

Another large source is the gas from coal carbonization which contains about 25-30% of methane (see GAS INDUSTRY: *Gas Manufacture*). Methane occurs also in the products of decomposing organic matter, e.g. sewage gas and marsh gas. For the presence and risks of methane (fire-damp) in mines and for its recovery see COAL.

One of the chief uses of methane is as a fuel. As a constituent of natural gas and town gas it is used for heating and cooking (its calorific value is 995 B.t.u./ft<sup>3</sup>). It finds use as a motor fuel in countries lacking petroleum. Important uses are in the manufacture of carbon black (see CARBON) and as a source of petroleum chemicals from natural gas (see PETROLEUM; CHEMICAL INDUSTRIES: *Petroleum Chemicals*). Oxidation products such as methyl alcohol are obtained by reaction with steam to give synthesis gas (carbon monoxide and hydrogen) which is converted to hydrocarbons and chemical derivatives. The methane-steam reaction is also used in the production of hydrogen as a primary product (see CHEMICAL INDUSTRIES: *The Nitrogen Industry*).

**METHODISM.** This article deals with the history, doctrine and organization of methodism with reference to the Wesleyan methodists, Primitive methodists, methodist New Connexion and United methodists. For Calvinistic methodists, now the presbyterian church of Wales, see PRESBYTERIANISM.

**Origins.**—The term 'methodist' was first applied to the members of the Holy Club at Oxford in 1729. As Charles Wesley (q.v.) was the founder of the club he is the best authority for the origin of the name methodist: 'My first year at College I lost in diversions; the next I set myself to study. Diligence led me into serious thinking; I went to the weekly Sacrament, persuaded two or three young students to accompany me, and to observe the methods of study prescribed by the university. This gained me the harmless name of *Methodist*. In half a year after this my brother left his curacy at Epworth and came to our assistance. We then proceeded regularly to our studies, and in doing what good we could to the bodies and souls of men.' It was in November 1729 that John Wesley (q.v.) joined the fellowship and became its leader. The members turned to the study of the Greek Testament and to prayer, and were high-churchmen who observed the strictest self-discipline. They were never very numerous. In 1735, when George Whitefield (q.v.) joined them, they numbered 14 or 15 though several others had then left the university. That same year John and Charles Wesley sailed for Georgia, and the second phase of methodism began.

John Wesley's ministry in Georgia, which lasted less than two years, may well seem a complete failure. His high-church practices were ill received by his own parishioners, and the door was closed to work among the Indians. Charles was even less happy in his relations with the colonists, though he was there only as secretary to the governor. John gave himself up to his duties and administered communion every Sunday and holiday. On weekdays he read prayers and expounded the second lesson at 5 a.m. and 7 p.m. He formed a little society out of the more serious members of his congregation who met 'once or twice a week in order to instruct, exhort and reprove one another. And out of these I selected a smaller number for a more intimate union with each other; in order to which I met them together at my house every Sunday in the forenoon.' This was bringing the methodism of university life into the work of an ordinary parish, though the parish happened to be in the most recently established colony. Some of the characteristics of later methodism were discovered in Georgia. Here we find open-air preaching, the basis of the class meeting and even the band meeting, and here was

begun the formation of the hymn-book from John Wesley's translations from the German. In contact with the Moravians, both on the voyage out and in the colony, he made discoveries of the deeper meaning of religious experience and began to lose some of his ecclesiastical prejudices.

Of the Oxford methodism (which bore some resemblance to the Oxford movement of a century later) and of the significance of Georgia, Wesley says: 'the first rise of methodism (so-called) was in November 1729 when four of us met together at Oxford. The second was at Savannah in April 1736 when twenty or thirty persons met at my house.' He then goes on to speak of a third rise of methodism which he calls the last. This 'was in London on this day (1 May 1738) when forty or fifty of us agreed to meet together every Wednesday evening in order for a conversation, begun and ended with singing and prayer'. It is clear from this passage that John Wesley regarded methodism as consisting essentially in the society, whether in the Holy Club at Oxford or in the fellowships at Savannah or London. After the evangelical revival of religion was spread by field-preaching over the British Isles, he published rules for the 'united societies'. Behind these societies lay the religious societies of the church of England and of the Moravians. It was at one of the former in 1738 that John Wesley experienced through faith in Christ alone for salvation that strange warming of the heart which turned a devoted parish priest into an apostle; Lecky has said: 'It is scarcely an exaggeration to say that the scene which took place at that humble meeting in Aldersgate street forms an epoch in English history. The conviction which then flashed upon one of the most powerful and active intellects in England is the true source of English methodism.' Yet the methodists were more accurate in 1839 when they celebrated the centenary of methodism in that year. Wesley states in the 'Rules of the Society of the people called Methodists' that the rise of the United Society took place in the latter end of 1739 when eight or ten persons who appeared to be deeply convinced of sin came to him in London and desired him to spend some time with them in prayer. They began to meet regularly every Thursday evening, and similar weekly meetings grew up in other places. It was in November 1739 that he began to use the Foundery, near what is now Finsbury square, as his centre of work in London. In May of the same year, however, he had purchased land in the Horsefair, Bristol, where the New Room was built to house two religious societies meeting at Nicholas street and Baldwin street. These meetings at the Foundery, London, and the New Room, Bristol, were the first distinctively methodist societies as contrasted with the religious societies of the church of England or the Moravian societies. They were both under Wesley's direction. The work at the Foundery was transferred to City Road chapel when that was opened in 1778. The New Room in Bristol was rebuilt in 1748 and is now the oldest methodist chapel in the world.

