inventions.

It took a very active part in all educational movements and a warm interest in the welfare of our colonies, and to its credit be it said that the examinations of the Society of Arts still rank among the most useful and thorough, while the existence of our Indian Section still evinces our interest in the prosperity of the dependencies of the Empire.

What the Society has done for the advancement of art, it is difficult for us of the present day fully to appreciate; but it must be remembered that one of the first, if not, indeed, the first public exhibition of pictures, was that held in this Society's rooms in 1760, and that from this exhibition sprang the Royal Academy, the first exhibition of which, comprising 136 works only, was opened in 1769. We may, therefore, here claim the Royal Academy as in a certain sense an offshoot from our body. The Royal Institute of British Architects, founded in 1835, may also in some degree be regarded as connected with the Royal Academy, which admits architects among its members. The Photographic Society also grew out of an exhibition of photographs, the first of the kind, held in our rooms. The foundation of the Royal College of Music is likewise due to the exertions of the Society of Arts.

I have dwelt at considerable, perhaps too great, length, on the various societies in the

United Kingdom that are more or less intimately connected, so far as their origin is concerned, with what I have termed our three parent societies. It is needless to add that analogous societies to those in the Mother Country have sprung up in many of our numerous colonies and dependencies, and even in America before the Declaration of Independence. The American Philosophical Society, with its headquarters in Philadelphia, was founded by Franklin in 1743.

I venture to hope that from the historical point of view, the sketch that I have attempted to draw of the development of scientific societies in these islands has not been entirely devoid of interest. It testifies also to the success that has attended the united action which the societies were founded to foster.

It would indeed be difficult to say how far the work done by any society would have been accomplished by the individuals composing that society, without combination or collective organisation. A society of course is only a collection of individuals, and the work of the society is the work of the individuals composing it.

A society offers opportunities for discussion, brings men of similar ideas together, and substitutes collective and organised action for isolated individual effort. It affords means of publication, organises research, records discoveries, stimulates invention, and assists students by providing a common meeting-

place and centre of action. Every scientific discoverer desires immediate publication of his work, both for his own reputation, and to secure the assistance of his colleagues. Every industrial inventor requires publication in order that he may secure the natural profits of his invention. A society systematises and arranges the science or study which is its subject matter.

The present condition of science is certainly due to the organised efforts of such societies as the Royal Society and its subordinate societies, in this and other countries. They secure public recognition for science and those who pursue it; they prevent over-lapping; serve to deter different men from working on the same lines; and they bring influence to bear on the public and on the Government. Any individual is less powerful by himself than when he is associated with others seeking the same object. An active society is a corporation with a perpetual succession, and it never dies. The work carried on by an isolated student ceases at his death, but the work done by a number of students associated together goes on and on. As one man drops out, another takes his place.

An excellent example of the reciprocal influence of scientific workers and of a scientific institution upon each other is afforded by the Royal Institution. Without Davy, Faraday, or Tyndall, the Royal Institution would never have become the important body it now is. But

without the Royal Institution neither Davy nor Faraday would have had any opportunity for carrying out their scientific work, and of obtaining their scientific reputation, and perhaps the same may be said to a certain extent of Dr. Tyndall.

The history that I have been tracing comprises within it a record of the advance in many directions of our acquaintance with the secrets of nature, of our turning that acquaintance to practical account, and of the consequent progress of the nation in material prosperity. It bears witness likewise to that specialisation in science, which though by no means an unmixed blessing, seems to be of necessity associated with all advancement in natural knowledge. The days are long since past when any single individual could attempt to cope with the whole encylopædia of science, but the question not infrequently arises at the present day whether the position of the specialist would not be more secure were the foundations on which he builds extended over a larger area, and were his scientific sympathies somewhat wider in their character.

Another question that may be asked is whether there is any need for this multiciplicity of societies. The answer from anyone who in whatever manner believes in evolution will be, that at the time of founding each society, a necessity for it must at all events have been thought to exist, and that the analogous societies at that time in being

must have been either unable or unwilling to adjust or expand themselves, so as to include the subject for the study of which the new society was instituted. Many of the subjects, for instance, that originally came within the domain of the Royal Society, and indeed are still included within it, have by degrees been not absolutely banished from it, but relegated in the main to other societies, founded more especially for the study and illustration of such subjects. The Linnean, the Astronomical, the Chemical, and the Geological Societies, afford instances in point, and any attempt to suppress such societies, and to bring their members all within the fold of the Royal Society, would have a disastrous effect on the advance of science, and would absolutely overweight the powers of the Royal Society itself. At the same time it must be remembered that accounts of important discoveries in any of these branches of knowledge are cordially welcomed by the Royal Society, and that it is usually the case that the leading Fellows of these special societies are also Fellows of the Royal Society. The same in a lesser degree holds good with the Society of Antiquaries as archæological discoveries, especially when bearing on the early history of man, are welcomed alike on both sides of the quadrangle at Burlington-house.