Cleavage from the Moravians began in 1739 and was almost complete by 1740. They had developed a form of mysticism which indulged in a Quaker stillness and neglected forms and means of grace. The practical quality of methodism as expressed by the Wesleys could not live in this atmosphere. The parish churches were being closed both to them and to Whitefield. When the latter did secure a pulpit, he was tempted to preach, he says, 'without doors. I mentioned it to some friends who looked upon it as a mad notion. However, we knelt down and prayed that nothing may be done rashly.' The following month (February 1739) he broke through all conventions and spoke in the open air from a hill near Kingswood to the colliers there. The crowds increased as he

continued his preaching from day to day until they reached 20,000. John Wesley came to his help, though he could scarcely reconcile himself to this strange way of preaching in the fields, 'having been all my life, till very lately, so tenacious of every point relating to decency and order, that I should have thought the saving of souls almost a sin if it had not been done in a church'. Wesley began his own campaign of 50 years' open-air preaching at 4 p.m. on Monday, 2 Apr. 1739, at Bristol. 'I submitted to be more vile,' he says, 'and proclaimed in the highways the glad tidings of salvation, speaking from a little eminence in a ground adjoining to the city to about three thousand people.' This must be regarded as momentous in the greatest religious revival that the English-speaking people have ever known. The year 1739, which marks the beginning of open-air preaching and the purchase of the Foundery and the site for the New Room, is therefore the year in which methodism as we know it today originated. The following year was characterized not only by a separation from the Moravians but also from Whitefield. The Wesleys preached the universality of redemption ('for all, for all, the Saviour died'), while Whitefield preached the doctrines of predestination as set forth in the Calvinistic decrees. While continuing in the same evangelistic fervour and keeping their friendship, the three leaders of the revival were henceforth in two separate camps. John Wesley's sermon on free grace, and still more Charles Wesley's hymns on universal redemption which appeared in 1739, led to this division. Whitefield's preaching tours led him backwards and forwards across the Atlantic while Wesley was steadily building up his societies. Whitefield found great support from the countess of Huntingdon, Howell Harris and other leaders, and the Calvinistic side of methodism found its chief expression in what is now the presbyterian church of Wales.

For some time the labours of the Wesleys were confined to the neighbourhoods of Bristol and London. They were helped by the first lay preachers, and it was through the growth of this fine band of auxiliaries that their societies spread to new centres. The original methodist plan seemed to be that the brothers should alternate between their two main strategic positions. In 1742, however, John Wesley went at the invitation of the countess of Huntingdon to Donington Hall and then on to the West Riding of Yorkshire to see the stonemason, John Nelson, who had been converted by Wesley's open-air preaching in London. Nelson became a powerful lay preacher 'second only in influence in the revival to John Wesley himself'. From Yorkshire Wesley passed to Newcastle-on-Tyne and so completed the triangle which was to form the plan of preaching tours to all parts of England. The following year Charles Wesley discovered another fruitful field in a preaching tour through Cornwall. He also had great success in a tour through the Black Country, but in both places much opposition and persecution developed. In that year of 1743 at Wednesbury John Wesley himself nearly lost his life at the hands of the mob. The steady courage of the preachers and the steadfast lives of the methodists overcame the persecution after a few years; but, as ever, the blood of the martyrs was the seed of the church.

Methodism spread rapidly over the west of England. In 1747 John Wesley paid the first of his 42 visits to Ireland, to which country he gave about one-sixth of his life. He was warned by Whitefield that he would find Scotland unsympathetic, yet he went there in 1751 and made 22 tours north of the Tweed. Charles Wesley married in 1749 and, though he continued to go on preaching tours until his death, settled in Bristol, moving to London in 1771. John missed his comradeship in the great campaign for the soul of England and received some criticism from him periodically, but

Charles' services to the cause as the most prolific of all hymn-writers can never be forgotten. If Charles Wesley fell out of the ranks, a fine company of lay preachers fell in, and the success of the movement is due to their devoted labours. The inspiring genius of it all was John Wesley, as great an organizer as he was an evangelist. Until his death he gave his preachers their appointments, generally moving them from one wide round (or circuit) to another at the end of a year. The societies themselves were as carefully organized as the preachers, so that every individual member came under supervision and direction.

**Organization.**—The growth of the methodist organization was due to the practical genius of a leader who could welcome constructive criticism and act upon it. He saw how the ideals of the Holy Club could be adapted to the forms of the religious societies. He saw the changes that were needed to make these societies methodist. The division of the societies into classes came out of a plan to raise money to clear the debt off the New Room at Bristol. A certain Captain Foy suggested that every member should contribute a penny a week. It was agreed that some could not afford this; but the captain replied: 'Then put eleven of the poorest with me; and if they can give anything, well, I will call on them weekly; and if they can give nothing I will give for them as well as for myself: And each of you call on eleven of your neighbours weekly; receive what they give and make up what is wanting.' These visitors were called leaders. They sometimes had to report that a member was not leading a Christian life. Wesley saw at once that this plan offered a means for the oversight of the societies which he had long needed, for they had grown beyond his power of weekly care: at the Foundery in two years the number of members had grown to more than 2,000. The leaders became a set of lay pastors who at first visited the members in their homes. Then they gathered their classes together week by week. 'Advice or reproof was given as need required, quarrels made up, misunderstandings removed; and after an hour or two spent in this labour of love, they concluded with prayer and thanksgiving.' In this way methodism gained its organization and its financial basis. The quarterly visitation of the classes by John Wesley himself began in London in 1742, when a society ticket was prepared with a verse of scripture upon it. Unworthy persons could then be kept out of the meetings. Rules were drawn up for the society by John Wesley in 1743; these have no doctrinal tests of any kind, but a high standard of morality is laid down in detailed instructions, each member of the society joining it from the longing for salvation from sin.

The regular weekly contribution of the members provided stability of income but needed supplementing from other sources such as Sunday collections and special appeals, if the growing expenses of a great fellowship had to be met. Chapels were built in large numbers, the lay preachers developed into a regular ministry needing support, the children of the ministers had to be educated, and the retired and aged ministers cared for. Stewards were chosen to manage the funds of the societies. The society stewards (generally two to each society) received the contributions from the classes and paid them into the quarterly meeting of the circuit. They also accounted for all the collections made at Sunday services for various purposes. They distributed much of the money collected in the classes to the poor. Collections made at love-feasts and (in later years) communion services were also given to the poor, and the stewards of the poor were expected to make the necessary preparations for these services. Class-moneys were later devoted to the support of the ministry. The trustees appointed chapel stewards to manage the property, generally vested in the conference (*v. infra*) and settled on a model deed.

The business meeting of each church or society, called the leaders' meeting, consists of the leaders and stewards, with representatives of other interests. The ministers of the circuit are members of each leaders' meeting in the circuit, and the local minister acts as chairman. The original purpose of the leaders' meeting was to give an effective spiritual oversight of the whole membership, but the growth of interests in present-day church-life and the extension of the membership of the meeting tend to change this court of discipline into a business committee. A circuit consists of a group of churches served by several ministers, the first of whom is called the superintendent. The circuit business is done by a meeting held quarterly in which every place in the circuit is represented. The quarterly meetings invite ministers, manage circuit finance, approve all candidates for the ministry sent forward to the synods and consider all schemes for building and extension within the circuit. They receive and put into effect the decisions of the conference and have the right to send memorials to conference. After the death of John Wesley the circuits were grouped into districts which correspond in area roughly to an Anglican diocese. All the circuit-ministers are members of the district meetings (now called synods), which meet for two days in May and one day in September. The stewards of the circuits (two from each) together with other lay representatives of the circuits attend with the ministers on the first day of the May synods and at the September synods. The second day of the May synod is a ministerial session which deals with candidates for the ministry, questions of ministerial character, and other aspects of the work of the ministers. The synods send representatives to the conference, which represents the whole of British methodism and has been held annually ever since 1744. It was originally a conference of John Wesley with his preachers on their work; in 1784 by a deed poll it was to consist legally of 100 preachers who were named. Arrangements were laid down for filling vacancies and electing a president each year after Wesley's death. The conference of 1791 decided that all preachers in full connexion should share in the privileges of the 100, though the legal conference remained in being in Wesleyan methodism as the core of the conference to perform official acts until methodist union in 1932. The conference now consists of 660 members, half of whom are ministers and half laymen. It is followed by a ministerial session, to which are added such other ministers as arrange to attend. The conference is the final authority in all methodist affairs, since it has legislative powers and is the supreme court of discipline. Its administrative offices are in London.

**Doctrine.**—The deed on which methodist chapels are settled fixed John Wesley's first four volumes of sermons (1-44) and his *Notes on the New Testament* as the doctrinal standard of preachers. This really means that the New Testament is the standard of doctrine; the sermons are all concerned with the evangelical doctrines of the experience of salvation and the practical duties of the Christian life. Speculative or abstruse theological questions are avoided. There is no doctrinal test for members or church officials other than preachers. Wesley says: 'Methodism, so-called, is the old religion, the religion of The Bible, the religion of the primitive church, the religion of the Church of England.' Wesley's Arminianism stressed the universal grace of God for all mankind, taught that all who believed in Christ might enjoy the knowledge of salvation and go forward to a state of perfect love to God and their neighbours. This assurance of salvation is the witness of the Spirit of God directly witnessing in our spirits that we are children of God. Christian perfection does not imply freedom from ignorance, mistake, infirmity or temptation. It means

freedom from outward sin, evil thoughts and evil tempers and is the goal of every truly Christian life.

**Development.**—After John Wesley's death methodism grew at a far greater rate than during his lifetime. When he died in 1791 there were 71,668 members in Great Britain and Ireland, with 294 preachers. By the 1960s the members numbered about 750,000 and there were some 5,000 ministers. The membership in overseas missions (5,300 in 1791) was in 1960 about 250,000. In 1791 there were 43,265 members and 198 preachers in the U.S.A. The membership in U.S.A. in 1960 was over 12 million. The remarkable increase in America began with the devoted labours of Francis Asbury whom Wesley sent out. Asbury became the first bishop of the methodist episcopal church. He found a neglected field and kept his post during the war of independence and in the distracted years that followed. The methodist preachers followed the pioneers into the new territory, and their simple and direct methods appealed to the people of the young republic. There were troubles and divisions over the question of slavery, but the northern and southern churches are now reunited and full of life and enterprise, with vigorous foreign missionary activity.

The first half of the 19th century was the time of most rapid growth of British methodism, but there were several divisions in that period. In 1797 the methodist New Connexion separated from Wesleyan methodism over the wish for more democratic church-government. The Primitive methodists in 1811 and the Bible Christians in 1815 were independent revival-movements in Staffordshire and Devonshire respectively. Their leaders had both been expelled from the parent body, but they went out as evangelists building up societies in the same way as other methodist preachers. A series of secessions from Wesleyan methodism over the growing authority of the ministers found a climax in 1849 in the expulsion of three 'reformers' and the loss of 100,000 members. Most of the seceders came together in 1857 to form the United Methodist Free churches. This new fellowship was still critical of the control of the individual church by the conference, though this tendency was reduced by the union of the methodist New Connexion, the Bible Christians and the United Methodist Free churches in 1907 to form the United methodist church. In 1932 this body united with the Primitive methodists and the Wesleyan methodists to form the methodist church of Great Britain. These divisions were not an unmixed evil. The Primitive methodists and the Bible Christians reached the working classes in towns and villages more effectively than other branches of the church were doing in the areas where they laboured. Their tendency was to stress the service of the layman; and reunited methodism preserves this distinctive contribution to Christian life and service.