In the case of local societies which in their character are almost identical with those of the metropolis, the geographical reasons for their

existence are in most cases undeniable. Their isolation is, however, to some extent a drawback, and a great step in advance has been made by the Society of Antiquaries, which has now brought into union with itself nearly the whole of the archæological societies throughout the kingdom—or, at all events, forty-five of their number—which now hold an annual congress in the apartments of the Society in Burlington-house. The results have been most satisfactory. Each society while retaining its own individuality has co-operated with the others in matters of common interest, and among other fruits of collective action, an annual classified and subject index of the archæological papers of each year is now published.

Of course, a certain number of Societies are born to die; but it is remarkable how few of them have expired without having done some good work. In some instances, two rival Societies, neither of them in a flourishing condition, have coalesced, and the combined body has acquired a degree of vitality and energy that neither of its constituents ever possessed. In the archæological world, it is possible that there are still two bodies in existence, the amalgamation of which would probably result in good.

An arrangement by which the subdivision of a Society has been obviated, and which on the whole has worked in a satisfactory manner, has been adopted by the Society of Chemical

Industry, which has branches in centres of importance on both sides of the Atlantic. These branches hold their own meetings, and discussions and reports of them are published in the Society's Journal, together with those of the meetings in London. This union of the metropolis with capitals in the provinces is further strengthened by the holding of the annual meetings of the Society sometimes in Liverpool or in some other important centre of chemical industry.

It will have been observed that I have hitherto been speaking of societies more or less intimately connected in their origin with what I have termed the three parent societies, but there is another category of studies which these societies either do not represent at all or do so in a very imperfect manner. They have been termed the philosophico-historical sciences as distinct from mathematical, physical, and biological sciences. A certain portion of them, such as language and history, come within the province of societies cognate with the Society of Antiquaries, while this latter deals directly with antiquities. There remain philosophy, psychology in its non-biological aspects, economics, and probably some other branches of study or speculation. Literature is another somewhat outlying field, but there are numerous literary associations, some of them practically printing clubs, others of a more social character, and others again which hold regular stated meetings for the study and

discussion of the works of some well known author—Dante, for instance.

The title "Literary and Philosophical" has been adopted as a convenient one by many local societies, probably on account of its great comprehensiveness. Many are doing good work, but the term "philosophical" is generally used in the same sense as in the case of the "Philosophical Transactions" of the Royal Society, and the term "literary" is accepted as covering all that cannot be regarded as philosophical.

Turning to the more purely philosophical societies that have been established in London, it would seem as if for some reason or other the soil was not congenial for their growth or longevity. The Dialectical Society, founded in 1865, was dissolved in 1888; the Psychological, founded in 1875, ceased to exist in 1879, but was resuscitated under the name of the Society for Psychical Research in 1882. The Zetetical Society, established in 1878, and the Aristotelian in 1880, do not appear in Whitaker's List of Societies and Institutions, though the latter, notwithstanding that its members are few, is still in active operation. Altogether the number of those interested in abstract philosophy seems to bear no proportion to that of the votaries of the study of nature in all its phases and of those who devote themselves to the application of science to the good of mankind.

In the *Institut de France*, one of the

*Académies* is that of *Sciences Morales et Politiques*, which, however, is divided into five sections. Of the eight places devoted to philosophy, only six were filled at the beginning of the present year, but this may have been purely accidental. The mention of the *Institut* suggests the question how far a similar association of academies would meet the requirements of this country. Such a question is beyond the limits of the present address, but in passing, I may say that the necessary limitations of the *Institut*, the payment for attendance, the method of election of its members, and its close connection with the Government of the day all present features which are hardly in accordance with our insular traditions. In Paris itself the *Institut* has had to be supplemented by various important scientific societies, such, for instance, as the Geological Society and the Society of Antiquaries of France.

But to return to England. It has been suggested to me that it would be of some interest were I to give a short account of the vicissitudes through which some of our principal societies, including the three parent societies, have passed. No doubt with all of them there have been periods during which they may be said to have vegetated rather than lived, but to trace out the causes of their temporary suspension of life, and the reasons which led to the resumption of activity, would involve an historical discussion of considerable length,

and might also lead to invidious personal comparisons. Paradoxical as it may appear, these seasons of rest, or if it be preferred so to call it torpor, have not in the long run impaired either the utility or the prestige of the societies. A great deal of regular and useful work may be done without the machinery by which it is effected making sufficient noise to attract the attention of those not immediately interested in the work, and the torpor may in fact have been apparent rather than real. Under any circumstances there can, I think, be but little doubt that it is better for a society to carry on its work in a thorough but unobtrusive manner, than to be subject to paroxysms of fitful energy, and to be always devising new ways, instead of gradually improving the old.

Even a real torpor is not always deadly. There is a tradition in the Society of Antiquaries that once, in days gone by, the Secretary was overheard to utter the pious aspiration, "Would to God there was nothing in this world older than a new-laid egg!" And yet the Society survives and is still carrying on useful and valuable work. May it long continue to do so, and may the Society of Arts and the Royal Society together with it long survive as the parents of many societies which have rendered and still will render indispensable assistance in the wide diffusion of knowledge.