Methodism is found in about 70 countries and on every continent. In Canada, where it was flourishing, the methodists united with the presbyterians and congregationalists in 1925 to form the United church of Canada. Representatives of the various methodist groups met at intervals of ten years after 1881, when 100 representatives came from 22 countries to Wesley's chapel, London, and at intervals of five years after 1951 when, as the world methodist conference, they assembled at Oxford; in 1956 the conference was at Lake Junaluska, North Carolina, in 1961 at Oslo.

In 1963, after official conversations, the church of England and the methodist church issued a joint report which recommended (four of the 12 methodist representatives dissenting) a plan for reuniting the churches.

G. Smith, *History of Wesleyan Methodism* (1857); A. Stevens, *History of the Religious Movement called Methodism* (1861); G. Eayrs, W. J. Townsend and H. B. Workman, *New History of Methodism* (1909); G. G. Findlay and W. M. Holdsworth, *History of the Wesleyan Methodist Missionary*

Society (5 vols, 1905); F. Baker, *A Charge to Keep: an Introduction to the People Called Methodists* (1948). See also bibliographies under WESLEY, JOHN, and WHITEFIELD.

A. W. H.; F. Ba.

**METHODIUS** (martyred c. 311), probably bishop of Olympus in Lycia, Asia Minor, is known chiefly as the antagonist of Origen (q.v.), by whom he was not uninfluenced. Beauty of diction and an admiration of Plato characterize his writings, which were widely read. We possess in Greek the *Banquet, or On Virginity* (ed. G. N. Bonwetsch, 1917; Eng. trans. by H. Musurillo, 1958), *On Free Will*, and *On the Resurrection* (ed. in J. P. Migne, *Patrologia Graeca*, vol. 18, 1857; by A. Jahn, *S. Methodii opera*, 1865). Four other treatises are preserved in the Old Slavonic *Corpus Methodianum*. Methodius' work against Porphyry and his *On Created Things* against Origen are extant only in fragments; that against Origen's homily on the witch of Endor, known to Eustathius of Antioch, is lost.

R. V. S.; A. G. Mat.

**METHUEN, PAUL SANFORD METHUEN, 2ND BARON** (1845-1932), joined the Scots Guards in 1864 and served in the Ashanti war (1874) and the Egyptian war (1882). He commanded Methuen's Horse in Bechuanaland (1884) and the 1st Division during the South African war. He was commander-in-chief in South Africa (1907-09) and in Malta (1915-19) and became field-marshal.

**METHYL ALCOHOL** or **METHANOL**, density 0.792 g/ml, b.p. 64.6° C, is of great industrial importance as a source of formaldehyde for plastics and as a general solvent and fuel. Formerly made by destructive distillation of wood, it is now largely manufactured by high-pressure synthesis from carbon monoxide and hydrogen:  $\text{CO} + 2\text{H}_2 \rightarrow \text{CH}_3\text{OH}$ .

The reaction can be carried out at pressures of 100 to 1,000 atmospheres and temperatures of 300-400° C in the presence of a catalyst usually containing chromium and zinc. Like the ammonia synthesis reaction it is exothermic and the equilibrium is favoured by the use of pressure. It is, however, complicated by a side reaction between methanol and hydrogen to form methane and water. This must be suppressed by use of a highly selective catalyst and careful choice of reaction temperature.

Plant used for the production of methyl alcohol is very similar to that for ammonia (see **CHEMICAL INDUSTRIES: The Nitrogen Industry**). A mixture of hydrogen and carbon monoxide, freed from carbon dioxide and sulphur compounds and compressed, is passed through a modified form of ammonia converter and heat-exchanger. The system is autothermal. From the converter the reaction mixture of alcohol vapour and unreacted gas is passed through a water cooler in which the alcohol separates as liquid and the residual gas is either recycled or used for the synthesis of ammonia. The crude alcohol is then purified by distillation at atmospheric pressure. W. Wh.

**METKOVIĆ**, a port in Croatia, Yugoslavia, 12 mls above the mouth of the Neretva river. It is linked by a narrow gauge railway with Sarajevo and the Adriatic port of Ploče. Pop. (1953) 3,606.

**METRE** is the rhythmic principle of verse, distinguished from that of prose by the presence of repetition, or a predictable pattern in some quality of sound, which is discernible through the fluctuations of speech rhythm. The unlearned reader encountering the words

The Lord is my Shepherd, therefore shall I lack nothing;

The King of Love my Shepherd is  
Whose goodness faileth never

is likely to speak of the first as prose and the second as poetry, recognizing in the latter the pattern or regular pulsation of metre which is traditionally associated with poetry, possibly through prehistoric origins in accompaniment to the ritual dance. In civilized literary composition metre is so frequent an accompaniment of that heightened form of language which is directed to the imagination or the emotions rather than the intellect as to be commonly accepted as the criterion of poetry itself. The presence of metre enhances the significance and expressiveness of the other qualities of language, as may be shown by altering word order, so as to subtract metre from a verse passage without changing meaning or vocabulary. Change, for instance,

When Spring with dewy fingers cold  
Returns to deck their hallowed mould

to

When returning Spring with cold dewy fingers decks  
their hallowed mould

and it loses some essential quality.

**Syllabic Pattern.**—The pattern which is received and recognized by the ear depends on some variable quality in the enunciation of syllables. It may be formed by regular arrangements of long and short syllables, as in classical Greek, Latin and Persian verse, which is called quantitative, or of stressed and unstressed syllables, as in modern English verse and to some extent in that of most European languages. The repeated rhythmic unit is a simple group of syllables known as a foot. The most familiar foot of Greek and Latin verse is the dactyl which consists of a long syllable followed by two short ones (— ∪ ∪), and the commonest foot of English verse consists of an unstressed syllable followed by a stressed one (× /), and is called an iamb or iambus, which was the Greek name for the foot consisting of a short syllable followed by a long one. A number of feet, usually a fixed or expected number, forms a line of verse, and a number of lines of the same or varying length and structure may be grouped into the larger repeated unit of the stanza. The pattern is usually emphasized in writing or printing by separating the lines and stanzas and giving the same degree of indentation to corresponding lines:

John Gilpin was a citizen  
Of credit and renown.  
A train band captain eke was he  
Of famous London town,

but the pattern is or should be inherent in the sound of the words and independent of visual form.

It must be emphasized that the pattern which verse conveys to the understanding, and against which in turn it is measured, is a purely abstract one and is never exactly represented in words, each word or group of words adding special quality to the bare basic rhythm to which it conforms, by presenting in infinite variety and gradation the property upon which the pattern is based, and continually crossing the pattern with other aural qualities. The laws of Greek versification recognized only two categories of length, 'short' and 'long', and took no account of the difference between syllables which contain a long vowel and those which acquire length from accumulation of consonants. Similarly in English the two categories, 'stressed' and 'unstressed', cover a range of minute variations.

**Quantitative Metre.**—In Greek and Latin the metrical length of all but the final syllable of each word is fixed by the spelling of the word, that of final syllables whose vowel is short by reference to the initial letter of the following word. A syllable which contains a long vowel sound or diphthong is 'long'; one which contains a short vowel is 'long' if the vowel is followed by two or more consonants or by a doubled consonant, whether these form part of the same word as the short vowel or of the succeeding word. *Manus*

Huysum's Flower-piece'), and *Svalen*, 1841 ('The Swallow'). He also wrote plays and farces under the pseudonym Siful Sifadda, and a long series of prose contributions to popular enlightenment.

*Samlede Skrifter, trykt og utrykt*, ed. H. Jaeger and D. A. Seip (1918 ff.); *Selected Poems*, with English verse translations by G. M. Gathorne-Hardy, J. Bithell and I. Gröndahl (1929); H. Koht, *Henrik Wergeland* (1908); H. Möller, *Henrik Wergeland* (1915); H. M. Lassen, *Henrik Wergeland og hans Samtid* (1866); R. G. Latham, *Norway and the Norwegians* (2 vols, 1840); E. Gosse, *Northern Studies* (new ed. 1883).

G. M. G-H.

**WERMELSKIRCHEN**, a town in *Land North Rhine-Westphalia*, West Germany, three miles SSE. of Remscheid; it has hardware, shoe and textile industries. Pop. (1950) 20,859; (est. 1959) 23,545.

**WERNER, ABRAHAM GOTTLÖB** (1750-1817), German mineralogist and geologist, was born at Wehrau, Silesia. He became professor of mineralogy at the school of mines, Freiberg (Saxony) in 1775, and held this post until he died. He was the founder of the Neptunian school of geology (see GEOLOGY) and his classes were attended by students from all over Europe. His published works were few. They included *Von der äusserlichen Kennzeichen der Fossilien* (1774), *Kurze Klassifikation und Beschreibung der verschiedenen Gebirgsarten* (1787) and *Neue Theorie von der Entstehung der Gänge* (1791), all translated into several European languages. Through his teaching he greatly influenced the development of geological science.

R. Beck, *Abraham Gottlob Werner, eine kritische Würdigung des Begründers der modernen Geologie* (1918).

V. A. E.

**WERNER, FRIEDRICH LUDWIG ZACHARIAS** (1768-1823), German dramatist, was born at Königsberg and studied there, and from 1793 to 1805 was in the Prussian civil service. As author of a series of dramas on religious subjects he became the main representative together with Müllner and others of a side branch of the romantic school, which cultivated mysterious and extravagant 'fate-tragedies'. Goethe at one time thought highly of his work. He entered the Catholic church in Rome in 1810 and died a priest in Vienna. His chief works are *Die Söhne des Tals* (1803), *Das Kreuz an der Ostee* (1806), *Martin Luther oder die Weihe der Kraft* (1807) and *Der 24. Februar* (1807).

*Ausgewählte Schriften* (15 vols, 1841); J. E. Hitzig, *Lebensabriss F. L. Z. Werners* (1823); P. Hankamer, *Zacharias Werner* (1920); E. Klein, *Zacharias Werner* (1926); F. Stuckert, *Das Drama Zacharias Werners* (1926); H. Dauer, *Das Todesproblem bei Z. Werner* (1946).

**WERNHER** called 'DER GARTENAERE' (fl. 1246-82), a wandering poet of plebeian status from the Austro-Bavarian region, is known only from his masterly *Meier Helmbrecht*, a short narrative poem of great power and maturity, the plot of which is as follows.

The gift of a resplendent hood such as was worn at court has turned the head of young Helmbrecht, a wealthy farmer's son, so that, despite his father's solemn warnings, he runs off to join a band of robbers which is protected by a local knight. Helmbrecht's father, in self-protection, formally expels him from the family, but young Helmbrecht even lures his sister away to be married to a boon companion. During the wedding they are surprised by the sheriff and all hanged, except Helmbrecht, who is blinded and maimed and then turned loose. His hired boy leads him to his father, who sends him packing, though not before his mother has given him a loaf. He is then set upon by the peasantry to whom he has been such a scourge; they mock him, and with his hood torn to tatters he is hanged.

This grim story is rooted in the social conditions of

the time. Wernher conceives the social order as established by God, so that to wish to rise above one's father's station is to break the fifth commandment. The family characters are vividly drawn; the language has a knotty strength of phrase and rhyme that suits the realistic situation.

The poem survives in two manuscripts, one localizing the story at the confluence of the Inn and the Salzach and the other in the Traungau, Upper Austria. It has been edited by F. Panzer (5th ed. 1941) and C. Gough (1947).

A. T. Ha.

**WERNIGERODE**, a town in *Bezirk Magdeburg*, East Germany, lies 12 mls SW. of Halberstadt, on the northern slopes of the Harz. It has paper, metal and leather industries. It was formerly the seat of the princes of Stolberg-Wernigerode and has a fine 14th-century town hall. Pop. (est. 1959) 33,232.

**WERTHEIMER, MAX** (1880-1943), German psychologist, born in Prague, was the original moving spirit in the development of the *Gestalt* school. Educated at Prague, Berlin and Würzburg, he spent some years at Frankfurt, moved to the university of Berlin and became a professor there in 1922. He left Germany before the second world war, and spent the remainder of his life in America. Most influential, probably, was his basic work on phenomenological movement, but he later made very distinguished contributions to the theory of human thinking.

W. Köhler, *Psychol. Rev.*, vol. 51 (1944).

**WERVICQ** (fl. WERVIK), a tobacco-manufacturing town in West Flanders province, Belgium, on the French border, three mls SW. of Menin; the church of St Medardus is late gothic. Pop. (1947) 12,165; (est. 1960) 12,375.

**WESEL**, a town in *Land North Rhine-Westphalia*, West Germany, lies on the right bank of the Rhine close to the confluence of the Lippe and the Lippe lateral canal, 22 mls NW. of Essen. Waterway traffic in 1961 was 994,029 metric tons. St Willibrord's church, described as the finest gothic building on the lower Rhine after Xanten cathedral, had to be reconstructed after severe damage in the second world war. Wesel was formerly a famous fortress. Industries include iron-founding, precision engineering and ceramics. Pop. (1950) 18,244; (est. 1959) 30,761.

**WESER**, a river of north-western Germany formed by the confluence at Münden of the Fulda and the Werra. It pursues a tortuous course northwards through the uplands of Westphalia and the lowlands of Hanover to Bremen, receiving the Aller on the right and the Hunte on the left, and reaches the North sea at Bremerhaven by a wide but shallow estuary. Bremen is the lowest bridging point and head of sea-going navigation, but vessels drawing more than 18 ft dock at Bremerhaven. The river is navigable for small craft (600 tons) to Münden and is linked by canal to the Elbe.

I. G. E.

**WESLEY, CHARLES** (1707-88), English hymn-writer, poet of the Methodist revival, was born at Epworth in Lincolnshire and educated at Westminster school and Christ Church, Oxford. Here in 1729 he formed the small group nicknamed 'methodists', whose leadership he handed over to his elder brother John. He accompanied John to the American colony of Georgia, entering holy orders for that purpose. Returning to England, on 21 May (Whitsunday) 1738 he went through a conversion experience which gave new power and depth to his preaching and writing. Although one of the most prolific of hymn writers, he maintained very high literary standards. He experimented with no fewer than 100 stanzaic patterns,

and used many with complete mastery, including several anapaestic forms, whose rollicking abandon suited early methodist spiritual rapture. His hymns enshrine in terse and frequently paradoxical language the theological tenets of the Christian faith, and are steeped in scriptural allusions. Among the best known are 'Christ the Lord is risen today', 'Hark, the herald angels sing', 'Jesu, Lover of my soul', 'Love Divine, all loves excelling', 'O for a thousand tongues to sing'. His extant verse, including devotional, satirical and miscellaneous, comprises some 9,000 items.

*Journal*, ed. T. Jackson (2 vols, 1849); T. Jackson, *Life* (2 vols, 1841); J. Telford, *Life* (rev. ed. 1900); F. Baker, *C. Wesley as revealed by his Letters* (1948); J. E. Rattenbury, *Evangelical Doctrines of Charles Wesley's Hymns* (1941); F. Baker, *Representative Verse of Charles Wesley* (1962).  
F. Ba.

**WESLEY, JOHN (1703-91)**, founder of methodism, was the second surviving son of the Rev. Samuel Wesley, rector of Epworth, Lincolnshire, and his wife Susanna, daughter of a prominent nonconformist divine, Dr Samuel Annesley. After an educational grounding by his mother Wesley went to Charterhouse in 1714, and on to Christ Church, Oxford, in 1720. The reading of Jeremy Taylor's *Holy Living* and *Holy Dying* marked the beginning of closer self-examination and of his famous *Journal*. In September 1725 he was ordained deacon and preached his first sermon at South Leigh, Oxford. In 1726 he was elected a fellow of Lincoln college, Oxford, and for three years divided his time between studies and tuit'on at Oxford and assisting his father as a curate. He was ordained priest in 1728.

In October 1729 Wesley was recalled to his academic life at Oxford and took over the leadership of a religious study circle formed by his younger brother Charles. This group, practising frequent communion, regular habits of devotion, prison visitation and other forms of social service, earned many nicknames, the most popular being 'the holy club' and 'methodists'. One of the last recruits (in 1734) was George Whitefield.

The group disintegrated when Wesley accepted the spiritual oversight of the newly founded colony of Georgia, as an agent of the Society for the Propagation of the Gospel. His brother Charles accompanied him, being ordained for that purpose. John Wesley's stiff high-churchmanship proved ungenial to the colonists, and his naïve and tactless behaviour over a love affair with Sophy Hopkey forced his return to England. Yet his experiment with weekly fellowship meetings and hymn singing later led him to describe this Georgia period as 'the second rise of methodism'.

The most important result, however, was the realization of his own spiritual inadequacy. Self-denial, scrupulous ritualism, regular devotions brought no peace of mind. But on the voyage out he had met a company of Moravian immigrants who had a simple faith that overcame fear of death and gave them a calm joy which he coveted for himself. Upon his return to London Wesley sought out the Moravian Peter Böhler, who showed him that justification by faith alone was scriptural, rational, and a practicable experience. On 24 May 1738 Wesley's new intellectual convictions were transformed into a personal experience, which he thus described in his *Journal*:

'In the evening I went very unwillingly to a society in Aldersgate Street, where one was reading Luther's preface to the Epistle to the Romans. About a quarter before nine, while he was describing the change which God works in the heart through faith in Christ, I felt my heart strangely warmed. I felt I did trust in Christ, Christ alone, for salvation; and an assurance was given me that He had taken away my sins, even mine, and saved me from the law of sin and death'.

The remainder of his life was given over to sharing

this same evangelical experience, preferably by recalling the church of England to its spiritual mission, but if that failed by whatever means were available. After a visit to the Moravian headquarters at Herrnhut in Germany he both preached in parish churches and spoke in the various religious societies in London and Bristol. The new wine burst the old bottles, however, the crucial year being 1739. In April he began to preach in the open air at Bristol at the request of Whitefield. The following month he laid the foundations of a headquarters for the religious societies in Bristol—a chapel, school and hostel, for which he alone was financially responsible. In June he encouraged the preaching of a layman, John Cennick. In December he accepted sole charge of a society in London, for whom he leased and renovated the ruined King's Foundry in Moorfields. To his life's end he insisted that he remained a loyal member of the church of England and wished simply to bring new spiritual vigour to it. In fact, however, he was prepared to make innovations, as he did in 1739, when faced by indifference or opposition from the church. Throughout the land more societies were founded in response to open-air preaching, more 'preaching-houses' were borrowed, bought or built, more lay-preachers were accepted as his full-time helpers. In 1742 (again at Bristol) he developed the class-meeting system, by which laymen and women shared pastoral responsibility with him for the members of his societies. In 1743 he issued a book of strict rules for the methodists. In 1744 he invited his leading preachers to confer with him on the doctrines and discipline of the methodist societies, and this annual conference was in 1784 legally empowered to assume his authority after his death. In that same year he ordained some of his preachers to serve in America, and in the following years others (27 in all) to serve in Scotland and even in England. This was clearly a breach of Anglican episcopal order. Every divisive step taken by Wesley was taken reluctantly yet (as he felt) inevitably, in order that the gospel might be effectively proclaimed.

In 50 years Wesley travelled (usually on horseback) about 250,000 miles, and preached nearly 50,000 sermons. He was no 'hot-gospeller', however. His sermons were calm, logical expositions of scripture, with particular emphasis upon the evangelical doctrines of justification by faith, personal assurance of salvation by the witness of the Holy Spirit within, and the necessity of pressing on to a life of perfect love. Wesley's success was a measure not only of his personal conviction and charm, but of the spiritual need of 18th-century England. He went especially, and sent his preachers, to the areas most affected by the population-shift and social problems caused by the industrial revolution, bringing new hope and purpose to the poor and working classes.

The supreme task of evangelism and the oversight of the methodist societies overshadowed his fumbling attempts at married happiness. Frustrated once by his brother Charles in 1749, in 1751 he married a well-to-do widow whose psychotic jealousy made his private life a misery.

Wesley was an omnivorous reader (in spite of calling himself 'a man of One Book') and a voluminous writer. All of his 400 publications were in some way or other related to his task of evangelism, broadly conceived—popular tracts, educational textbooks, treatises defending or expounding methodist doctrine or discipline, improving biographies, selections of poetry and hymns, simple (and safe) medical guides, a pocket dictionary, a theological compendium in 50 volumes, commentaries on the Bible, a monthly magazine (founded in 1778 and still going strong), and his *Journal*. These, though sold very cheaply, brought in great wealth, which was used for the work

of the societies. Wesley himself lived very simply, and died a poor man. His true wealth lay partly in the Methodist societies, with a membership of 72,000 in the British Isles and 64,000 in the Americas, partly in the almost universal honour accorded him in his later years, but even more in the knowledge that he had played a worthy part in the widespread revival of evangelical religion.

*Journal*, ed. N. Curnock (8 vols, 1909-16); *Letters*, ed. J. Telford (8 vols, 1931); *Standard Sermons*, ed. E. H. Sugden (2 vols, 1921); *Works*, ed. T. Jackson (14 vols, 3rd ed. 1831 ff.); standard life by J. S. Simon (5 vols, 1921-34); L. Tyerman's *Life* (3 vols, 1870-71) is still useful; of single-volume lives that by C. E. Vulliamy (1931; 3rd ed. 1954) may be commended; for the Wesley family M. L. Edwards, *Family Circle* (1949); R. Green, *The Works of John and Charles Wesley, a Bibliography* (2nd ed., 1906); *Proceedings of the Wesley Historical Society*, with *General Index* to vols 1-30 (1897-1956). F. Ba.

**WESLEY, SAMUEL (1766-1837)**, English organist and church composer, the son of Charles Wesley the hymn-writer and the nephew of John Wesley, was born at Bristol. He showed precocious ability in music, but after an injury to his head in 1787 was subject to periodic attacks of mental illness. He was accounted the greatest organist of his day in England and was a pioneer of the Bach revival. His religious compositions comprise four masses, belonging to the period after 1784 when for a time he was a Roman Catholic, and various Anglican anthems and services, his most lasting work being the motet 'In exitu Israel'. His brother CHARLES (1757-1834), also a musician, showed equal precocity but proved to be less gifted in maturity.

**WESLEY, SAMUEL SEBASTIAN (1810-76)**, English organist and church composer, the son of Samuel Wesley, was born in London and held posts as organist at Hereford, Exeter, Winchester and Gloucester cathedrals and at churches in London and Leeds. He was the greatest of the Anglican musicians at a period when church music was at a low ebb; his best-known works are the anthems 'Blessed be the God and Father' and 'Ascribe unto the Lord'.

**WESSEL, JOHAN HERMAN (1742-85)**, Danish poet, was born in Norway. He came as a young man to Copenhagen, where he settled down to a life of constant struggle against poverty and illness. Besides some serious poems, mostly forgotten, and several witty epigrams, impromptus and comic poetic tales, still familiar to every child in Denmark, Wessel wrote one masterpiece, on which his fame is mainly based, the burlesque *Love without Stockings* (1772), ridiculing the then fashionable French and Italian operettas and bad imitations of the classical French tragedies. *Digte*, with foreword by P. V. Rubow (1936). E. B.

**WESSEX** was the Anglo-Saxon kingdom which ultimately provided a dynasty for the united English state. The traditional story of Cerdic and the foundation of Wessex is preserved in the *Anglo-Saxon Chronicle*, and there is archaeological evidence for Saxon settlement along the middle Thames in the 5th century. Hampshire, Berkshire and Wiltshire formed the core of ancient Wessex, but the kingdom also embraced Dorset, Somerset and Devon. The expansion was gradual and by no means unbroken, for there were losses to Mercia along the Thames and the lower Severn. Under Egbert advance was rapid, and under Alfred Wessex was the only English kingdom capable of offering effective resistance to the Danes. The achievements of Alfred and of Edward the Elder made possible Athelstan's strong position. Wessex survived as an Anglo-Scandinavian earldom and thus retained its identity within the Old English

state. The earldom was allowed to lapse by William the Conqueror who distrusted the large semi-independent earldoms of Anglo-Saxon England. See ALFRED; ATHELSTAN; EDWARD called THE ELDER; EGBERT; ENGLISH HISTORY. F. T. W.

**WEST, BENJAMIN (1738-1820)**, American historical painter, was born of Quaker parents at Springfield, Pennsylvania. Having practised portraiture and essays in historical painting in Philadelphia and New York, he sailed in 1759 for Italy. In Rome he was received by Cardinal Albani and became a leader of the neo-classicizing school of Mengs. He arrived in England in 1763, the herald of the doctrine of return to the antique just when it was acceptable. In 1764 he exhibited at Spring Gardens a portrait of General Monkton and two historical paintings executed in Italy. The archbishop of York, for whom he painted 'Agrippina with the Ashes of Germanicus' (1768), introduced him to George III, who at once commissioned the 'Departure of Regulus' (1769) and patronized West for the next 40 years. Until his death West continued, amid almost universal admiration, to pour forth classical, religious, mediaeval and literary historical pieces: the series on the life of Edward III and on revealed religion at Windsor and the illustrations for Boydell's Shakespeare are representative. West, whose colour is often flashy and whose style is hard and insensitive, is chiefly remembered for his 'Death of Wolfe' (1770), which, though eclectic in manner and not unprecedented in its use of modern dress, established a new academic formula for the heroic representation of contemporary history. Its fame was spread through Woollett's print. A foundation member of the Royal Academy (1768), West succeeded Reynolds as president in 1792.

John Galt's *Life* (1820) is eulogistic and unreliable. See J. Locquin, *Peinture d'histoire en France* (1912); W. T. Whitley, *Artists and their Friends* (1928); *Art in England, 1800-1820* (1928); L. Einstein, *Divided Loyalties* (1933); G. Evans, *Benjamin West and the Taste of his Times* (1959). C. Mi.

**WEST AFRICA**, a region, defined for the purposes of this article as Africa south of the Sahara and west of Douala in the Cameroun republic. It is a region that early attracted European colonial enterprise, various parts becoming known as the Slave coast, the Gold coast, the Ivory coast and the Grain coast. It did not however invite European settlement and the mid-20th century saw the nascence of a succession of African states, some of which remained in association with their former French and British rulers. Some, such as Ghana and Mali, took their names from ancient African kingdoms, numerous in West Africa. There is a great contrast between the poor, sparsely peopled lands of desert and savannah on the Saharan fringe and the comparatively rich and populous savannah-and-forest lands lying further south. Thus the republics of Senegal, Mauritania, Mali, Upper

AREA AND POPULATION

Country	Area (sq. mls.)	Pop. 1961 (est.)	Density per sq. ml.
Dahomey	44,684	2,080,000	45.0
Gambia	4,003	290,000 (1959)	70.4
Ghana	91,843	6,690,730 (1960)	72.8
Guinea	94,901	2,900,000	29.5
Ivory Coast	124,471	3,200,000	24.8
Liberia	43,000	1,290,000 (1960)	30.0
Mali	464,752	4,470,000	10.0
Mauritania	419,121	850,000	2.0
Niger	458,874	3,100,000	6.5
Nigeria	356,669	33,663,000 (1959)	94.4
Portuguese Guinea	13,948	565,000 (1959)	40.6
Senegal	76,104	3,100,000	39.2
Sierra Leone	27,925	2,400,000 (1959)	86.0
Togo	22,002	1,470,000	64.5
Upper Volta	105,811	4,160,000	38.0